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\*\*Earth Science D/A

Earth Science Shell

Science is the top priority – NASA reallocated its resources from human space flight

Scientific American 11 (Staff, “Obama's 2012 Budget Resists Research Cuts”, 2/15/11, http://www.scientificamerican.com/article.cfm?id=obama-2012-budget-resists-research-cuts) JPG

In contrast to the increases at other agencies, NASA's overall proposed budget remained level at the $18.7 billion it received in fiscal year 2010. Within that, however, the agency's science budget is slated to grow by roughly half a billion dollars, with $360 million allocated to [earth science](http://www.scientificamerican.com/topic.cfm?id=earth-science) and about $175 million for [planetary science](http://www.scientificamerican.com/topic.cfm?id=planetary-science). Astrophysics and heliophysics would also see modest increases of $36 million and $14 million, respectively. "Science is moving gingerly forward amid greater uncertainty at the rest of NASA," says Matt Mountain, director of the Space Telescope Science Institute in Baltimore, Maryland. One science project that exemplified the uncertainty is the James Webb Space Telescope (JWST), successor to the Hubble Space Telescope, which an independent review found would cost at least $1.5 billion more than anticipated (see [[http://feeds.feedburner.com/%7Er/news/rss/most_recent/%7E4/pmsfmJP5_ZA](http://www.nature.com/uidfinder/10.1038/468353a)Nature[http://feeds.feedburner.com/%7Er/news/rss/most_recent/%7E4/pmsfmJP5_ZA](http://www.nature.com/uidfinder/10.1038/468353a) 468, 353-354](http://www.nature.com/uidfinder/10.1038/468353a)http://feeds.feedburner.com/%7Er/news/rss/most_recent/%7E4/pmsfmJP5_ZA; 2010). The White House budget grants $374 million to the JWST for 2012, although the review revealed that the telescope would need $500 million over the next two years to meet an expected launch date of September 2015. With the 2011 budget still in limbo, a 2015 launch date is unrealistic and could even slip past 2016, said JWST programme manager Rick Howard in a press briefing. The delay could mean further cost overruns for the mission. http://feeds.feedburner.com/%7Er/news/rss/most_recent/%7E4/pmsfmJP5_ZAMost of NASA's 2012 reductions stem from the retirement of the space-shuttle fleet, which will see its final two budgeted flights, plus an additional flight that has been authorized by Congress but not yet funded in 2011. The new budget will usher in a post-shuttle future, albeit tentatively. It includes $840.6 million to fund commercial companies to develop a vehicle that could ferry astronauts and cargo to the International Space Station, and $2.8 billion towards a heavy-lift launch vehicle that would replace the now-defunct Constellation programme of the George W. Bush era. Neither decision will sit well with elected representatives who favour a more robust human programme. "This budget ignores the human space flight priorities outlined by Congress last year," congressman Peter Olson (Republican, Texas) posted on his web site after the budget's release. "We fought this battle last year and won, and I believe we will do so again."

Republicans are looking to cut earth science – It’s on the chopping block

LaRouche 11 (Lyndon, political activist, 4/20/11, http://www.larouchepac.com/node/17998) JPG

NASA's Earth science programs are now under scrutiny by the Republicans, and threatened with large cuts, since these circles stupidly think that any satellite that looks at the Earth, is looking for global warming. \* The precious teams of highly skilled workers and engineers, who have prepared the Space Shuttles for 30 years, are now being dispersed to the wind. United Space Alliance (USA), whose workers train the astronauts, prepare Shuttle payloads, and launch and refurbish the orbiters, announced April 15th the details of the last big round of layoffs in the Shuttle program. After the last Shuttle mission, now scheduled for June, half of the remaining USA workforce, around 2,800 workers, will be gone. In 2009, USA had 10,500 people working in the Shuttle program.

Cuts to earth science kill competitiveness

House Committee SSTD 11 (Science, Space, and Tech Democrats, 2011,

http://democrats.science.house.gov/committee-report/committee-report-title) JPG

The budget resolution that these Views and Estimates are intended to inform is being developed even while the FY 2011 budget remains in play.  The House consideration of the FY 2011 budget has been marked by severe cuts to important research and development (R&D) initiatives in order to meet arbitrary fiscal goals.  The end result of those cuts, if enacted into law, would be thousands of layoffs and furloughs among the best and brightest of our scientists and engineers; curtailment of critical research activities to protect the public from environmental hazards; fewer innovative technologies to enable the industries of the future; and serious damage to our core scientific and technological capabilities. The President’s FY 2012 budget request, on the other hand, recognizes that even in these challenging economic times, we need not—and should not—sacrifice our future for the sake of crippling cuts to a small fraction of the total federal budget.  With vision and perseverance, we can be both fiscally responsible and make the necessary investments to keep the American economy competitive in the coming decades while keeping our people and our environment healthy.

Earth Science Shell

US technological leadership and economic competitiveness is key to hegemony

Khalilzad 95 (Zalmay, fellow at RAND, “Losing the moment? The United States and the World after the Cold War?” *Washington Quarterly*, volume: 18, Spring) HD

The United States is unlikely to preserve its military and technological dominance if the U.S. economy declines seriously. In such an environment, the domestic economic and political base for global leadership would diminish and the United States would probably incrementally withdraw from the world, become inward-looking, and abandon more and more of its external interests. As the United States weakened, others would try to fill the Vacuum. To sustain and improve its economic strength, the United States must maintain its technological lead in the economic realm. Its success will depend on the choices it makes. In the past, developments such as the agricultural and industrial revolutions produced fundamental changes positively affecting the relative position of those who were able to take advantage of them and negatively affecting those who did not. Some argue that the world may be at the beginning of another such transformation, which will shift the sources of wealth and the relative position of classes and nations. If the United States fails to recognize the change and adapt its institutions, its relative position will necessarily worsen.

**Heg collapse causes nuclear war**

**Khalilzad** **95** [Zalmay, Former RAND Fellow, Current US Ambassador, “Losing the Moment?” The Washington Quarterly, Vol. 18, No. 2, pg. 84, Spring, Lexis]

<Under the third option, the United States would seek to retain global leadership and to preclude the rise of a global rival or a return to multipolarity for the indefinite future. On balance, this is the best long-term guiding principle and vision. Such a vision is desirable not as an end in itself, but because a world in which the United States exercises leadership would have tremendous advantages. First, the global environment would be more open and more receptive to American values -- democracy, free markets, and the rule of law. Second, such a world would have a better chance of dealing cooperatively with the world's major problems, such as nuclear proliferation, threats of regional hegemony by renegade states, and low-level conflicts. Finally, U.S. leadership would help preclude the rise of another hostile global rival, enabling the United States and the world to avoid another global cold or hot war and all the attendant dangers, including a **global nuclear exchange**. U.S. leadership would therefore be more conducive to global stability than a bipolar or a multipolar balance of power system.

Earth Science Uq – $ Now

Science spending is up – funding isn’t guaranteed

Wakeman 6/8 (Nick, editor @ Washington Tech, http://fcw.com/articles/2011/06/08/nasa-budget-priorities-shift.aspx) JPG

As budgets tighten and priorities shift, NASA is cutting $1 billion from its pace operations budget, but spending more on other science and technology areas that will reshape the agency's mission, a new study shows. “As NASA shifts priorities for human spaceflight from shuttle operations to human exploration capabilities and commercial spaceflight, the budget will be redirected to a range of technology development programs,” said Steve Bochinger, president of Euroconsult North America. The firm and its partner Omnis Inc. have released a new study, NASA Spending Outlook: Trends to 2016, which analyzes NASA’s budget. As space operations shrink, the science budget will be redistributed among NASA centers, Bochinger said. Among the findings: The Science Mission Directorate saw an 11 percent bump in 2011 and will have a $5 billion through 2016. Goddard Space Flight Center and Langley Research Center will benefit because of the work on Earth science projects. The Exploration Systems Mission Directorate will hold steady at about $3.9 billion but funds will shift away from human exploration activities. The new Space Technology Directorate will get $1 billion a year from 2012 to 2016. Langley, Glenn and Ames research centers will benefit because of their work on new technologies for exploration and robotic spaceflight. NASA is restructuring the Aeronautics Research Mission Directorate to focus on fundamental aeronautics and development of technologies for the Next Generation Air Transportation System.

Science is being funded now

PRWeb 6/20 (http://www.sfgate.com/cgi-bin/article.cgi?f=/g/a/2011/06/20/prweb8584611.DTL)

NASA budget highlights: The 2011 NASA budget is up slightly at $18.7 billion, from 2010. 26.3% of NASA's budget ($5 billion) is in the "Science" category. "Science" includes Astrophysics, Earth Science (36% of the Science budget), Heliophysics, James Webb Space Telescope and Planetary Science. The Science budget slightly exceeds the Space Operations budget (25.4%) Space Operations has been cut drastically ($6.1 billion to $4.3 billion), due to ending the Space Shuttle program. However, Space Technology has been increased ($275 million to $1.1 billion).

Science budget is funded

SpaceTravel.com 2/15 (http://www.space-travel.com/reports/NASA\_Announces\_Fiscal\_Year\_2012\_Budget\_999.html) JPG

NASA's science budget supports new missions and continued operations of the many observatories successfully studying Earth and space. The agency will launch the Mars Science Laboratory in fiscal year 2012 and continue work on a wide range of astrophysics, heliophysics and Earth science missions. The 2012 budget request continues NASA's commitment to enhancing aviation safety and airspace efficiency, and reducing the environmental impact of aviation. NASA also remains dedicated to developing the next generation of technology leaders through vital programs in science, technology, engineering and mathematics. "We had to make some tough choices, but the budget gives us a plan for sustainable and affordable exploration," said NASA's Chief Financial Officer Elizabeth Robinson. "We're looking at new ways of doing business that improve program management and delivers even greater results to the American taxpayers."

**The earth science budget is made in the shade**

Cowing 2/1 (Keith, writer @ astrobiology.com, http://www.astrobiology.com/news/viewnews.html?id=1372) JPG

Over the past decade, NASA's focus on Earth Science has faltered as it has across the Federal government. This will be rectified with a hefty budget that will increase the enacted FY 2010 budget by $382 million and then go on to add an additional $1.8 billion between FY 2011 and 2014. In addition to re-flying the Orbiting Carbon Observatory, NASA will seek to accelerate the development of new satellites to observe Earth as well as support the existing flotilla of Earth observation spacecraft. Planetary science will see much less of an increase than other parts of NASA. Its budget will ramp up from $1.486 billion in FY 2001 to $1.650 billion in FY 2015. Astrophysics will go from $1.076 billion in FY 2011 to $1.132 billion in FY 2015, and Heliophysics will go from $542 million in FY 2011 to $751 million in FY 2015. Some of the notable increases in space and planetary science, albeit small, include adding $16 million per year for the next 5 years to Near Earth Object (NEO) detection, restarting Plutonium-238 production with the Department of Energy for radioisotope thermoelectric generator (RTG) construction, plans for a 2011 launch of Mars Science Laboratory, bringing the Mars 2016 mission into formulation, funding of James Webb Space Telescope at a 70% confidence level for a 2014 launch, and initiation of Solar Probe "Plus" mission.

Earth Science Uq – $ Now

Earth science funding is appropriated

Connell 6/2 (Kathleen, CEO @ Mission to Humanity, San Diego State UniversityGreen Energy Program

The current five-year government spending plan should allow NASA to substantially ramp up its Earth science program. The program faced constraints and uncertainty just a year ago, but the new spending plan provides an additional $2.4 billion over the previous blueprint. This could allow NASA to fly a few missions each year instead of one every couple of years, one official said.

Earth Science Internal – $ing = Cuts

Republicans are looking to cut earth science – It’s on the chopping block

LaRouche 11 (Lyndon, political activist, 4/20/11, http://www.larouchepac.com/node/17998) JPG

\* NASA's Earth science programs are now under scrutiny by the Republicans, and threatened with large cuts, since these circles stupidly think that any satellite that looks at the Earth, is looking for global warming. \* The precious teams of highly skilled workers and engineers, who have prepared the Space Shuttles for 30 years, are now being dispersed to the wind. United Space Alliance (USA), whose workers train the astronauts, prepare Shuttle payloads, and launch and refurbish the orbiters, announced April 15th the details of the last big round of layoffs in the Shuttle program. After the last Shuttle mission, now scheduled for June, half of the remaining USA workforce, around 2,800 workers, will be gone. In 2009, USA had 10,500 people working in the Shuttle program.

Budget cuts to earth science kill the program

Spaceref 5 (4/28/5, http://www.spaceref.com/news/viewpr.html?pid=16769) JPG

A panel of expert witnesses, including the chairman of a National Academy of Sciences (NAS) committee that is recommending Earth science priorities for the next decade, today warned Congress that repeated budget cuts threaten the vitality of Earth science programs at the National Aeronautics and Space Administration (NASA), as many Earth science missions have been downsized, delayed, or outright cancelled. The witnesses testified before the House Science Committee at a hearing examining Earth science programs at NASA and the potential impact on those programs by of the Agency's fiscal year 2006 (FY06) budget request, which would cut Earth science funding by 8 percent below the FY05 appropriation and 12 percent below the FY04 request.

Earth Science Link – Colonization

Colonization projects trade off with the science budget

Gaglioti 6 (Frank, writer @ world socialist website, 5/20/6, http://www.wsws.org/articles/2006/may2006/nasa-m20.shtml) JPG

In a far-reaching reorientation of its programs, the US National Aeronautic and Space Administration (NASA) budget has effectively capped science spending for the five-year period from 2007 to 2011. Programs designed to investigate more fundamental scientific questions about the character of the solar system and the universe are being sacrificed to enable NASA to carry out President George Bush’s grandiose scheme to establish a permanent settlement on the moon in preparation for a manned mission to Mars. NASA’s announcement in February was part of Bush’s budget cuts to federal science spending by 1 percent to $59.8 billion. The changes to NASA’s program are mirrored in the overall science budget, which is focussed more narrowly on projects with commercial payoffs or to strengthen the US military. Bush’s “American Competitive Initiative,” which is aimed at bolstering US corporate interests at the expense of their rivals, will consume $5.9 billion. Presidential science adviser John Marburger bluntly declared: “The point is, we’re prioritising.”

Funds are diverted from within NASA

Gaglioti 6 (Frank, writer @ world socialist website, 5/20/6, http://www.wsws.org/articles/2006/may2006/nasa-m20.shtml) JPG

Funds are being diverted to bolster the Moon exploration program, which will grow by 30 percent to $3.98 billion in 2007. There is also an additional $2.6 billion for the International Space Station (ISS). The plan is for a new generation of space vehicles to ferry scientists and astronauts back and forth from the International Space Station and replace the present aging and disaster-prone space shuttles. Bush aims to establish a permanent manned lunar presence by the year 2020 to prepare for the future exploration and colonisation of Mars. In his announcement in January 2004, he cited the “spirit of discovery” and compared the US exploration of space with earlier American explorers. Bush’s intention was to evoke John F. Kennedy’s vision for the Apollo missions in the 1960s to given the impression his administration was embarking on a grand scientific quest in outer space.

Earth Science Link – Astronaut Missions

Astronaut missions cause cuts in climate science

AFP 3/6 (Staff, “NASA reels from climate science setbacks”, http://www.spacemart.com/reports/NASA\_reels\_from\_climate\_science\_setbacks\_999.html) JPG

But some Republicans, who hold a majority in the House of Representatives, want to see NASA give up climate science so it can focus on returning astronauts to space once the 30-year-old shuttle program ends later this year. "NASA's primary purpose is human space exploration and directing NASA funds to study [global warming](http://www.spacemart.com/reports/NASA_reels_from_climate_science_setbacks_999.html) undermines our ability to maintain our competitive edge in human space flight," said Republican Congressman Bill Posey last month. Earth science has been a distinct mission of NASA ever since Congress formed the agency with the 1958 Space Act, setting its first objective as "the expansion of human knowledge of the earth and of phenomena in the atmosphere and space." Further revisions of the Space Act in 1976 gave NASA "authority to carry out stratospheric ozone research," and a 1984 change broadened NASA's earth science authority from the stratosphere to "the expansion of human knowledge of the Earth." But budget squeezes have crippled NASA's efforts since the 1990s, when NASA first set out to create a global Earth observing system and budget deficits forced engineers to scale back to one third of their original plan, according to Wielicki. "What we have now are pieces of that system that have lived well beyond their design life," he said. "Space missions are expensive by nature, risky by nature, and our nation has decided not to spend the kind of resources it would take for a more robust set of climate research observations."

Earth Science Link – Legacy Missions

Legacy spaceflight and Earth science programs are zero sum

Spaceref.com 11 (Source – Euroconsult, The leading international research and analyst firm specialized in space, “NASA Spending Shift to Benefit Centers Focused on Science & Technology”, 6/8/11, http://www.spaceref.com/news/viewpr.html?pid=33782) JPG

Euroconsult, the leading international consulting and analyst firm specializing in the space sector, along with the consulting firm Omnis, today announced the findings of a study today foreseeing a significant shift in NASA spending toward [Earth](http://www.spaceref.com/news/viewpr.html?pid=33782) science and R&D programs and away from legacy spaceflight activities. According to the report "NASA Spending Outlook: Trends to 2016," [NASA's](http://www.spaceref.com/news/viewpr.html?pid=33782) budget, which will remain flat at around $18.7 billion for the next five years, will also be characterized by significant shifts from space operations to [technology development](http://www.spaceref.com/news/viewpr.html?pid=33782) and science. With the shift in [budget](http://www.spaceref.com/news/viewpr.html?pid=33782) authority, NASA Centers focused on Earth observation, space [technology](http://www.spaceref.com/news/viewpr.html?pid=33782), and aeronautics will see increases in funding, while those involved in human spaceflight will see major funding reductions. Indeed, the termination of the Space Shuttle program will lead to a budget cut over $1 billion for Space Operations, resulting in a 21% budget cut for the Johnson Space Center. Overall, the agency's budget for R&D will account for about 50% of all NASA spending. "Budget allocation across Centers will vary greatly," said Steve Bochinger, President of Euroconsult North America. "As NASA shifts priorities for human spaceflight from Shuttle operations to Human Exploration Capabilities and commercial spaceflight, the budget will be redirected to a range of technology development programs. Likewise, as NASA shifts its science mission focus away from space science to Earth science, the science budget will be redistributed among centers." This shift in NASA's priorities will also affect the agency's contract spending. As large legacy programs end, new research and development programs will be initiated. This turnover of programs should provide many new contracting opportunities over the next five years, especially at Research Centers. The Euroconsult/Omnis report details these changes."The uniqueness of this report is that it brings together in one picture NASA's budget, spending and contracting, providing insights into opportunities created by the new NASA direction," said Bretton Alexander, Senior Consultant for Omnis.

Earth Science Link – Lunar Missions

A mission to the moon kills NASA’s science budget

Albanesius 10 (Chloe, editor @ PCMag.com, “Obama Budget Cuts Moon Program, Boosts R&D”, 2/1/10, http://www.pcmag.com/author-bio/chloe-albanesius) JPG

Among the programs on the chopping block are NASA's Constellation Systems Program, an effort to put astronauts back on the Moon by 2020. The $3.466 billion program, which started in 2005, is woefully behind schedule, and a review conducted in May 2009 found that the program probably won't put anyone on the Moon until well into the 2030's. Instead, the White House would increase NASA's overall budget in order to focus on climate science, green aviation, science education, and other priorities. It would also encourage NASA to leverage advanced technology, international partnerships, and commercial capabilities in its quest to return to the Moon. Also getting the proposed axe is the $12 million EP-X manned surveillance program and a $9 million revamped command and control center, both within the Department of Defense, as well as a $73 million infrared missile warning satellite program.

Funding space exploration causes shortfalls in the science budget

Olsen 6 (Stefanie, staff writer @ CNET, “NASA budget emphasizes space exploration”, 2/6/6, <http://news.cnet.com/NASA-budget-emphasizes-space-exploration/2100-11397_3-6035753.html#ixzz1PsWvN4gW>) JPG

Science will play a diminishing role at NASA as the space agency emphasizes lunar exploration in the next five years, according to a new governmental budget. NASA Administrator Michael Griffin, who was appointed to the office by the Bush administration only 10 months ago, announced a $16.8 billion budget request for NASA on Monday, per recommendations from President Bush. The budget, outlined in a press briefing here at NASA Ames Research Center, is a 3.2 percent rise over expected 2006 spending. It comprised about 0.7 percent of the federal budget. "This is a modest investment to extend the frontiers of space exploration, scientific discovery and aeronautics research," Griffin said. NASA's spending, Griffin said, will concentrate on implementing Bush's Vision for Space Exploration, a plan the president announced roughly two years ago to launch human missions to the moon. Science, such as studying the solar system or the origin of the universe, will [play a lesser role at NASA organizations](http://news.cnet.com/Research-money-crunch-in-the-U.S./2100-1008_3-5938451.html), resulting in cutbacks to divisions like astrobiology studies and life sciences at Ames Research Center. Ames' life sciences budget was cut by roughly 80 percent in November 2005, resulting in the loss of 100 contractor jobs.

Earth Science Link – Mars

Mars mission depletes intellectual resources for a decade – kills studying climate change

Christianson 3/11 (J Scott, writer @ Columbia Daily Tribune, “We can’t afford manned mission to Mars”, http://thefreerangetechnologist.com/2011/03/manned-mission-to-mars/) JPG

A manned mission to Mars will tie up most of NASA’s intellectual resources for a decade or more as they toil on an incredibly expensive project whose success and scientific value is uncertain. The American public should have a better chance of receiving a decent return on its investment in NASA. Perhaps the most compelling argument for not proceeding with a manned mission to Mars is NASA’s great success with unmanned missions to Mars and other planets. These “smaller, cheaper, faster” space probes have been extremely useful and cost-effective and have proved themselves capable of performing real science or, at the very least, capable of being the on-the-ground technicians for scientists safely located on Earth. A better use of NASA’s budget for exploration and planetary science would be to fund several smaller unmanned missions to explore Mars and other planets, thus spreading out both the risks and the rewards. While some of these are bound to fail, most of these little probes would be successful, and several would be successful beyond their original design. The Spirit and Opportunity probes continue to operate on Mars some five years past their original mission of 90 days. Even Voyager 1, launched in 1977, is still operating some 30 years later. Investing in several smaller missions with clear scientific goals offers much more reward for the risk. If NASA is to receive more appropriations, it should be for investigating problems here on Earth. Studying climate change is an unprecedented opportunity to learn about a sophisticated planetary processes happening right here, right now. Moreover, we need NASA to not just document the effects of global warming and other environmental problems but provide us with possible solutions and new technologies addressing these challenges. Solving the problem of global warming would be a greater step for mankind than any trip to space and is much more deserving of public investments. Landing humans on Mars and bringing them back safely would be a great technological feat and no doubt resplendent with numerous spinoff technologies, but it is not one of the major technical problems currently facing the human race. A manned mission to Mars will happen someday, but we should concentrate our scientific resources on figuring out how to leave future generations with a habitable Earth and leave it to them to discover how to make it to Mars.

Earth Science !—Satellites

Declines in the earth science budget come from satellites

AP 7 (6/4/7, http://www.msnbc.msn.com/id/19030744/ns/us\_news-environment/t/us-scales-back-climate-science-satellites/) JPG

In early May, the American Association for the Advancement of Science issued a statement complaining that federal government funds for climate science via satellites had declined in recent years. "The network of satellites upon which the United States and the world have relied for indispensable observations of Earth from space is in jeopardy," the board said. "Declines will result in major gaps in the continuity and quality of the data gathered about the Earth from space." The National Research Council came to the same conclusion in an earlier analysis, which found U.S. global observations of the environment are "at great risk," and that the next generation of Earth-observing satellites will be "generally less capable" than the current ones. NASA and NOAA agreed in April to restore sensors that will enable the satellites to map ozone. NOAA Administrator Conrad Lautenbacher said that would give scientists a better idea of the content and distribution of atmospheric gases.

Satellites performing climate studies are under earth science jurisdiction in NASA

NASA No Date (http://climate.nasa.gov/NasaRole/)

In 2004, NASA's spending on climate science exceeded all other Federal agencies, combined. NASA spent $1.3 billion on climate science that year, out of a $1.9 billion total. The agency provides information on solar activity, sea level rise, the temperature of the atmosphere and the oceans, the state of the ozone layer, air pollution, and changes in sea ice and land ice. NASA scientists regularly appear in the mainstream press as climate experts. So how did the space agency end up taking such a big role in climate science? When NASA was first created by the National Aeronautics and Space Act of 1958, it was given the role of developing technology for “space observations,” but it wasn’t given a role in Earth science. The agency’s leaders embedded the technology effort in an Earth Observations program centered at the new Goddard Space Flight Center in Greenbelt, Maryland, in the U.S.. It was an “Applications” program, in NASA-speak. Other agencies of the federal government were responsible for carrying out Earth science research: the Weather Bureau (now the National Oceanic and Atmospheric Administration or NOAA) and the U.S. Geological Survey (USGS). The Applications program signed cooperative agreements with these other agencies that obligated NASA to develop observational technology while NOAA and the USGS carried out the scientific research. The Nimbus series of experimental weather satellites and the Landsat series of land resources satellites were the result of the Applications program. This Applications model of cross-agency research failed during the 1970s, though, due to the bad economy and an extended period of high inflation. Congress responded by cutting the budgets of all three agencies, leaving NOAA and the USGS unable to fund their part of the arrangement and putting pressure on NASA, too. At the same time, congressional leaders wanted to see NASA doing more research towards “National needs.” These needs were things like energy efficiency, pollution, ozone depletion and climate change. In 1976, Congress revised the Space Act to give NASA authority to carry out stratospheric ozone research, formalizing the agency’s movement into the Earth sciences.

Earth science budget is going to satellites

Hamilton 10 (Jon, writer @ NPR, 4/5/10, http://www.npr.org/templates/story/story.php?storyId=125507009) JPG

NASA, the agency known for exploring space, will be spending a lot more time studying Earth in the next few years. The Obama administration has proposed a budget for NASA that includes billions of dollars for satellites and other tools to help scientists investigate Earth-bound problems, especially climate change. That represents a major turnaround for NASA's Earth Science Division, which had been allowed to languish during much of the 2000s. Back then, the division had so little money it wasn't able to replace aging satellites that monitor things such as polar ice, coastal wetlands, ocean temperatures and chemicals in the atmosphere.

Earth Science ! – Science Diplomacy

Earth sciences are critical to international scientific collaboration

O’Brien 8 (Michael, Asst admin for external rels. NASA, http://www.gpo.gov/fdsys/pkg/CHRG-110hhrg41470/html/CHRG-110hhrg41470.htm)

NASA's Earth science activities are inherently global as we strive to understand the Earth as a system, from a variety of U.S. and international platforms. In fact, some ground-based research programs involve dozens of countries, such as the Aerosol Robotic Network (AERONET), an optical, ground-based aerosol-monitoring network and data archive system in which over 40 countries/regions participate. NASA is a major U.S. contributor to the International Polar Year (IPY) 2007- 2008. IPY will involve a wide range of research disciplines, but the emphasis will be interdisciplinary in its approach and truly international in participation. NASA is also a leader in international mechanisms such as the Committee on Earth Observation Satellites (CEOS), which coordinates the civil space-borne missions of nearly 50 space agencies and associated national and international organizations that observe and study the Earth. Global participation in these activities is a necessity.

Science collaboration is critical to science diplomacy which solves wars, the economy, and the environment

Dr. Federoff 8 (Nina, Sec of State, http://www.gpo.gov/fdsys/pkg/CHRG-110hhrg41470/html/CHRG-110hhrg41470.htm)

Chairman Baird, Ranking Member Ehlers, and distinguished members of the Subcommittee, thank you for this opportunity to discuss science diplomacy at the U.S. Department of State. The U.S. is recognized globally for its leadership in science and technology. Our scientific strength is both a tool of ``soft power''--part of our strategic diplomatic arsenal--and a basis for creating partnerships with countries as they move beyond basic economic and social development. Science diplomacy is a central element of the Secretary's transformational diplomacy initiative, because science and technology are essential to achieving stability and strengthening failed and fragile states. S&T advances have immediate and enormous influence on national and global economies, and thus on the international relations between societies. Nation states, nongovernmental organizations, and multinational corporations are largely shaped by their expertise in and access to intellectual and physical capital in science, technology, and engineering. Even as S&T advances of our modern era provide opportunities for economic prosperity, some also challenge the relative position of countries in the world order, and influence our social institutions and principles. America must remain at the forefront of this new world by maintaining its technological edge, and leading the way internationally through science diplomacy and engagement. The Public Diplomacy Role of Science Science by its nature facilitates diplomacy because it strengthens political relationships, embodies powerful ideals, and creates opportunities for all. The global scientific community embraces principles Americans cherish: transparency, meritocracy, accountability, the objective evaluation of evidence, and broad and frequently democratic participation. Science is inherently democratic, respecting evidence and truth above all. Science is also a common global language, able to bridge deep political and religious divides. Scientists share a common language. Scientific interactions serve to keep open lines of communication and cultural understanding. As scientists everywhere have a common evidentiary external reference system, members of ideologically divergent societies can use the common language of science to cooperatively address both domestic and the increasingly trans-national and global problems confronting humanity in the 21st century. There is a growing recognition that science and technology will increasingly drive the successful economies of the 21st century. Science and technology provide an immeasurable benefit to the U.S. by bringing scientists and students here, especially from developing countries, where they see democracy in action, make friends in the international scientific community, become familiar with American technology, and contribute to the U.S. and global economy. For example, in 2005, over 50 percent of physical science and engineering graduate students and postdoctoral researchers trained in the U.S. have been foreign nationals. Moreover, many foreign-born scientists who were educated and have worked in the U.S. eventually progress in their careers to hold influential positions in ministries and institutions both in this country and in their home countries.

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Earth Science ! – Science Diplomacy

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They also contribute to U.S. scientific and technologic development: According to the National Science Board's 2008 Science and Engineering Indicators, 47 percent of full-time doctoral science and engineering faculty in U.S. research institutions were foreign-born. Finally, some types of science--particularly those that address the grand challenges in science and technology--are inherently international in scope and collaborative by necessity. The ITER Project, an international fusion research and development collaboration, is a product of the thaw in superpower relations between Soviet President Mikhail Gorbachev and U.S. President Ronald Reagan. This reactor will harness the power of nuclear fusion as a possible new and viable energy source by bringing a star to Earth. ITER serves as a symbol of international scientific cooperation among key scientific leaders in the developed and developing world--Japan, Korea, China, E.U., India, Russia, and United States--representing 70 percent of the world's current population. The recent elimination of funding for FY08 U.S. contributions to the ITER project comes at an inopportune time as the Agreement on the Establishment of the ITER International Fusion Energy Organization for the Joint Implementation of the ITER Project had entered into force only on October 2007. The elimination of the promised U.S. contribution drew our allies to question our commitment and credibility in international cooperative ventures. More problematically, it jeopardizes a platform for reaffirming U.S. relations with key states. It should be noted that even at the height of the cold war, the United States used science diplomacy as a means to maintain communications and avoid misunderstanding between the world's two nuclear powers--the Soviet Union and the United States. In a complex multi-polar world, relations are more challenging, the threats perhaps greater, and the need for engagement more paramount. Using Science Diplomacy to Achieve National Security Objectives The welfare and stability of countries and regions in many parts of the globe require a concerted effort by the developed world to address the causal factors that render countries fragile and cause states to fail. Countries that are unable to defend their people against starvation, or fail to provide economic opportunity, are susceptible to extremist ideologies, autocratic rule, and abuses of human rights. As well, the world faces common threats, among them climate change, energy and water shortages, public health emergencies, environmental degradation, poverty, food insecurity, and religious extremism. These threats can undermine the national security of the United States, both directly and indirectly. Many are blind to political boundaries, becoming regional or global threats. The United States has no monopoly on knowledge in a globalizing world and the scientific challenges facing humankind are enormous. Addressing these common challenges demands common solutions and necessitates scientific cooperation, common standards, and common goals. We must increasingly harness the power of American ingenuity in science and technology through strong partnerships with the science community in both academia and the private sector, in the U.S. and abroad among our allies, to advance U.S. interests in foreign policy.

Earth Science ! – Competitiveness Module

Cuts to earth science kill competitiveness

House Committee SSTD 11 (Science, Space, and Tech Democrats, 2011,

http://democrats.science.house.gov/committee-report/committee-report-title) JPG

The budget resolution that these Views and Estimates are intended to inform is being developed even while the FY 2011 budget remains in play.  The House consideration of the FY 2011 budget has been marked by severe cuts to important research and development (R&D) initiatives in order to meet arbitrary fiscal goals.  The end result of those cuts, if enacted into law, would be thousands of layoffs and furloughs among the best and brightest of our scientists and engineers; curtailment of critical research activities to protect the public from environmental hazards; fewer innovative technologies to enable the industries of the future; and serious damage to our core scientific and technological capabilities. The President’s FY 2012 budget request, on the other hand, recognizes that even in these challenging economic times, we need not—and should not—sacrifice our future for the sake of crippling cuts to a small fraction of the total federal budget.  With vision and perseverance, we can be both fiscally responsible and make the necessary investments to keep the American economy competitive in the coming decades while keeping our people and our environment healthy.

US technological leadership and economic competitiveness is key to hegemony

Khalilzad 95 (Zalmay, fellow at RAND, “Losing the moment? The United States and the World after the Cold War?” *Washington Quarterly*, volume: 18, Spring) HD

The United States is unlikely to preserve its military and technological dominance if the U.S. economy declines seriously. In such an environment, the domestic economic and political base for global leadership would diminish and the United States would probably incrementally withdraw from the world, become inward-looking, and abandon more and more of its external interests. As the United States weakened, others would try to fill the Vacuum. To sustain and improve its economic strength, the United States must maintain its technological lead in the economic realm. Its success will depend on the choices it makes. In the past, developments such as the agricultural and industrial revolutions produced fundamental changes positively affecting the relative position of those who were able to take advantage of them and negatively affecting those who did not. Some argue that the world may be at the beginning of another such transformation, which will shift the sources of wealth and the relative position of classes and nations. If the United States fails to recognize the change and adapt its institutions, its relative position will necessarily worsen.

Earth Science ! – Competitiveness – Heg

Competitiveness is key to hegemony- new technologies and industries need to be created

Martino 7 (Rocco, Senior Fellow at the Foreign Policy Research Institute, http://www.fpri.org/orbis/5102/martino.innovationamericanleadership.pdf 7/3/11) HD

Much of the foreign policy discussion in the United States today is focused upon the dilemma posed by the Iraq War and the threat posed by Islamist terrorism. These problems are, of course, both immediate and important. However, America also faces other challenges to its physical security and economic prosperity, and these are more long-term and probably more profound. There is, ﬁrst, the threat posed by our declining competitiveness in the global economy, a threat most obviously represented by such rising economic powers as China and India.1 There is, second, the threat posed by our increasing dependence on oil imports from the Middle East. Moreover, these two threats are increasingly connected, as China and India themselves are greatly increasing their demand for Middle East oil.2 The United States of course faced great challenges to its security and economy in the past, most obviously from Germany and Japan in the ﬁrst half of the twentieth century and from the Soviet Union in the second half. Crucial to America’s ability to prevail over these past challenges was our technological and industrial leadership, and especially our ability to continuously recreate it. Indeed, the United States has been unique among great powers in its ability to keep on creating and recreating new technologies and new industries, generation after generation. Perpetual innovation and technological leadership might even be said to be the American way of maintaining primacy in world affairs. They are almost certainly what America will have to pursue in order to prevail over the contemporary challenges involving economic competitiveness and energy dependence. There is therefore an urgent need for America to resume its historic emphasis on innovation. The United States needs a national strategy focused upon developing new technologies and creating new industries. Every successful strategy must deﬁne an objective or mission, determine a solution, and assemble the means of execution. In this case, the objective is economic superiority; the solution is new industries which build upon the contemporary revolution in information technology; and the means of execution will have to include a partnership of industry, government, and people.

Competitiveness is key to leadership- technological developments and education

Office of the Press Secretary 6 (The White House Fact Sheet: The American Competitiveness Initiative: A Commitment to Education, Research and Innovation, Ofﬁce of the Press Secretary, May 19, http://georgewbush-whitehouse.archives.gov/news/releases/2006/05/20060519-2.html 7/3/11) HD

Keeping our competitive edge in the world economy requires focused policies that lay the groundwork for continued leadership in innovation, exploration, and ingenuity. America's economic strength and global leadership depend in large measure on our Nation’s ability to generate and harness the latest in scientific and technological developments and to apply these developments to real world applications. These applications are fueled by: scientific research, which produces new ideas and new tools that can become the foundation for tomorrow’s products, services, and ways of doing business; a strong education system that equips our workforce with the skills necessary to transform those ideas into goods and services that improve our lives and provide our Nation with the researchers of the future; and an environment that encourages entrepreneurship, risk taking, and innovative thinking. By giving citizens the tools necessary to realize their greatest potential, the American Competitiveness Initiative (ACI) will help ensure future generations have an even brighter future.

Global leadership stems from innovation and a competitive economy

Office of the Press Secretary 6 (The White House Fact Sheet: The American Competitiveness Initiative: A Commitment to Education, Research and Innovation, Ofﬁce of the Press Secretary, May 19, http://georgewbush-whitehouse.archives.gov/news/releases/2006/05/20060519-2.html 7/3/11) HD

Our prosperity is no accident. It is the product of risk-takers, innovators, and visionaries. We owe our global leadership in large measure to our willingness to build an economy and culture that welcomes and encourages innovation and flexible, open markets. By increasing U.S. innovation capacity through the bolstering of our world-class R&D enterprise and through investments in our education and information infrastructure, we have achieved new discoveries and breakthroughs that drive productivity, grow the economy, and solve important societal problems.

Earth Science ! – Natural Disasters

Earth science is key to prevent multiple natural disasters

House Committee SSTD 11 (House Committee on Science, Space, and Tech Democrats, 2011,

http://democrats.science.house.gov/committee-report/committee-report-title) JPG

Contrary to the Majority’s position on Earth Science, Democratic members have been supportive of the higher funding accorded this area in last year’s request.  NASA has indicated that reduced out-year funding for Earth Sciences will necessitate delaying the start of two missions, CLARREO and DESDynI.  While this is unfortunate, Democratic members acknowledge the budgetary challenges facing NASA’s Science program.  However, we are concerned that delays in initiating these missions could lead to higher development costs and also delay the collection of data.  This data would provide significant utility in observing, understanding, and addressing key environmental challenges including complete El Nino/ La Nina cycles, reflected solar radiation and Earth thermal radiation, earthquakes, volcanic eruptions, landslides as well as new observational information for monitoring forests, agricultural resources, and mountain glaciers.

\*\*Orion D/A

Orion Shell

Orion is being funded, buts in on the chopping block

Gurney 11 (Matt, writer @ National Post, 6/10/11, http://fullcomment.nationalpost.com/2011/06/10/matt-gurney-nasa-gets-its-ships-now-it-needs-a-mission/) JPG

Those millions may have some cause for optimism. NASA, with Congressional support, has revived a part of the Constellation program: the Orion crew capsule. These small but high-tech space ships would provide enough space and supplies for four astronauts to conduct three-week missions. They are essentially modern-day updates of the Apollo program capsules that took men to the moon in the 1960s and ’70s, and avoid the costly mistakes of the well-intentioned but fundamentally flawed space shuttles, which despite their high-tech reputation, never lived up to the hopes of their designers. That leaves NASA with a rocket and new ships under development, and that’s a good thing for science, for exploration and for the prestige of the United States. But it also means that there are expensive items being developed with no clear mission or purpose — President Obama cancelled the program that Orion and the heavy lift rocket were to have been used for. NASA needs a realistic plan on how they can be used. In this early epoch of space travel, it is too early to hope for dollar-for-dollar economic returns from flights into the deep black of space, but there are real, tangible benefits that can be achieved, with the right mission and the will to accomplish it. America needs a long-term, non-partisan goal to aim for in space, both in low Earth orbit and beyond. It then needs a plan on how to reach that goal, one that is sympathetic to the enormous fiscal pressure the United States is currently under, and will likely remain under for some time. Only when such a goal and plan have been decided upon, with support of both political parties, will the investment in NASA be a wise one. Right now, with no plan on how to use the new rockets and ships, and no consensus that they should be used at all, NASA’s vehicle plans will remain a very tempting piece of low-hanging fruit for budgetary hawks looking for ways to avoid making much harder, less popular cuts to America’s federal budget.

Orion Shell

**Orion is key to space leadership and exploration – cuts turn the case**

Hall 11 (Ralph, Republican Congressperson from Texas, http://thehill.com/blogs/congress-blog/technology/149233-the-future-value-of-nasa-depends-on-priorities?page=1#comments) JPG

As the nation’s only civilian space and aeronautics research and development agency, NASA has a unique and important role in fostering innovation and keeping America competitive. Through NASA’s leadership, the U.S. has set the standard for the world in human space flight, exploration, and aeronautics. The investments we have made in NASA research and development have spawned scientific discoveries that have vastly increased our understanding of the Earth, Sun, our solar system and the universe. Last year, Congress approved a plan to ensure a balanced portfolio of science and exploration at NASA. This plan created a roadmap that would give U.S. astronauts access to the International Space Station while developing capabilities to travel beyond low Earth orbit. Unfortunately, this administration seems to be ignoring clear Congressional intent. Last year, Congress passed and the President signed the NASA Authorization Act of 2010. The bill directed NASA to give priority to the development of a Space Launch System (SLS) and Multi-Purpose Crew Vehicle (MPCV) to replace the retiring Shuttle. The bill also authorized NASA to “help determine the most effective and efficient means of advancing the development of commercial crew services.” NASA’s FY12 request flips the relative priority, seeking a 70 percent increase for commercial crew ($850 million versus $500 million authorization); and a 31 percent decrease for the SLS and MPCV ($2.8 billion versus $4 billion authorization). NASA Administrator Charles Bolden said at a recent hearing that NASA would not need exploration capabilities until after 2020, although Congress clearly directed NASA to develop the heavy lift system with an initial capability to return to the International Space Station by 2016. Failure to do so will result in continued reliance on the Russians’ Soyuz to transport astronauts to the International Space Station. This is unacceptable. NASA should give highest priority to developing the SLS and MPCV programs that build on the tremendous investments that have already been made in the Constellation systems. We cannot, as the NASA Administrator suggests, wait until 2020. Meanwhile, the commercial space companies will have the opportunity to continue to develop the capability to ferry cargo to the ISS, as provided in the authorization bill enacted into law last year. Ultimately, perhaps they will demonstrate their capability also to safely transport astronauts. Space exploration, however, is too important to be placed at risk for failure, so we must continue to support a robust program at NASA, which has a record of success. We must also take the current economic realities into consideration. We cannot afford to go to Mars if Americans cannot afford to go to the grocery store. But we must begin working toward those goals. Technology development programs at NASA are most successful when they are goal-oriented, and NASA needs clearly articulated exploration goals in order to make the best use of taxpayer investments. For more than 50 years, NASA has spawned scientific discoveries and spinoffs, and the next 50 will be just as valuable. As chairman of the Committee on Science, Space and Technology, I will continue to push NASA to adhere to congressional direction and follow the priorities that are now the law of the land. If we want to remain the world leader in space, the administration must work together with Congress to provide vision, direction and goals to inspire the next generation.

Orion Shell

Space leadership is critical to overall US hegemony- provides intelligence and warfighting capabilities.

Young 8 (Thomas, Chair for the Institute for Defense Analyses Research Group, “Leadership, Management, and Organization for National Security Space”. July 2008. [http://www.armyspace.army.mil/ASJ/Images/National\_Security\_S pace\_Study\_Final\_Sept\_16.pdf](http://www.armyspace.army.mil/ASJ/Images/National_Security_Space_Study_Final_Sept_16.pdf)) AV

Today, U.S. leadership in space provides a vital national advantage across the scientific, commercial, and national security realms. In particular, space is of critical importance to our national intelligence and warfighting capabilities. The panel members nevertheless are unanimous in our conviction that, without significant improvements in the leadership and management of NSS programs, U.S. space preeminence will erode to the extent that space ceases to provide a competitive national security advantage. Space technology is rapidly proliferating across the globe, and many of our most important capabilities and successes were developed and fielded with a government technical workforce and a management structure that no longer exist. *U.S. Leadership in Space is a Vital National Advantage* Space capabilities underpin U.S. economic, scientific, and military leadership. The space enterprise is embedded in the fabric of our nation’s economy, providing technological leadership and sustainment of the industrial base. To cite but one example, the Global Positioning System (GPS) is the world standard for precision navigation and timing. Global awareness provided from space provides the ability to effectively plan for and respond to such critical national security requirements as intelligence on the military capabilities of potential adversaries, intelligence on Weapons of Mass Destruction (WMD) program proliferation, homeland security, and missile warning and defense. Military strategy, operations, and tactics are predicated upon the availability of space capabilities.

**Heg collapse causes nuclear war**

**Khalilzad** **95** [Zalmay, Former RAND Fellow, Current US Ambassador, “Losing the Moment?” The Washington Quarterly, Vol. 18, No. 2, pg. 84, Spring, Lexis]

<Under the third option, the United States would seek to retain global leadership and to preclude the rise of a global rival or a return to multipolarity for the indefinite future. On balance, this is the best long-term guiding principle and vision. Such a vision is desirable not as an end in itself, but because a world in which the United States exercises leadership would have tremendous advantages. First, the global environment would be more open and more receptive to American values -- democracy, free markets, and the rule of law. Second, such a world would have a better chance of dealing cooperatively with the world's major problems, such as nuclear proliferation, threats of regional hegemony by renegade states, and low-level conflicts. Finally, U.S. leadership would help preclude the rise of another hostile global rival, enabling the United States and the world to avoid another global cold or hot war and all the attendant dangers, including a **global nuclear exchange**. U.S. leadership would therefore be more conducive to global stability than a bipolar or a multipolar balance of power system.

Orion UQ – $ Now

Orion is being funded but its not guaranteed

Leone 6/14 (Dan, writer @ SpaceNews.com, http://www.spacenews.com/civil/110614-memo-marks-end-constellation.html) JPG

A senior NASA official has signed the formal death warrant for the Constellation deep space exploration program even as work proceeds on one of Constellation’s legacy development efforts and agency officials continue to ponder the fate of another. “I have signed the letter to close out the Constellation Program,” Douglas Cooke, associate administrator for NASA’s Exploration Systems Mission Directorate, wrote in a June 10 memo. With Constellation’s demise now official, the Constellation project office, which “has already scaled back in size significantly,” will be charged “with transitioning contracts, etc. to the new [Space Launch System] and [Multi-Purpose Crew Vehicle] programs,” Cooke wrote in the memo. NASA spokesman Michael Braukus confirmed June 10 that the letter came from Cooke. The fate of some Constellation contracts remains unclear, as NASA has not decided whether to use those contracts to build the Space Launch System, a heavy-lift rocket with a 130-ton lift capacity that Congress ordered the space agency to construct in the NASA Authorization Act of 2010.

Orion is being funded, but it’s not secure

Hannaford 6/17 (Alex, writer @ Sunday Telegraph, http://www.ottawacitizen.com/technology/Shuttling+this+mortal+coil/4966577/story.html) JPG

Nevertheless, as it ends its shuttle program, NASA finds itself at a crossroads. A period of uncertainty now looms over the future of manned U.S. space flight. The organization is retiring what some feel is a perfectly operational vehicle in favour of … what. Nothing has been readied to replace it. Plans are in the works to build a new crew exploration vehicle, Orion, but this isn’t even at the test phase. The other thing still to be decided: where it’ll go when it is built.

Orion is being funded

Houston Chronicle 5/31 (http://www.chron.com/disp/story.mpl/editorial/7589494.html#ixzz1Qgpj0xf5)

Now the approaching end of the shuttle program and the Obama administration's decision to cancel plans to return to the moon struck at the center's long-term future. The subsequent decision not to send a decommissioned shuttle here simply amplified that feeling of growing irrelevance in plans for the nation's spacefaring enterprise. Last week, however, we got a bit of good news from NASA for JSC and the Houston area. As the space agency firms up plans for eventual manned flights to a near-Earth asteroid, it has revived a component of the canceled moon missions, the Orion capsule now renamed the Multi-Purpose Crew Vehicle. Under construction by Lockheed Martin, it will have the capacity to carry four astronauts on three-week missions and will return to Earth by way of parachute-assisted ocean splash-downs, much like the Mercury and Apollo capsules. It also guarantees a purpose and presence of astronauts training at JSC in the coming decades.

Orion is being funded

Stier 6/10 (Caitlin, contributor @ NewScientist, http://www.newscientist.com/blogs/shortsharpscience/2011/06/preparing-for-the-next-generat.html) JPG

As the shuttle programme draws to a close, NASA has contracted Lockheed Martin to develop a next-generation vehicle for deep space exploration. Here, the Multi-Purpose Crew Vehicle (MPCV), unveiled in May, is undergoing tests at the Lockheed Martin Vertical Test Facility in Colorado to ensure it can withstand the harsh conditions of deep space expeditions. Whereas the shuttle programme focused on low Earth orbit, the new spacecraft is designed to explore further afield possibly to an asteroid or Mars. Lockheed Martin was commissioned after the Obama administration scrapped the moon-bound Constellation programme, and MPCV resurrects designs from the Orion capsule, affiliated with Constellation.

Orion UQ – $ Now

**NASA funding for Orion now – budget forces choices between missions**

SpaceTravel.com 2/15 (http://www.space-travel.com/reports/NASA\_Announces\_Fiscal\_Year\_2012\_Budget\_999.html) JPG

NASA has prioritized funding for its partnership with the commercial space industry to facilitate crew and cargo transport to the station. Companies will innovate to provide safe, reliable and cost effective access to low Earth orbit. NASA also will invest in the flight systems to take humans beyond low Earth orbit, including a deep space capsule and heavy lift rocket, and key research and technology to enable the long journeys. NASA's science budget supports new missions and continued operations of the many observatories successfully studying Earth and space. The agency will launch the Mars Science Laboratory in fiscal year 2012 and continue work on a wide range of astrophysics, heliophysics and Earth science missions. The 2012 budget request continues NASA's commitment to enhancing aviation safety and airspace efficiency, and reducing the environmental impact of aviation. NASA also remains dedicated to developing the next generation of technology leaders through vital programs in science, technology, engineering and mathematics. "We had to make some tough choices, but the budget gives us a plan for sustainable and affordable exploration," said NASA's Chief Financial Officer Elizabeth Robinson. "We're looking at new ways of doing business that improve program management and delivers even greater results to the American taxpayers."

Orion has funding

Berger 11 (Brian, writer @ SpaceNews.com, 4/12/11, http://www.spacenews.com/civil/110412-budget-compromise-includes-185-billion-for-nasa.html) JPG

Exploration and Science are the big winners in the NASA portion of the spending bill Congress intends to enact this week to keep the federal government funded for the remainder of fiscal 2011, which runs through September. The bill, H.R. 1473, carves out $3.8 billion for Exploration, including $1.2 billion for a multipurpose crew vehicle based on NASA's in-development Orion capsule and $1.8 billion for a heavy-lift vehicle "which shall have a lift capability not less than 130 tons and which shall have an upper stage and other core elements developed simultaneously." Exploration was funded at $3.625 billion in 2010, a sum that would rise to $3.7 billion under the agency's spending plan for 2012.

Orion Internals – $ing = Cuts

**Orion is being funded but Obama wants to cut it**

Avery 10 (Greg, writer @ Denver Business Journal, 2/8/10, http://www.bizjournals.com/denver/stories/2010/02/08/story10.html) JPG

NASA’s budget proposal looks like a death knell for the highest-profile aerospace industry project in Colorado. But observers say there still may be life for the Orion capsule. The space agency proposed cancelling funding for the human space flight program. Littleton-based Lockheed Martin Space Systems Co-designed and is building the multibillion-dollar Orion crew vehicle. “I don’t think it’s over — not quite,” said Scott Pace, director of the Space Policy Institute at George Washington University in Washington, D.C., and a veteran observer of budgeting battles. Lockheed Martin Space Systems won the project in 2006 and has received at least $4 billion for it. About 600 employees work on Orion locally. About 4,000 people work on it nationwide for Lockheed Martin, NASA, and subcontractors. Work continues on Orion despite the project being dropped from NASA’s proposed 2011 budget. The shift scraps the President George W. Bush-era Constellation program. Constellation intended to return U.S. astronauts to the moon by 2020 and prepare NASA for Mars missions. Instead of Constellation, NASA now proposes to have commercial companies lead the development of new space vehicles for U.S. astronauts. It plans to drop the ambitious deadline for another moonshot, too. Congress still has to authorize NASA’s new direction. Until that happens, Orion still will be prepared for an April flight test to stay on schedule for low-Earth orbit flights in 2013, said Joan Underwood, spokeswoman for Lockheed Martin Space Systems Co. “Our NASA customers expect us to meet the milestones that are already in place,” she said. Dropping Constellation from the budget was an enormous disappointment for Lockheed Martin Space Systems employees working on Orion, Underwood said, but they remain convinced the crew capsule’s features will persuade policy makers it should remain the country’s next spacecraft. Orion has been designed to be more versatile than any previous spacecraft. It’s meant to be able to take astronauts beyond Earth’s orbit, hover by asteroids, serve as an unmanned cargo carrier for the International Space Station and conduct close-in Earth observation. “People have not been adequately made aware of all its capabilities,” she said. There’ll be a good fight in Congress to restore Orion, especially when the federal budget gets to the Senate, and it’s too soon to assume the capsule’s out of the nation’s space plans, Pace said. Orion was expected to be an $8 billion project for Lockheed Martin, the defense giant’s second-biggest current contract. All that changed with President Barack Obama’s fiscal 2011 budget. “So this budget cancels the Constellation Program, including the Ares I and V rockets and the Orion crew exploration vehicle,” NASA Administrator Charles Bolden announced Feb. 1.

Orion is still being funded despite cancelling constellation – but its still on the chopping block

Moskowitz 10 (Clara, space.com senior writer, 8/18/10, http://www.space.com/8857-nasa-spaceships-forge-uncertain-atmosphere.html) JPG

NASA is pushing ahead with work on its new Orion space capsule and Ares rockets despite their ambiguous status as lawmakers discuss the agency's 2011 budget request. Orion and Ares are part of Constellation, a NASA program designed to take astronauts back to the moon. Under his 2011 budget proposal, President Barack Obama called for canceling Constellation and urged NASA to work toward sending humans to an asteroid and then on to Mars. The outlook for Constellation's fledgling rocket and capsule spacecraft is not clear. Obama did recommend continuing development of Orion ? but to be used only as an escape ship that could carry astronauts home from the International Space Station in an emergency. A NASA authorization bill recently passed by the Senate would direct the space agency to continue developing Orion and to fast-track plans for heavy-lift rockets and vehicles required for space exploration beyond low-Earth orbit. A different bill under consideration in the House also seeks to revive some Constellation plans, including Orion and the Ares rockets. Political uncertainty Since 2006, the National Aeronautics and Space Administration has contracted with Lockheed Martin to build the Orion spacecraft ? a 21,000-pound (9,500-kg) capsule that would ride atop a rocket to carry a crew of four to six into space. Initially, the spacecraft was on the chopping block along with the rest of the Constellation program, but it received a reprieve of sorts in April when Obama unveiled plans to use a stripped-down version of the ?capsule as an escape ship. [FAQ: NASA's New Direction] Regardless of Orion's future, Lockheed is contracted to continue working on it throughout this year. "We have been on contract to execute the 2010 plan, and there are a lot of accomplishments and milestones in that plan," said Larry Price, Lockheed's Orion deputy program manager. He acknowledged that the political uncertainty is distracting. "It is a disturbance, people wonder what's happening," Price told SPACE.com. "But people are doing this because they are passionate about it. It is exciting, inspiring work to be building a human spacecraft to go beyond low Earth orbit."

Orion Internals – $ing = Cuts

**Orion avoided cuts to constellation – the ADA guarantees trade-offs within NASA**

Whittington 10 (Mark, Yahoo! News contributor, 6/10/10, http://www.associatedcontent.com/article/5474104/obama\_to\_kill\_nasas\_constellation\_program.html?cat=15) JPG

"At issue is the federal Anti-Deficiency Act that requires all federal contractors to set aside a portion of their payments to cover costs in case the project is ever cancelled. "New NASA calculations say contractors are $991 million short of what they must withhold - and the agency has ordered the companies to find that money from the roughly $3.5 billion they're budgeted to get for Constellation projects this year. "In a letter to Congress released Wednesday, NASA Administrator Charlie Boldensaid: 'Given this estimated shortfall, the Constellation program cannot continue all of its planned ... program activities [this year] within the resources available. Under the Anti-Deficiency Act (ADA), NASA has no choice but to correct this situation.'" NASA contractors had hitherto expected NASA to cover termination costs for Constellation. The Obama space budget proposal allocates over $2 billion for that purpose. The immediate effect of the order is that all but certain parts of the Constellation program that are slated to be preserved under the Obama space plan will be effectively canceled. Those parts of Constellation that would remain "--include advanced technology work on the Orion space capsule, the J2X rocket engine that was to power the Ares I second stage and any hardware that could be used for other programs."

No new money for NASA guarantees trade-offs – Orion is the first priority

Harlem News 10 (2/6/10, http://www.harlemface.com/2010/02/nasa-on-chopping-block.html) JPG

Harlem space cadets, be prepared for a space landing, with Obama killing NASA and the manned space program. This program has already been in trouble. When George W. Bush introduced his Vision for Space Exploration in 2004, to "pay" for it without increasing NASA's budget, the serious work on the replacement vehicle for the Shuttle and its launch rocket was not to be funded until money was "freed up" with the retirement of the Space Shuttle in 2010. So from the very beginning, and by design, there would be at least a couple of years' gap when the thousands of highly skilled workers at the Kennedy Space Center would having nothing to launch. Because the Bush Administration never came up with the money to keep the development of the new vehicles on track, NASA estimated it would be at least 2015 before its new craft could fly, three years later than originally projected. Lay-offs in the Shuttle program began last year, as all the hardware had been delivered for the remaining five flights. Although there had been thousands of lay-offs projected during the "no flight" interregnum, with up to 7,000 at the launch center in Florida alone, to mitigate the job losses, NASA has been moving design and engineering manpower from the Shuttle program to the new Orion spacecraft and Ares rocket. Now, with the proposed cancellation of the Orion and Ares programs, there will be tens of thousands of lay-offs — manpower that will not be "recaptured" in the future. Lockheed Martin stated today that the cancellation of the Orion spacecraft will eliminate 400 jobs at its company. However, it will affect 4,000 jobs in total, at more than 500 companies and hundreds of suppliers across the country. The bipartisan Alabama congressional delegation vows to fight the cancellation, as 2,200 jobs are at stake at the Marshall Space Flight Center in Huntsville, where people have been "killing themselves for four or five years" on the Ares rocket project, according to Center Director Robert Lightfoot. This is a horror show, due to Obama and his British masters.

Orion is on the chopping block

Hill 10 (Brandon, writer @ DailyTech.com, 1/25/10, http://www.dailytech.com/Report+Obamas+2011+NASA+Budget+Funds+Private+Companies+to+Ferry+Astronauts+to+Space/article17498.htm) JPG

The Augustine Panel also made it clear that the estimated $145 billion cost to return to the moon by 2020 would not be possible given NASA's $18.7 billion yearly allowance for all operations. According to a new report by Space News, it appears that the Ares 1 launch vehicle and the Orion crew capsule may be put on the chopping block. President Obama is not expected to give NASA the $1 billion increase in its yearly budget that had been hoped for to help further develop the Ares program. President Obama's 2011 budget for NASA aligns closely with the recommendations of the Augustine Panel. The budget calls for the the use of commercial spacecraft and rockets to carry astronauts into space instead of relying on the behind schedule, cost-overrun Ares program. Another Augustine Panel carryover is the decision to bypass the moon and instead gun for near-Earth asteroids and onward to Mars.

Orion Link – Mars

Mars diverts the resources needed to achieve nuclear propulsion

Anderson 5 (Eric, writer @ Albany Times, “[NASA to shelve nuclear propulsion project (NASA kills Prometheus)](http://www.freerepublic.com/focus/f-news/1484198/posts)”, 9/14/5, http://www.freerepublic.com/focus/f-news/1484198/posts) JPG

The plan to send a manned space mission to Mars apparently doomed research on nuclear propulsion being carried out at Knolls Atomic Power Laboratory. KAPL employees were told late last week that the National Aeronautics and Space Administration was ending the $65 million program to develop a nuclear-electric propulsion system as it reorders its priorities. The Prometheus project, as it is called, will undergo a "substantial reduction," KAPL officials said this week, in part so money can be spent on developing the Crew Exploration Vehicle that will be used to send humans back to the Moon and to Mars. NASA and the division of the U.S. Department of Energy that oversees KAPL "have mutually agreed that NASA's reprioritization of work and reduction in funding for the Prometheus Program do not support continuation of the partnership for the development" of the nuclear-electric propulsion system, KAPL officials said in a written response to questions from the Times Union. KAPL hired 150 engineers and other staff as it began research on the $65 million project in March 2004. Now, said Anne LaRoche, a KAPL spokeswoman, work will be brought to "an orderly conclusion." She said it's not clear how many people might lose their jobs. "KAPL is working on an appropriate approach, in keeping with corporate policy, for reducing overall staffing levels," LaRoche said. NASA spokesman Michael Braukus said the work that already has been done will be stored in NASA's archives. Niskayuna Town Supervisor Luke Smith said KAPL had alerted him that "NASA had changed their priorities." KAPL's main focus has been researching and developing nuclear propulsion systems for naval vessels. The facility is operated by Lockheed Martin Corp. under contract with the U.S. Department of Energy and it has a $460 million budget, not including the NASA work. Total employment at KAPL's plants in Niskayuna and in West Milton is 2,700, including 1,500 engineers.

Orion ! – Lunar Missions

Orion is key to lunar missions

Whittington 11 (Mark, author of The Last Moonwalker, contributes articles to major newspapers, 5/25/11, http://old.news.yahoo.com/s/ac/20110525/sc\_ac/8534339\_nasas\_mpcv\_inadequate\_for\_asteroid\_mars\_mission\_ideal\_for\_lunar\_missions) JPG

There are a variety of deep space missions that an MPCV, presumably launched on the heavy lift vehicle that is also envisioned. One could fly to one of the Lagrange points where the gravity of the Earth and the moon cancel one another out. One could use a MPCV to fly an Apollo 8 style mission in lunar orbit. And, of course, along with a landing module, an MPCV could take astronauts to the lunar surface. A 21-day mission would just be enough for a one week lunar stay that was planned for the initial expeditions under Constellation. NASA is forced to serve at least two masters, the Obama administration and the Congress, which have different ideas about how the course of future space exploration should go forward. President Obama was quite clear just over a year ago about how much he disdained going back to the moon. On the other hand, Congress has been increasingly clear that it regards a return to the moon as an imperative to any program of deep space exploration.

Orion ! – Deep Space

MPCV is key to deep space flight

ScienceRay 11 (6/16/11, http://scienceray.com/technology/nasa-announced-the-spaceship-mpcv-for-mars-missions/) JPG

The space agency NASA announced its plan to develop a new spacecraft for interplanetary missions. Based on the novelty will be shown before the capsule Orion, was originally designed to fly to the moon. Now based on the Orion platform will create a “multi-purpose ship manned» MPCV (Multi-Purpose Crew Vehicle). According to the director of NASA, Charles Bolden, Orion was part of the canceled program Constellation, designed for lunar exploration. Last year Barack Obama turned the program Constellation, instead of what space agencies were encouraged to undertake exploration of Mars and the asteroids in the solar system. This program is more ambitious and complex than the moon, but experts say it is better meets the strategic objectives of space development. Now NASA plans to send about 2025 a group of astronauts to an asteroid, but by 2030 – to land a manned vehicle with a crew on Mars. Agency officials say they modified capsule Orion can do it, and also use an existing platform can reduce the cost of development.

Orion ! – Asteroid/Mars

Orion is key to asteroid and Mars missions

Wall 11 (Mike, writer @ Space.com, 5/26/11, http://www.msnbc.msn.com/id/43156476/ns/technology\_and\_science-space/t/nasa-unveils-retooled-vehicle-deep-space-flights/) JPG

NASA on Tuesday announced a plan to develop a new deep-space vehicle, one based on an earlier capsule concept, in order to send astronauts on expeditions to an asteroid and then on to Mars. The spaceship, known as the Multi-Purpose Crew Vehicle, or MPCV, will be based on designs originally planned for the Orion spacecraft, NASA officials announced Tuesday. Orion was part of NASA's now-canceled Constellation program, which aimed to return astronauts to the moon by the 2020s. [Photos: NASA's MPCV for Deep Space Flights] President Barack Obama shut down the Constellation program last year, tasking NASA instead with sending people to an asteroid by 2025, and then to aim for crewed Mars missions by the 2030s. Modifying the Orion capsule design — rather than drawing up plans for an entirely new spaceship — should help make that feasible, agency officials said. "We made this choice based on the progress that's been made to date," Doug Cooke, associate administrator for NASA's Exploration Systems Mission Directorate in Washington, told reporters Tuesday. "It made the most sense to stick with it [the Orion design]." Meet the Multi-Purpose Crew Vehicle Lockheed Martin Corp., NASA's prime contractor for Orion, will continue work to develop the MPCV spacecraft. So far, NASA has invested a little more than $5 billion in the spaceship, which is pretty far along, Cooke said. Lockheed has already built a full-size mock-up vehicle, called a Ground Test Article, and will soon subject it to a series of rigorous trials at a facility in Colorado. The gumdrop-shaped MPCV is about 16.5 feet (5 meters) wide at its base and weighs about 23 tons. The space capsule will have a pressurized volume of 690 cubic feet (20 cubic meters), with 316 cubic feet (9 cubic meters) of habitable space, according to an official description. It's designed to carry four astronauts at a time and return to Earth with splashdowns in the Pacific Ocean off the California coast. The spacecraft will be NASA's primary vehicle for delivering astronauts to destinations beyond low-Earth orbit, such as asteroids or Mars. Such journeys would take months, and the four astronauts won't be cooped up in the cramped MPCV the entire time. Rather, the capsule will meet up with some type of habitation module in space, making the trip much more comfortable.

Orion ! – Space Leadership/Deep Space

Orion is key to space leadership and deep space exploration

Cerkas 11 (Michael, writer @ huliq, 5/25/11, http://www.huliq.com/10128/bold-us-quest-manned-space-flight-reborn-nasa-orion) JPG

Effectively grounded by President Obama’s decision last year to cut funding for the Constellation Program, NASA has inhaled a breath of fresh air with its recent announcement of the Orion Program. The aging Space Shuttle fleet which is currently in the process of being retired, initially saw no successor and introduced doubt in the minds of Americans regarding the resolve and future of manned space flight to explore the heavens. The Orion spacecraft, designed and built by Lockheed Martin, will feature the Multi-Purpose Crew Vehicle, or MPCV, and has been described by former NASA Administrator Mike Griffin as “Apollo on Steroids”, is a vastly superior and capable spacecraft that will successfully and effectively address the Obama Administration’s “flexible path” toward deep space exploration. The Orion MPCV spacecraft is a solar-powered craft, designed to carry four astronauts on missions lasting up to three weeks; or much longer when accompanied by a larger interplanetary habitation module. The MPCV will weigh approximately 23 tons at launch and support a pressurized cabin of 690 cubic feet. A tentative timeline for the introduction of Orion will begin with a planned test flight in 2013, with the first manned space flight anticipated in 2016. Read details about the Orion Spacecraft from NASA here. It has been estimated that the Orion design will effectively be 10 times as safe as the Space Shuttle.

Orion ! – Moon/Mars/ISS

Orion is key to Lunar and deep space missions – only way to guarantee ISS transportation

Gaudin 11 (Sharon, tech writer @ ComputerWorld, 5/24/11, http://www.computerworld.com/s/article/9217027/NASA\_astronauts\_to\_fly\_Orion\_spacecraft\_into\_deep\_space?source=rss\_governmentindustries) JPG

NASA on Tuesday announced a plan to build a spacecraft that will fly astronauts into deep space, taking them as far as near asteroids and even Mars. The new spacecraft, called the Multi-Purpose Crew Vehicle, will be based on an earlier concept for the Orion vehicle, a spacecraft originally intended to ferry astronauts to the moon, the space agency announced during a press conference. The new spacecraft, which will be built by Lockheed Martin, will be designed to carry four astronauts on 21-day missions. Douglas Cooke, NASA's associate administrator for exploration, said the agency plans to send the deep space vehicle to near asteroids and then to Mars. "We are committed to human exploration beyond low-Earth orbit and look forward to developing the next generation of systems to take us there," said NASA Administrator Charles Bolden. "As we aggressively continue our work on a heavy-lift launch vehicle, we are moving forward with an existing contract to keep development of our new crew vehicle on track." Designed to be 10 times safer during liftoff and re-entry than its NASA predecessor, the space shuttle, the new spacecraft will have 316 cubic feet of habitable space. It also is expected to be able to land in the Pacific Ocean off the California coast. Though Orion was born of a canceled moon mission, it seems to have several lives still to live. Orion was first conceived as part of NASA's Constellation program, which was geared to return astronauts to the moon by 2020. However, last year the Obama administration scrapped the overbudget and behind-schedule Constellation program, deciding instead to focus on sending astronauts to Mars and farther into the solar system. The Obama administration wants to turn NASA's attention to developing new engines, in-space fuel depots and robots that can venture out into space. In March, Lockheed Martin announced that it was developing a version of the Orion crew capsule for use as an emergency escape craft for astronauts aboard the International Space Station. Once NASA retires the last of the space shuttle fleet this year, Orion may take on an important role in giving the space agency the ability to safely evacuate astronauts from the space station. Initially designed to ferry astronauts to the moon, Orion will be transformed into a vehicle that will carry astronauts into deep space, the area outside the Earth's orbit. "We made this choice based on progress that's already been made," Cooke said. "We looked at alternatives to some system designs that we're seeing in various proposals, looking for any advantages to this design. And we confirmed that the design and approach we've got is really the best."

Orion is key to ISS missions

Whittington 11 (Mark, author of The Last Moonwalker, contributes articles to major newspapers, 5/25/11, http://old.news.yahoo.com/s/ac/20110525/sc\_ac/8534339\_nasas\_mpcv\_inadequate\_for\_asteroid\_mars\_mission\_ideal\_for\_lunar\_missions) JPG

Then to the MPCV is mentioned as a "backup" for the task of taking astronauts to and from the International Space Station. The heavy lift vehicle would be over powered for that kind of mission. Some have suggested an option of launching a MPCV of a modified Delta IV Heavy, rejected by NASA during the Constellation program. If the commercial crew program suffers delays or is cut back by a skeptical congress, that option may be revisited. If President Obama fails to win reelection in 2012, the next president will have some decisions to make about the future course of the US space program. The development of the MPCV and the accompanying heavy lift launch vehicle will give him or her some options going forward.

Orion ! – A2: Impact D

Orion can make long term deep space missions – its on path for 2016 launch

Hondrogiannis 11 (Steven, writer @ GizMag, 3/24/11, http://www.gizmag.com/nasa-orion-spacecraft-update/18216/) JPG

While resembling its Apollo-era forerunners, Orion is designed to support long duration deep space missions of up to six months. It incorporates a crew module for crew and cargo transport, service module for propulsion, electrical power and fluids storage, spacecraft adapter for securing it to the launch vehicle, and a launch abort system that will significantly improve crew safety. In Denver, Orion will be unified with the heat shield and thermal protection layer and be subjected to environmental testing. The crew module will also perform a series of simulated landing procedures at NASA Langley Research Center's new Hydro Impact Basin to test water landings. "This is a significant milestone for the Orion project and puts us on the right path toward achieving the President's objective of Orion's first crewed mission by 2016," said Cleon Lacefield, Lockheed Martin vice president and Orion program manager. "Orion's upcoming performance tests will demonstrate how the spacecraft meets the challenges of deep-space mission environments such as ascent, launch abort, on-orbit operations, high-speed return trajectory, parachute deployment, and water landings in a variety of sea states."

\*\*Satellites D/A

Satellites Shell

NASA’s EOS is fully funded

PRWeb 6/20 (http://www.sfgate.com/cgi-bin/article.cgi?f=/g/a/2011/06/20/prweb8584611.DTL)

Climate Change and the NASA budget. Although the Space Shuttle program has been terminated, according to Sharon Kleyne, NASA Launch Services are not confined to the Space Shuttle and have not been cut. NASA's EOS (Earth Observation Satellite) program remains fully funded and one EOS satellite recently sent back its three billionth photograph of the Earth. Other countries and private interests now have the capacity to launch scientific satellites and NASA is providing money for private satellite launches. Sharon Kleyne believes that because these programs are so critical that the US government - the most influential entity on Earth - must take the long-term global lead in committing to, funding and implementing them. Failure to do this could doom the planet and everything on it that is good and worth preserving.

**Satellites are on the chopping block – key to weather forecasting**

Hamilton 6/17 (Jon, writer @ NPR, http://www.npr.org/2011/06/17/137251742/blind-eye-in-the-sky-weather-satellites-lose-funding?ps=cprs) JPG

Government officials are forecasting a turbulent future for the nation's weather satellite program. Federal budget cuts are threatening to leave the U.S. without some critical satellites, the officials say, and that could mean less accurate warnings about events like tornadoes and blizzards. In particular, officials at the National Oceanic and Atmospheric Administration are concerned about satellites that orbit over the earth's poles rather than remaining over a fixed spot along the equator. - Kathryn Sullivan, NOAA Deputy Administrator These satellites are "the backbone" of any forecast beyond a couple of days, says Kathryn Sullivan, assistant secretary of commerce for environmental observation and prediction, and NOAA's deputy administrator. It was data from polar satellites that alerted forecasters to the risk of tornadoes in Alabama and Mississippi back in April, Sullivan says. "With the polar satellites currently in place we were able to give those communities five days' heads up," she says. But that level of precision could diminish in the next few years, Sullivan says. One important NOAA satellite in a polar orbit will reach the end of its expected life around 2016. And its replacement has been delayed by a continuing resolution passed by Congress that limits the agency's ability to pursue its new Joint Polar Satellite System. Sullivan says that means there could be more than a year when the nation is lacking a crucial eye in the sky. "If we go blind, if there actually is a gap between the last satellite and this, it certainly will erode the reliability and accuracy of our forecasts," she says. To find out how bad the problem might be, the National Weather Service re-examined one of its great forecasting successes: the 2010 blizzard known as "Snowmageddon." The agency wanted to know what would happen if a similar blizzard arrived several years from now, when several satellites are likely to be out of commission, says National Weather Service Director Jack Hayes. "We were quite surprised at the finding that we would underestimate the amount of snowfall the Eastern Seaboard had, specifically in the Washington, D.C., area, by a factor of 2," Hayes says. In other words, areas where forecasts called for 15 inches would actually get 30 inches. Budget problems aren't the only reason NOAA's next polar satellite is behind schedule. A previous version of the program was scrapped, and NOAA has had trouble getting some of the new satellite's cutting-edge technology finished on time. But Hayes says this sort of technology is precisely what's made forecasting more accurate with each new generation of satellites. NASA officials are also concerned about the next generation of weather satellites. The agency will play an important role in building them and also supplements data from NOAA weather satellites with data from its own research satellites. "It used to be that weather was just something that happened," says Michael Freilich, who directs the earth science division at NASA. Now, he says, people and businesses make specific plans based on what forecasters say. "When they say that it's going to be hot and sunny, companies make economic decisions," he says. For example, he says, utilities decide how much electricity they need to produce, airlines decide whether to cancel flights, schools decide whether to close, and insurance companies anticipate damage claims from things like hurricanes and hailstorms. Other nations also fly polar satellites, and that can help fill the gap when U.S. units fail, officials say. But it's not enough, they say. "The United States, by virtue of our size, the mountains, the oceans on three sides, we have the widest array and greatest frequency of weather phenomena and severe weather phenomena of any country on the planet," Sullivan says. Some tweaks to NOAA's current budget could minimize delays to the polar satellite program, she says. Whether the agency is allowed to do that is up to Congress, which will also decide what happens to spending on polar satellites next year.

Satellites Shell

Satellites key to solve warming

Lewis 10 (James Andrew, Dir. and Sen. Fellow of Tech @ CSIS, PhD @ Chicago U, 6/9/10, http://csis.org/publication/climate-change-and-earth-observation-executive-summary) JPG

Until this year, America’s civil space policies—and the budgets that derive from it—were shaped to a considerable degree by the political imperatives of the past and by the romantic fiction of spaceflight. We believe there is a new imperative—climate change—that should take precedence in our national plans for space and that the goal for space spending in the next decade should be to create a robust and adequate earth observation architecture. There is unequivocal evidence, despite careless mistakes and noisy protests, that the earth’s climate is warming. While the effects and implications of this are subject to speculation, there should be no doubt that the world faces a major challenge. There are important shortfalls in data and analysis needed to manage this challenge. Inadequate data mean that we cannot determine the scope or nature of change in some key areas, such as the extent of Antarctic sea ice. Long-term changes in daily temperature are not well understood, in part because of limited observations of atmospheric changes. An understanding of how some anthropogenic (man-made) influences affect climate change is still incomplete.1 These shortfalls must be remedied, if only to overcome skepticism and doubt.Climate change now occupies a central place on the global political agenda, and the United States should adjust its space policies to reflect this. Assessing and managing climate change will require taking what has largely been a scientific enterprise and “operationalizing” it. Operationalization means creating processes to provide the data and analysis that governments will need if they are to implement policies and regulations to soften the effects of climate change. Operationalization requires the right kind of data and adequate tools for collecting, analyzing, and disseminating that data in ways that inform decisionmaking at many levels of society. Satellites play a central role in assessing climate change because they can provide a consistent global view, better data, and an understanding of change in important but remote areas. Yet there are relatively few climate satellites—a total of 19, many of which are well past their expected service life. Accidents or failures would expose the fragility of the earth observation system.2 We lack all the required sensors and instruments for the kinds of measurement that would make predictions more accurate and solutions more acceptable. Scientists have made do by using weather satellites, which take low-resolution pictures of clouds, forests, and ice caps, but the data these satellites provide are not adequate to the task.Climate change poses a dilemma for space policy. The space programs needed to manage climate change are woefully underfunded. The normal practice is to call uncritically for more money for civil space and its three components—planetary exploration, earth observation, and manned spaceflight. In fact, civil space has been lavishly funded. Since 1989, NASA has received $385 billion, with $189 billion in the last decade.

Satellites Shell

Warming is real & anthropogenic – causes extinction and outweighs nuclear war  
Deibel 7 (Terry L, Professor of IR @ National War College, “Foreign Affairs Strategy: Logic for American Statecraft”, Conclusion: American Foreign Affairs Strategy Today)

Finally, there is one major existential threat to American security (as well as prosperity) of a nonviolent nature, which, though far in the future, demands urgent action. It is the threat of global warming to the stability of the climate upon which all earthly life depends. Scientists worldwide have been observing the gathering of this threat for three decades now, and what was once a mere possibility has passed through probability to near certainty. Indeed not one of more than 900 articles on climate change published in refereed scientific journals from 1993 to 2003 doubted that anthropogenic warming is occurring. “In legitimate scientific circles,” writes Elizabeth Kolbert, “it is virtually impossible to find evidence of disagreement over the fundamentals of global warming.” Evidence from a vast international scientific monitoring effort accumulates almost weekly, as this sample of newspaper reports shows: an international panel predicts “brutal droughts, floods and violent storms across the planet over the next century”; climate change could “literally alter ocean currents, wipe away huge portions of Alpine Snowcaps and aid the spread of cholera and malaria”; “glaciers in the Antarctic and in Greenland are melting much faster than expected, and…worldwide, plants are blooming several days earlier than a decade ago”; “rising sea temperatures have been accompanied by a significant global increase in the most destructive hurricanes”; “NASA scientists have concluded from direct temperature measurements that 2005 was the hottest year on record, with 1998 a close second”; “Earth’s warming climate is estimated to contribute to more than 150,000 deaths and 5 million illnesses each year” as disease spreads; “widespread bleaching from Texas to Trinidad…killed broad swaths of corals” due to a 2-degree rise in sea temperatures. “The world is slowly disintegrating,” concluded Inuit hunter Noah Metuq, who lives 30 miles from the Arctic Circle. “They call it climate change…but we just call it breaking up.” From the founding of the first cities some 6,000 years ago until the beginning of the industrial revolution, carbon dioxide levels in the atmosphere remained relatively constant at about 280 parts per million (ppm). At present they are accelerating toward 400 ppm, and by 2050 they will reach 500 ppm, about double pre-industrial levels. Unfortunately, atmospheric CO2 lasts about a century, so there is no way immediately to reduce levels, only to slow their increase, we are thus in for significant global warming; the only debate is how much and how serious the effects will be. As the newspaper stories quoted above show, we are already experiencing the effects of 1-2 degree warming in more violent storms, spread of disease, mass die offs of plants and animals, species extinction, and threatened inundation of low-lying countries like the Pacific nation of Kiribati and the Netherlands at a warming of 5 degrees or less the Greenland and West Antarctic ice sheets could disintegrate, leading to a sea level of rise of 20 feet that would cover North Carolina’s outer banks, swamp the southern third of Florida, and inundate Manhattan up to the middle of Greenwich Village. Another catastrophic effect would be the collapse of the Atlantic thermohaline circulation that keeps the winter weather in Europe far warmer than its latitude would otherwise allow. Economist William Cline once estimated the damage to the United States alone from moderate levels of warming at 1-6 percent of GDP annually; severe warming could cost 13-26 percent of GDP. But the most frightening scenario is runaway greenhouse warming, based on positive feedback from the buildup of water vapor in the atmosphere that is both caused by and causes hotter surface temperatures. Past ice age transitions, associated with only 5-10 degree changes in average global temperatures, took place in just decades, even though no one was then pouring ever-increasing amounts of carbon into the atmosphere. Faced with this specter, the best one can conclude is that “humankind’s continuing enhancement of the natural greenhouse effect is akin to playing Russian roulette with the earth’s climate and humanity’s life support system. At worst, says physics professor Marty Hoffert of New York University, “we’re just going to burn everything up; we’re going to heat the atmosphere to the temperature it was in the Cretaceous when there were crocodiles at the poles, and then everything will collapse.” During the Cold War, astronomer Carl Sagan popularized a theory of nuclear winter to describe how a thermonuclear war between the Untied States and the Soviet Union would not only destroy both countries but possibly end life on this planet. Global warming is the post-Cold War era’s equivalent of nuclear winter at least as serious and considerably better supported scientifically. Over the long run it puts dangers from terrorism and traditional military challenges to shame. It is a threat not only to the security and prosperity to the United States, but potentially to the continued existence of life on this planet.

Satellites Uq – $ Now

NASA’s EOS is fully funded

PRWeb 6/20 (http://www.sfgate.com/cgi-bin/article.cgi?f=/g/a/2011/06/20/prweb8584611.DTL)

Climate Change and the NASA budget. Although the Space Shuttle program has been terminated, according to Sharon Kleyne, NASA Launch Services are not confined to the Space Shuttle and have not been cut. NASA's EOS (Earth Observation Satellite) program remains fully funded and one EOS satellite recently sent back its three billionth photograph of the Earth. Other countries and private interests now have the capacity to launch scientific satellites and NASA is providing money for private satellite launches. Sharon Kleyne believes that because these programs are so critical that the US government - the most influential entity on Earth - must take the long-term global lead in committing to, funding and implementing them. Failure to do this could doom the planet and everything on it that is good and worth preserving.

Satellites are set to launch – the budget is crowded

Kintisch 3/8 (Eli, writer @ ScienceInsider, http://news.sciencemag.org/scienceinsider/2011/03/nasa-satellite-crash-complicates.html) JPG

Last week's failed mission to place the $424 million Glory satellite into orbit doesn't just stymie scientists' efforts to maintain a 33-year record of the sun's brightness and discern the role of aerosol particles in the atmosphere. It's a blow to an already shaky and likely underfunded effort to revamp the troubled U.S. remote observation system. The issue is a crowded to-do list and increased pressure from Congress to cut the budget. NASA has already spent hundreds of millions of dollars on a number of key environmental satellite missions still on the ground, so it's likely those missions will fly eventually. They include the Orbiting Carbon Observatory (OCO-II) mission to track carbon dioxide flows and the LDCM satellite to maintain observations of Earth's surface (both planned for a 2013 launch), as well as ICESat-2, which monitors the melting poles, scheduled for 2016. But NASA needs hundreds of millions more to finish work on some of them, including nearly $500 million for ICESat-2. Glory's failure exacerbates both the scientific and the fiscal problems facing NASA. The collection of aerosol data represented novel and important science. The solar brightness mission, however, is as close to a must-do as it gets in all of climate science. Solar brightness measures the total energy added to the Earth system, which is needed for estimating global warming from greenhouse gases. Maintaining a record started by a 1978 mission requires calibration between satellites that overlap during their flights. But NASA can't just put a Glory-II mission at the end of its calendar and hope for the best. The current craft measuring brightness is 3 years beyond its working life, and another is not expected until 2015. So NASA may try to push that date up.

Satellites will get funding

Clark 11 (Stephen, writer @ SpaceFlightNow.com, 2/7/11, http://spaceflightnow.com/news/n1102/07weathersat/) JPG

NASA has appointed a cast of top managers to lead a troubled weather satellite program out of a bureaucratic abyss, restore confidence, and avoid a gap in essential meteorological observations. And do it all on a tight budget. The Air Force has also kicked off a new weather satellite program to serve warfighters around the world. The new efforts got started a year ago this month, when the White House ordered the dissection of the troubled $15 billion NPOESS weather satellite program. The U.S. Defense Department and NOAA responded by dismantling an inefficient joint management structure and establishing the groundwork for separate systems to begin supplying weather data in the second half of this decade. NASA controls the acquisition, development and launch of NOAA's civilian weather satellites. But 2011 will be a pivotal year for the next-generation weather and civil satellite programs. The Air Force, NOAA and NASA are still restructuring contracts and facing questionable funding levels to achieve crucial program objectives. The Joint Polar Satellite System and the Defense Weather Satellite System were set up last year by NOAA and the Air Force. JPSS spacecraft are scheduled to start launching as early as 2015 and the first DWSS payload is aiming for launch readiness by 2018.

Satellites Uq – $ Now

**Funding for satellites is in the budget – but it’s a low hanging fruit**

Morello 11 (Lauren, writer @ GreenWire.com, 3/4/11, http://www.nytimes.com/gwire/2011/03/04/04greenwire-science-satellites-crash-leaves-nasa-devastate-66697.html) JPG

The failure of the Glory launch may have broader implications, both for NASA's plans to launch a copy of the Orbiting Carbon Observatory and for its overall budget. The satellite, known as OCO-2, is being prepared for launch in February 2013 aboard the same type of Taurus XL rocket used with Glory. Today's launch failure suggests the space agency may have to revisit those plans, a move likely to add to OCO-2's total cost. Meanwhile, larger budget questions loom. The Orbiting Carbon Observatory crashed two years ago when NASA was flush with money from economic stimulus legislation. But the failure to launch Glory comes days after Congress and the White House agreed to a stopgap spending bill that narrowly averted a government shutdown. House Republicans are pushing for broad cuts to federal science agencies, including NASA, and some lawmakers have suggested it's time for the space agency to abandon climate change research altogether (ClimateWire, Feb. 14). President Obama's fiscal 2012 budget request for NASA was more generous. The White House proposal would shore up NASA's climate change research and monitoring, increasing the budget of the space agency's Earth science office by $213 million compared to the funding level in 2010, the last time Congress approved a yearlong federal budget.

Satellites will be funded – Obama

Schmid 6/15 (Randolph, writer @ Sydney Morning Herald, http://news.smh.com.au/breaking-news-technology/weather-satellite-need-defended-by-climate-experts-20110615-1g2au.html) JPG

Even President Barack Obama weighed in. In an interview that aired Tuesday on NBC's "Today" show, Obama said that among the things that need to be preserved in a time of budget cuts are "government functions like food safety and weather satellites." National Weather Service director Jack Hayes said the threatened polar-orbiting satellites were vital in forecasting "Snowmageddon," the 2010 blizzard that staggered much of the Northeast. The agency ran a "what if," analysis, Hayes explained, to see how the forecasts would have looked without satellite data and the result was a prediction that would have underestimated the snow by 50 percent, he said. Similar "what if" studies are planned for forecasts of the tornadoes that devastated Tuscaloosa, Ala., and Joplin, Mo., he said.

Satellites are being funded – Obama’s support and stopgap measures

Vieru 10 (Tudor, science editor @ SoftPedia, 12/10/10,

http://news.softpedia.com/news/Weather-Satellites-Could-Get-Funding-Boost-171767.shtml) JPG

Congress has recently been asked to increase fundings for the planned Joint Polar Satellite System (JPSS) mission to Earth's orbit. NASA and the US National Oceanic and Atmospheric Administration (NOAA) want to build the new civilian weather satellite for studying global warming and related issues. At this point, lawmakers are working on a budget measure that would see spendings associated with all federal programs being kept to 2010 levels in 2010. But the White House is asking Congress for a significant boost in JPSS funding for next year. Government and industry sources say that the mission is a replacement of sorts for the joint civil-military National Polar-orbiting Operational Environmental Satellite System (NPOESS) initiative, which was stopped dead in its track this February. The White House was the architect of NPOESS' downfall, but even President Barack Obama most likely acknowledged the need for such a mission. As such, the American space agency was instructed to develop the JPSS for NOAA, as a civilian application, while scientists at the US Air Force (USAF) are designing and building their own weather satellite. Since the new fiscal year began on October 1, the US federal government has been operating with continuing resolutions, which are stopgap measures designed to maintain funding levels at at least 2010 level. This happens because Congress proved incapable of passing any spending bills for next year. According to space, a continuing resolution proposal that the House of Representatives could get will call for $528 million in additional funds to be alloted for the Joint Polar Satellite System (JPSS) mission. Even though the new satellite will be using technologies developed under the NPOESS satellite program, NOAA still requested some $1.06 billion in funding for this mission alone for 2011. If Congress does not make the necessary appropriations, then JPSS will only receive $382 million, which is utterly insufficient for developing the satellite. In the document the White House Office of Management and Budget sent to Congress, experts highlight that the JPSS satellite needs to get an extra $528 million in 2011, thus reaching $910 million. While this particular project may get funded after all, things are not looking at all bright for other, equally-important projects, that are currently plagued by lack of NASA funding, Space reports.

Satellites Internals – $ing = Cuts

**Satellites are on the chopping block – key to weather forecasting**

Hamilton 6/17 (Jon, writer @ NPR, http://www.npr.org/2011/06/17/137251742/blind-eye-in-the-sky-weather-satellites-lose-funding?ps=cprs) JPG

Government officials are forecasting a turbulent future for the nation's weather satellite program. Federal budget cuts are threatening to leave the U.S. without some critical satellites, the officials say, and that could mean less accurate warnings about events like tornadoes and blizzards. In particular, officials at the National Oceanic and Atmospheric Administration are concerned about satellites that orbit over the earth's poles rather than remaining over a fixed spot along the equator. - Kathryn Sullivan, NOAA Deputy Administrator These satellites are "the backbone" of any forecast beyond a couple of days, says Kathryn Sullivan, assistant secretary of commerce for environmental observation and prediction, and NOAA's deputy administrator. It was data from polar satellites that alerted forecasters to the risk of tornadoes in Alabama and Mississippi back in April, Sullivan says. "With the polar satellites currently in place we were able to give those communities five days' heads up," she says. But that level of precision could diminish in the next few years, Sullivan says. One important NOAA satellite in a polar orbit will reach the end of its expected life around 2016. And its replacement has been delayed by a continuing resolution passed by Congress that limits the agency's ability to pursue its new Joint Polar Satellite System. Sullivan says that means there could be more than a year when the nation is lacking a crucial eye in the sky. "If we go blind, if there actually is a gap between the last satellite and this, it certainly will erode the reliability and accuracy of our forecasts," she says. To find out how bad the problem might be, the National Weather Service re-examined one of its great forecasting successes: the 2010 blizzard known as "Snowmageddon." The agency wanted to know what would happen if a similar blizzard arrived several years from now, when several satellites are likely to be out of commission, says National Weather Service Director Jack Hayes. "We were quite surprised at the finding that we would underestimate the amount of snowfall the Eastern Seaboard had, specifically in the Washington, D.C., area, by a factor of 2," Hayes says. In other words, areas where forecasts called for 15 inches would actually get 30 inches. Budget problems aren't the only reason NOAA's next polar satellite is behind schedule. A previous version of the program was scrapped, and NOAA has had trouble getting some of the new satellite's cutting-edge technology finished on time. But Hayes says this sort of technology is precisely what's made forecasting more accurate with each new generation of satellites. NASA officials are also concerned about the next generation of weather satellites. The agency will play an important role in building them and also supplements data from NOAA weather satellites with data from its own research satellites. "It used to be that weather was just something that happened," says Michael Freilich, who directs the earth science division at NASA. Now, he says, people and businesses make specific plans based on what forecasters say. "When they say that it's going to be hot and sunny, companies make economic decisions," he says. For example, he says, utilities decide how much electricity they need to produce, airlines decide whether to cancel flights, schools decide whether to close, and insurance companies anticipate damage claims from things like hurricanes and hailstorms. Other nations also fly polar satellites, and that can help fill the gap when U.S. units fail, officials say. But it's not enough, they say. "The United States, by virtue of our size, the mountains, the oceans on three sides, we have the widest array and greatest frequency of weather phenomena and severe weather phenomena of any country on the planet," Sullivan says. Some tweaks to NOAA's current budget could minimize delays to the polar satellite program, she says. Whether the agency is allowed to do that is up to Congress, which will also decide what happens to spending on polar satellites next year.

Satellites Internals – $ing = Cuts

Satellite spending is coming, but controversial – New spending causes cuts which kill effectiveness

Gillis 4/14 (Justin, writer @ NYT, http://green.blogs.nytimes.com/2011/04/14/weather-satellites-on-the-chopping-block/) JPG

As my colleagues Eric Lichtblau, Ron Nixon and I report in summary form in Thursday morning’s paper, the budget deal moving through Capitol Hill slashes funds that the Obama administration requested for a satellite program considered vital for the nation’s weather forecasting. That raises the prospect of less accurate forecasts and other problems, some of them potentially life-threatening, starting in 2016. Jane Lubchenco, head of the National Oceanic and Atmospheric Administration, warned at a Senate hearing on Wednesday that the cutbacks would probably lead to a serious gap in satellite data, undermining National Weather Service forecasts. Research by her agency suggests that without the type of capability that the proposed satellites were expected to provide, the weather service might fumble forecasts of future events similar to the huge snowstorms that hit Washington and New York the last two winters. “It’s a big risk,” said Daniel Sobien, head of the union that represents government weather forecasters. Forecasters would still have access to data from satellites not affected by the cutbacks, but those would offer less detailed coverage of the country, which is why the weather forecasts would become less accurate. The potential coverage gap would be limited to 18 months or so — but only if Congress agreed to restore as much as $1 billion in funds needed for the satellite program in the budget year that begins in October. Many people on Capitol Hill, including some Republicans, support doing that, but given the pressures on the budget and the political tensions over federal spending, that is by no means a certainty. So the situation raises the prospect of a deterioration in weather forecasts that might last for years.

Satellite programs are under fire – Spending trades-off – Cutbacks kill effective programs

Gillis 4/14 (Justin, writer @ NYT, http://green.blogs.nytimes.com/2011/04/14/weather-satellites-on-the-chopping-block/) JPG

The Obama administration’s recovery efforts have won support in principle on both sides of the aisle, but winning money has been far harder in a year when few programs are being spared from cutbacks. It’s not just essential weather information that is at risk, Dr. Lubchenco said in testimony on Wednesday. The weather satellites pick up emergency beacons used by wilderness hikers, boaters and others who venture into remote areas: nearly 300 people were rescued this way in 2010 alone. A gap in satellite coverage could mean that it would take hours longer for rescuers to find people who get into trouble. In some cases, that time interval could be the difference between life and death. “That data gap will have very serious consequences to our ability to do severe-storm warnings, long-term forecasts and search and rescue,” Dr. Lubchenco said.

**EOS is on the chopping block**

Clark 6 (Stephen, writer @ spaceflight now, 3/3/6, http://spaceflightnow.com/news/n0603/03dawn/) JPG

Missions such as Triana - a politically charged Earth observation satellite - have also found their way onto the chopping block as construction neared completion. In 1998, a NASA remote sensing satellite named Clark also fell victim to budget concerns and launch delays. NASA has tried in the past to re-use parts and instruments from abandoned spacecraft on other missions. The future of the Dawn hardware is currently unclear.

Satellites Internals – Climate Monitoring

**Increasing space exploration trades off with climate science**

Johnson 2/9 (Brad, Masters in geosci @ MIT, 2/9/11, http://thinkprogress.org/green/2011/02/09/174910/gop-abandon-earth/) JPG

However, Republicans in Congress find the clean energy pathway unreasonable, arguing the costs of reducing our toxic dependence on coal and oil would be too great. Perhaps stung by accusations that they are simply the Party of No, a group of House Republicans have now put forward an alternate strategy to avoiding disastrous global warming: the first step being to scrap NASA’s world-leading climate science research funding, and direct it instead into sending people into unpolluted outer space: Global warming funding presents an opportunity to reduce spending without unduly impacting NASA’s core human spaceflight mission. With your help, we can reorient NASA’s mission back toward human spaceflight by reducing funding for climate change research and reallocating those funds to NASA’s human spaceflight accounts, all while moving overall discretionary spending toward 2008 levels. The signatories of this Abandon Earth letter to House Appropriations Committee Chairman Harold Rogers (R-KY) and Commerce, Justice, and Science Subcommittee Chairman Frank Wolf (R-VA) are Reps. Sandy Adams (R-FL), Rob Bishop (R-UT), Mo Brooks (R-AL), Jason Chaffetz (R-UT), Pete Olson (R-TX) and Bill Posey (R-FL), all from districts that play a role in the National Aeronautics and Space Administration’s (NASA) manned spaceflight program. As they are currently on planet Earth, they are also all from districts threatened by the effects of global warming.

Space exploration and climate research funding are zero sum – tight budgets force internal trade-offs

Whittington 11 (Mark, independent journalist in space, 3/20/11, http://old.news.yahoo.com/s/ac/20110320/sc\_ac/8103220\_gop\_lawmakers\_cut\_nasa\_earth\_science\_fund\_human\_space\_exploration) JPG

One aspect of a drive for an austerity budget is that programs begin to compete against one another for support and attention. Thus a fight has broken out over which NASA program gets cut, space exploration or climate research. According to Space News, in a recent letter to Rep. Paul Ryan, chairman of the House Budget Committee, Rep. Sandy Adams of Florida and Rep. Pete Olson of Texas made the plea to focus on the $1.6 billion in NASA devoted to Earth science and climate research as area to suffer budget cuts. While some cynics may suggest that Adams and Olson are just protecting their state's turfs, there is an actual case to be made that goes beyond pork politics. Climate research at NASA has become very politicized, being seen as more an attempt to amass evidence for global warming and thus support for draconian energy policies rather than as disinterested science. There have also been a couple of launch failures in the Earth science program, one just recently of the Glory satellite. Some have even posited strange, almost-conspiracy theories concerning those launch failures. On the other hand, while Earth observation science is an enumerated mission of NASA dating to its beginning, human space exploration is its crown jewel. When one thinks of NASA, one thinks of Apollo, the space shuttle and the International Space Station first. Planetary probes such as the Mars Rovers and the Cassini, now orbiting Saturn, come in for mention as well. But Earth Science is rather down on the list of priorities. Couple that with lingering anger over President Barack Obama's cancellation of the Constellation space exploration program, one can see that an attempt to strike at one of his priorities in an attempt to preserve was is left of the space exploration program would follow as night follows day. Leaving aside the merits of an Earth Science program, at least if it is conducted in a non political manner, tight budgets mean having to pick and choose priorities. Politically and substantially human space exploration over Earth Science is a no-brainer. Sending human explorers beyond Low Earth orbit has more implications for the future course of human civilization than a politicized Earth Science program.

Satellites Internals – Climate Monitoring

Lawmakers are seeking to cut climate science

Svitak 3/17 (Amy, writer @ SpaceNews,

http://www.spacenews.com/civil/110317gop-lawmakers-appeal-for-manned-exploration-funds.html) JPG

Two Republican lawmakers appealed to House Budget Committee Chairman Rep. Paul Ryan (R-Wis.) to spare NASA’s manned space exploration programs from the budget axe next year while suggesting the agency’s roughly $1.6 billion request for climate-monitoring initiatives is ripe for cuts. “The establishment of, and commitment to, human space exploration is critical to our country’s national security and economy, and we respectfully ask that our Republican budget reflect this national priority,” Reps. Sandy Adams (R-Fla.) and Pete Olson (R-Texas) said in a March 17 letter to Ryan, whose job as budget chief is to establish top-level spending allocations for the coming fiscal year that begins Oct. 1. Adams and Olson, who represent states with a stake in NASA’s manned spaceflight program, said the current fiscal situation is forcing hard choices as members of the GOP-led House seek to curb discretionary spending at federal agencies. “To be clear, we believe that NASA’s budget can be reduced,” the lawmakers wrote, urging Ryan to take aim at climate-monitoring programs poised for a modest funding boost over the next five years under the $18.72 billion budget blueprint U.S. President Barack Obama unveiled Feb. 14. “Within the NASA budget specifically, we believe there is an opportunity to cut funding within the Earth Science account where an overabundance of climate change research is being conducted,” they wrote.

Satellites Internals – Weather Satellites

NASA will compensate by cutting spending on weather satellites

The AP 11 (The Associated Press, June 14, http://www.foxnews.com/us/2011/06/14/weather-satellite-need-defended-by-climate-experts/ JALO)

Business, academic and environmental leaders are stressing the importance of weather satellites in an era of tight federal budgets. "The stakes are high and the challenge is great," at a time when extreme weather is happening more frequently, Michael Freilich, earth science director for NASA, said at a briefing at the Forum on Earth Observation. Current earth observing satellites have outlasted their planned lifetime, he said, but they won't last forever and budget shortfalls for replacements threaten to create a gap in coverage. Even President Barack Obama weighed in. In an interview that aired Tuesday on NBC's "Today" show, Obama said that among the things that need to be preserved in a time of budget cuts are "government functions like food safety and weather satellites." National Weather Service director Jack Hayes said the threatened polar-orbiting satellites were vital in forecasting "Snowmageddon," the 2010 blizzard that staggered much of the Northeast. The agency ran a "what if," analysis, Hayes explained, to see how the forecasts would have looked without satellite data and the result was a prediction that would have underestimated the snow by 50 percent, he said. Similar "what if" studies are planned for forecasts of the tornadoes that devastated Tuscaloosa, Ala., and Joplin, Mo., he said. Most people are aware of the geostationary satellites that provide pictures of much of the globe from a high level, but the lower polar orbiting satellites not only view more of the planet in a regular progression but also collect detailed information on moisture, temperatures and other data used by the National Oceanic and Atmospheric Administration.. The polar satellites are especially important three to five days before a weather outbreak, Hayes said. People tend to talk about forecasts in terms of extreme weather, but it's also important to collect and study data over the long term to see how things are changing in certain areas and to anticipate the future, said John Townshend of the University of Maryland. "We've got to recognize that climate change is occurring, whether or not you believe in global warming," Townshend said. "Climate changes from year-to-year."

EOS !—Climate Monitoring

EOS measurements key to solving climate change

Hamilton 10 (Jon, science desk correspondent, NPR, 4/5, <http://www.npr.org/templates/story/story.php?storyId=125507009>, accessed 7-1-11, CH)

NASA, the agency known for exploring space, will be spending a lot more time studying Earth in the next few years. The Obama administration has proposed a budget for NASA that includes billions of dollars for satellites and other tools to help scientists investigate Earth-bound problems, especially climate change. That represents a major turnaround for NASA's Earth Science Division, which had been allowed to languish during much of the 2000s. Back then, the division had so little money it wasn't able to replace aging satellites that monitor things such as polar ice, coastal wetlands, ocean temperatures and chemicals in the atmosphere. New Administration, New Priorities But things have changed dramatically since the arrival of the Obama administration, says Edward Weiler, associate administrator of NASA's Science Mission Directorate. "This administration has a clear priority for science in general and Earth science in specific," he says. And now the White House has unveiled plans to give NASA's Earth science programs $2.4 billion in new money over the next five years. That's an increase of more than 60 percent. Much of the new money will be spent trying to reinvigorate efforts to determine how fast the Earth's climate is changing, Weiler says. "We've got to measure how fast the ice is being depleted, how fast carbon dioxide is being added to the atmosphere as opposed to being taken out of it," he says. Unlocking Atmospheric Mysteries Scientists think carbon dioxide from sources like cars and power plants is the most important contributor to global warming. But they still don't know much about what happens to carbon dioxide once it gets into the atmosphere, says Michael Freilich, director of NASA's Earth Science Division. This illustration shows the Orbiting Carbon Observatory satellite, which ended its mission with a splash into the ocean near Antarctica in February 2009. NASA plans to use part of the proposed new funding to replace this satellite. "In order to figure out where it's going, how it's being exchanged between the atmosphere and the ocean, and the atmosphere and the land, you have to make a whole variety of measurements," Freilich says. The extra funding will help scientists get those measurements. One chunk is paying for a new Orbiting Carbon Observatory to replace the original, which crashed into the ocean last year just after it was launched.

EOS climate data collection is key to solving climate change

Climate Change Challenge 11 (6/5, <http://www.climatechangechallenge.org/Resource%20Centre/Climate-Change/3-what_causes_climate_change.htm#14>., accessed 7-2-11, CH)

NASA's Earth Observation System monitoring the changing climate NASA plays an important part in monitoring the oceans, land, atmosphere, biosphere and cyrosphere. They have at least 14 satellites in orbit around the earth and plan to launch many more in the next few years. The spend by NASA last year on climate science amounted to $1.3 billion and in 2004 the overall climate science budget exceeded all other federal agencies combined. The scientists of NASA have an international presence in the media wordwide as climate experts. They have been helping to identify the causes of climate change and supply information on solar activity, rises in sea levels around the world including the temperature of the oceans. The agency also focuses on air pollution, rises in atmosphere temperatures, they monitor the ozone layer and changes in ice in the sea and land especially at the the poles. In 2007, over 17 space missions also collected data on the climate. NASA also provides funding through sponsorship for field experiments which assist in providing "ground truth" data which is then used to check space instrument performance. Causes in climate change from natural sources such as volcanoes and dust storms and man made sources such as from burning fossil fuels were first globally recorded by NASA's satellites, Terra and Aqua. Using 30 years of satellite solar and atmospheric temperature data greatly assisted the Intergovernmental Panel on Climate Change to reach the conclusion in 2007 that "Most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations." NASA have confirmed that " Earth-orbiting satellites and other technological advances have enabled scientists to see the big picture, collecting many different types of information about our planet and its climate on a global scale. Studying these climate data collected over many years reveal the signals of a changing climate".

EOS !—Climate Monitoring

NASA EOS provides climate, pollution, sea level information

NASA, No Date (<http://climate.nasa.gov/NasaRole/>, accessed 7-1-11, CH)

In 2004, NASA's spending on climate science exceeded all other Federal agencies, combined. NASA spent $1.3 billion on climate science that year, out of a $1.9 billion total. The agency provides information on solar activity, sea level rise, the temperature of the atmosphere and the oceans, the state of the ozone layer, air pollution, and changes in sea ice and land ice. NASA scientists regularly appear in the mainstream press as climate experts. So how did the space agency end up taking such a big role in climate science? When NASA was first created by the National Aeronautics and Space Act of 1958, it was given the role of developing technology for “space observations,” but it wasn’t given a role in Earth science. The agency’s leaders embedded the technology effort in an Earth Observations program centered at the new Goddard Space Flight Center in Greenbelt, Maryland, in the U.S.. It was an “Applications” program, in NASA-speak. Other agencies of the federal government were responsible for carrying out Earth science research: the Weather Bureau (now the National Oceanic and Atmospheric Administration or NOAA) and the U.S. Geological Survey (USGS). The Applications program signed cooperative agreements with these other agencies that obligated NASA to develop observational technology while NOAA and the USGS carried out the scientific research. The Nimbus series of experimental weather satellites and the Landsat series of land resources satellites were the result of the Applications program.

EOS ocean monitoring key to understanding climate change

Hough 10 (Andrew, staff, The Telegraph, 6/9, <http://www.telegraph.co.uk/earth/environment/climatechange/7814345/Nasa-launches-its-first-ever-global-warming-investigation-to-the-Arctic.html>, accessed 7-1-11, CH)

Researchers from the space agency hope to provide the most detailed research yet on how global warming is devastating the ocean’s ecosystem. Nasa’s said its first "dedicated oceanographic field campaign” on the earth will study the physical, chemical and biological characteristics of seas around the Arctic and its shifting ice conditions. As part of their unprecedented research, scientists will study everything from the Arctic Ocean’s properties to the physiology of phytoplankton, the tiny creatures that are known as the base for marine food chain. Scientists hope their vital research, part of a larger £7 million programme, could pave the way for a better understanding of how the ocean’s chemistry and ecosystems have changed due to climate change. More than 40 scientists will spend just five weeks at sea as part of the "Impacts of Climate on Ecosystems and Chemistry of the Arctic Pacific Environment" mission (Icescape). Paula Bontempi, Nasa’s ocean biology and biogeochemistry program manager, said the expedition, which will leave from Alaska next week, was the space agency’s first field campaign on the ocean. "We're continuing the objective that we have to pioneer scientific discoveries," she said as she announced the programme on Tuesday. "We're trying to understand and protect our home planet." The project, funded by Nasa’s Science Mission Directorate, will concentrate on the Chukchi and Beaufort seas off Alaska, which scientists say are particularly vulnerable to global warming. In early July researchers will head into deeper waters to sample thicker sea ice where they will take samples within and beneath the ocean. Experts say the greenhouse gas carbon dioxide is a leading cause of global warming and to be able to predict future climate change, scientists need to know how the carbon cycle works in different parts of the world. Kevin Arrigo, one of the Icescape’s chief scientists from Stanford University, said the Arctic Ocean, unlike other oceans, was almost completely landlocked making it an ideal location to study ongoing climate changes in a marine ecosystem. “The ocean ecosystem in the Arctic has changed dramatically in recent years and it's changing much faster and much more than any other ocean in the world,” he said. "We're beginning to understand how the melting of Arctic sea ice is related to climate change. Unfortunately, we know very little about what these changes have in store for Arctic marine life." Last year, a study using data from a Nasa satellite showed that Arctic sea ice had thinned dramatically between the winters of 2004 and 2008, with thick older ice shrinking by the equivalent of Alaska's land area. Don Perovich, another chief scientist from the Cold Regions Research and Engineering Laboratory, said the Arctic sea ice was now "just a thin veneer five to 10 feet thick that is really susceptible to climate change". Scientists will live on the US Coast Guard ship the Cutter Healy, the newest and most technologically advanced polar icebreaker in the American fleet. The Seattle-based ship will provide more than hundreds of square feet of scientific laboratory space. An automated microscope will take continuous digital photographs of phytoplankton cells to observe how many different species are in the Arctic waters and ice. Floats with near-real time satellite communication will be placed in the ocean to measure temperature and biological and optical properties.

EOS !—Climate Monitoring

EOS lidar are the only way to effectively monitor climate change

Winker 6 (David, Science Directorate@NASA Langley Research Center, International Society for Optical Engineering, 6/29, <http://spie.org/documents/Newsroom/Imported/270/2006060270.pdf>, accessed 7-1-11, CH)

Much of the current uncertainty about the effects of aerosols and clouds on Earth’s climate is due to our limited ability to globally monitor aerosols and clouds from satellites. Aerosols over bright surfaces, such as deserts, are difﬁcult to see from space, and the lifetimes and radiative effects of aerosols depend on their altitude. Clouds often occur in multiple layers, which strongly inﬂuences their radiative effects. Lidar can overcome these observational difﬁculties. It can provide vertical proﬁles of aerosols and multi-layer cloud structures, and can observe thin cloud and aerosol layers that passive instruments cannot detect. The three-year Cloud-Aerosol Lidar and Infrared Pathﬁnder Satellite Observations (CALIPSO) mission was developed as a collaboration between NASA and the French space agency CentreNational d’ ´Etudes Spatiales (CNES). 1 Launched on April 28, 2006, its primary objective is to provide the observations necessary to improve our understanding of the roles clouds and aerosols play in the climate system. The CALIPSO satellite carries a two-wavelength polarization lidar, the Cloud-Aerosol Lidar with Orthogonal Polarization (CALIOP, pronounced like ”calliope”). The payload also includes a three-channel imaging IR radiometer and a single-channel, wide-ﬁeld visible imager. The satellite ﬂies with the lidar pointing straight down, so that the instrument measures a vertically-resolved curtain of atmoFigure 1. The CALIPSO payload includes a nadir-pointing lidar and two colocated sensors that image a 60km-wide swath centered on the lidar footprint. spheric data. The two passive sensors image a 60km swath centered on the lidar footprint (see Figure 1). CALIOP is the ﬁrst satellite lidar optimized for atmospheric sensing, and the ﬁrst lidar to orbit the Earth along with passive instruments.

EOS Glory satellite tracks aerosols, key contributor to global warming

Science Daily 11 (2/22, <http://www.sciencedaily.com/releases/2011/02/110221081512.htm>, accessed 7-1-11, CH)

ScienceDaily (Feb. 22, 2011) — Climatologists have known for decades that airborne particles called aerosols can have a powerful impact on the climate. However, pinpointing the magnitude of the effect has proven challenging because of difficulties associated with measuring the particles on a global scale. Soon a new NASA satellite -- Glory -- should help scientists collect the data needed to provide firmer answers about the important particles. In California, engineers and technicians at Vandenberg Air Force Base are currently prepping Glory for a Feb. 23 launch. Aerosols, or the gases that lead to their formation, can come from vehicle tailpipes and desert winds, from sea spray and fires, volcanic eruptions and factories. Even lush forests, soils, or communities of plankton in the ocean can be sources of certain types of aerosols. The ubiquitous particles drift in Earth's atmosphere, from the stratosphere to the surface, and range in size from a few nanometers, less than the width of the smallest viruses, to several tens of micrometers, about the diameter of human hair. The particles can directly influence climate by reflecting or absorbing the sun's radiation. In broad terms, this means bright-colored or translucent aerosols, such as sulfates and sea salt aerosols, tend to reflect radiation back towards space and cause cooling. In contrast, darker aerosols, such as black carbon and other types of carbonaceous particles, can absorb significant amounts of light and contribute to atmospheric warming.

EOS !—Weather Monitoring

EOS key to extreme weather monitoring

Schmid 6/14 (Randolph, AP Science Writer, Huffington Post, <http://www.huffingtonpost.com/2011/06/14/weather-satellite-nasa-climate-change_n_876919.html>, accessed 7-1-11, CH)

WASHINGTON -- Business, academic and environmental leaders are stressing the importance of weather satellites in an era of tight federal budgets. "The stakes are high and the challenge is great," at a time when extreme weather is happening more frequently, Michael Freilich, earth science director for NASA, said at a briefing at the Forum on Earth Observation. Current earth observing satellites have outlasted their planned lifetime, he said, but they won't last forever and budget shortfalls for replacements threaten to create a gap in coverage. Even President Barack Obama weighed in. In an interview that aired Tuesday on NBC's "Today" show, Obama said that among the things that need to be preserved in a time of budget cuts are "government functions like food safety and weather satellites." National Weather Service director Jack Hayes said the threatened polar-orbiting satellites were vital in forecasting "Snowmageddon," the 2010 blizzard that staggered much of the Northeast. The agency ran a "what if," analysis, Hayes explained, to see how the forecasts would have looked without satellite data and the result was a prediction that would have underestimated the snow by 50 percent, he said. Similar "what if" studies are planned for forecasts of the tornadoes that devastated Tuscaloosa, Ala., and Joplin, Mo., he said. Most people are aware of the geostationary satellites that provide pictures of much of the globe from a high level, but the lower polar orbiting satellites not only view more of the planet in a regular progression but also collect detailed information on moisture, temperatures and other data used by the National Oceanic and Atmospheric Administration.. The polar satellites are especially important three to five days before a weather outbreak, Hayes said. People tend to talk about forecasts in terms of extreme weather, but it's also important to collect and study data over the long term to see how things are changing in certain areas and to anticipate the future, said John Townshend of the University of Maryland. "We've got to recognize that climate change is occurring, whether or not you believe in global warming," Townshend said. "Climate changes from year-to-year." Paul Walsh of Atmospheric & Environmental Research, Inc. explained that insurance companies depend on forecasts to be ready to help their policy holders.

EOS key to weather detection

Spinner 11 (Katie, staff, Herald Tribune, 6/9, <http://www.heraldtribune.com/article/20110609/ARTICLE/110609535/2055/NEWS?p=2&tc=pg>, accessed 7-1-11, CH)

The cost is high, but polar orbiting satellites provide 85 percent of the data that goes into the nation's computer weather models, said NOAA spokesman John Leslie. All meteorologists, from local weather anchors to top scientists at the National Hurricane Center, use those models. "If we don't fund this we're going to be pennywise and pound foolish," said Christine McEntee, executive director of the American Geophysical Union. "It's a public safety issue and it's also an economic issue." Any industry that depends on accurate weather information — farmers and fishermen for instance — stands to lose if the satellite data disappears, McEntee said. Weather forecasters rely on polar orbiting satellites operated by Europe, the U.S. Department of Defense and NOAA to gather detailed information on the atmosphere. The European and defense satellites take morning weather data and the NOAA satellite covers the afternoon. The satellites travel at a low altitude, allowing them to capture much sharper data and images than other satellites. They also contain equipment that penetrates through clouds to take measurements throughout the atmosphere. The information is primarily used to predict large-scale weather patterns, including those that steer severe tropical weather, supercell thunderstorms and other systems.

EOS !—Economy

EOS solves economy—controls disease, reduces energy costs, predicts disasters and forest fires

UNFCCC 7 (United Nations Framework Convention on Climate Change, 11/28, <http://unfccc.int/files/meetings/seminar/application/pdf/sem_sup5_usa.pdf>, accessed 7-2-11, CH)

Over the next decade, a global Earth Observation System will revolutionize our understanding of the Earth and how it works. With benefits as broad as the planet itself, this U.S.-led initiative promises to make people and economies around the globe healthier, safer and better equipped to manage basic daily needs. The aim is to make 21 st century technology as interrelated as the planet it observes, predicts and protects, providing the science on which sound policy and decision-making must be built. Building an integrated, comprehensive and sustained global Earth Observation System opens a world of possibilities. Imagine a world in which we could: • Forecast next winter’s weather months in advance • Predict where and when malaria, West Nile virus, SARS and other diseases are likely to strike • Reduce U.S. energy costs by a potential $1 billion yearly • More effectively monitor forest fires and predict the effect of air quality on sensitive populations in near real-time • Provide farmers with immediate forecasts essential to maximizing crops yields • Predict the pattern of the North American monsoon -- Arizona derives two-thirds of its water from the monsoon weather pattern

EOS !—Food Shortage

EOS key to solving ag

Fuller 3 (Jim, staff, Washington File, 11/18, <http://www.gcrio.org/OnLnDoc/pdf/earth_obs_system031118.pdf>, accessed 7-2-11, CH)

Lautenbacher said the Earth observation system would be designed to support policy decisions across a wide spectrum of international issues, including social, medical, health and environmental issues. "There will be a great deal of information to be gained from a consolidation of Earth observing satellites," he said. "The age of satellite observations is upon us, and we will be able to, within the next several generations, obtain much more than just weather pictures of the Earth." Determining how to coordinate and integrate the data and information from space platforms with that collected from land-based and ocean platforms will be a major challenge for the international community, Lautenbacher said, and is one of the problems the intergovernmental group meeting in Baveno will be working on. Lautenbacher said that existing observing systems already demonstrate their value in estimating crop yields, monitoring water and air quality, improving airline safety and forecasting weather events such as El Nino. Despite those successes, gaps in understanding Earth and its complex systems severely limit knowledge of how to address concerns, such as drought, disease outbreaks, agricultural production, and transportation challenges. Lautenbacher said new observation capabilities are also required to address scientific uncertainties such as precipitation, soil moisture and ocean salinity. "For example, if you look at the systems that we have in place today, from a global perspective, you will find significant holes in ocean observing," he said.

EOS !—Warming Coop

EOS fosters international climate cooperation

NASA 11 (<http://earthobservatory.nasa.gov/Features/Observing/obs_5.php>, accessed 7-2-11, CH)

With EOS, for the first time ever for a major Earth observation program, the goals include freely sharing the resulting data with both scientists and civilian organizations alike. This treatment of data contrasts sharply with previous satellite missions for which public access to data was quite costly. In fact, some EOS data are being directly broadcast freely to anyone anywhere who has a compatible receiving station and the capacity to process and store such a huge flow of information. As its name suggests, EOS is a large-scale, long-term collaborative mission involving scientists in government agencies, academia, and industry from many nations.

EOS fosters international climate cooperation

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Satellites !—Climate Monitoring Good—Warming

Climate research key to create solutions to warming

Chow 11 (Denise, writer @ space.com, “NASA Primes New Satellite to Study Earth's Climate”, 2/9/11, http://www.space.com/10797-nasa-glory-satellite-earth-climate.html) JPG

NASA is preparing to launch its newest satellite that will monitor how the sun and tiny particles in Earth's atmosphere, called aerosols, affect the planet's climate. Scientists hope the new Glory satellite, which launches this month, will address key uncertainties in climate research by enriching scientists' understanding of [manmade and natural aerosol contributions](http://www.space.com/10555-nasa-ramping-earth-observation.html) to global climate change. The satellite's onboard instruments will also collect [data](http://www.space.com/10797-nasa-glory-satellite-earth-climate.html) to enhance scientific models, and could help paint a clearer picture of the causes and consequences of climate change. "Glory is going to help scientists tackle one of the major uncertainties in climate change predictions identified by the United Nation's Intergovernmental Panel on Climate Change: the influence of aerosols on the energy balance of our planet," said Michael Freilich, director of the Earth Science Division in the Science Mission Directorate at NASA headquarters in Washington, D.C. "This mission also marks the first satellite launch under President [Obama's climate initiative](http://www.livescience.com/environment/070131_climate_change_history.html) that will advance the United States' contribution to [cutting-edge](http://www.space.com/10797-nasa-glory-satellite-earth-climate.html) and policy-relevant climate change science," Freilich said. The spacecraft is scheduled to launch on Feb. 23 at 5:09 a.m. EST (1010 GMT) from Vandenberg Air Force Base in California. It will fly onboard Orbital Sciences Corporation's Taurus XL 3110 rocket. Once in orbit, Glory will slip into the tight formation of a [fleet of Earth-observing satellites](http://www.space.com/6870-spot-satellites.html), called the Afternoon Constellation or "A-train." "The Afternoon Constellation consists of multiple spacecraft flying in close proximity to create the first ever 'super observatory' that will give us near simultaneous observations of the Earth that include [land, ocean and atmosphere](http://www.ouramazingplanet.com/earth-atmosphere-layers-atmospheric-pressure-infographic-0326/)," Joy Bretthauer, Glory program executive at NASA Headquarters, told reporters in a Jan. 20 news briefing. The satellite will fly in a low-Earth orbit at an altitude of 438 miles (705 kilometers), which is roughly the distance from Boston to Washington, D.C. After launch, mission operators will conduct verification tests for 30 days and then begin to collect data for at least three years. Glory will carry a suite of instruments designed to unravel some of the most complex elements of the Earth's biosphere and climate system. The satellite's two primary instruments include the Aerosol Polarimetry Sensor (APS) and the Total Irradiance Monitor (TIM). The TIM instrument will maintain and improve upon a 32-year record of total solar irradiance, a value that fluctuates slightly as the sun cycles through periods of varying intensity approximately every 11 years. While scientists have concluded that solar variability is not the main cause of the warming observed on Earth in recent decades, the sun has historically caused long-term climate changes. The APS will measure aerosols, which are airborne particles that can contribute to the [warming and cooling of the planet](http://www.space.com/9273-sun-surprise-relaxes-heat-earth-climate.html) by reflecting or absorbing solar radiation. Aerosols can be natural – stemming from things like desert dust and volcanoes – or can have manmade origins, as is the case with air pollution. Scientists know these atmospheric particles, which also affect cloud formation and precipitation, influence climate on Earth, but they hope the Glory mission will contribute to a better understanding of how, and how much. "The scientific knowledge on the Glory mission is crucial," Bretthauer said. "It will serve as resource for making scientifically-based economic, [health](http://www.space.com/10797-nasa-glory-satellite-earth-climate.html) and policy decisions related to environmental change."

Monitoring is key to solving climate—helps scientists develop solutions and motivates policy action

Mahlman 98 (JD, Geophysical Fluid Dynamics Laboratory, Princeton University, <http://www.gfdl.noaa.gov/bibliography/related_files/jm9801.pdf>, accessed 7-2-11, CH)

So, why should we care about this climate monitoring deﬁciency? Who actually has a stake in improved climate monitoring? Climate data scientists do because their goal is to use the data to learn about how climate and climate change actually work. Climate theorists and modelers do because the current anthropogenic greenhouse warming projections are theoretically based, as manifested in the mathematical climate models (making climate change projections without attempting to evaluate them against the evolving real world is counter96 MAHLMAN to the ethic of science). Policymakers do because they are already in the process of making policy (or nonpolicy) in the face of an imperfectly understood, but potentially very serious, global environmental threat. Policymakers, like scientists, always need to evaluate their conclusions against new information.

Satellites !—Climate Monitoring Good—Warming

Climate data key to understanding and solving warming

Stop Global Warming 9 (9/4, <http://stopglobalwarmingtogether.com/about-climate-and-its-periodic-change>, accessed 7-2-11, CH)

Climate monitoring is vital to further advance our understanding of the complexity of the climate system and its predictability. The data and associated climate information that are collected and disseminated to users, keep all stakeholders informed of the state of the climate and the natural environment. Climate is sometimes referred to as “average” weather for a given area. The National Weather Service uses data such as temperature highs and lows and precipitation rates for the past thirty years to compile an area’s “average” weather. Climate.org seeks to provide reliable information on climate change, energy and the environment. The site is regularly updated with recent news and articles. Climate change is with us. A decade ago, it was conjecture. Climate change and the energy hunger of the developed world and newly emerging economies like China and India are driving forces behind higher food prices, which directly affect the poor in a country like Egypt. As the First Lady has stated it in her Opening Address on Saturday, the rich subsidize the transformation of food into biofuels, thus subsidizing the burning of food of the poor to drive the cars of the rich! Climate is the atmospheric condition in a certain location near the surface of the Earth. Is there such a thing as a global climate ? Climate change and related impacts are becoming increasingly relevant to environmental, economic and security issues. This raises convergent points of interest and thematic platforms for those interested in confronting this global challenge from a multidisciplinary perspective. Climate change is the greatest environmental challenge facing the world today. Rising global temperatures will bring changes in weather patterns, rising sea levels and increased frequency and intensity of extreme weather. Climate change is the single biggest environmental threat facing our planet. Burning too much coal, oil and gas pollutes the atmosphere with greenhouse gases that heat up the planet. Temperature, humidity, and rainfall, which are discussed hereunder, are the most important elements of the country’s weather and climate. Temperatures range between 70F and 90F (20C to 33C). Climate simulations at NCAR have shown that changes in the Sun’s intensity explain less than a third of the global warm-up during the last century. The most likely explanation for a warming Earth is the greenhouse gases emitted when fossil fuels are burned. Climate data are used extensively in airport design and aeronautical engineering.

Monitoring solves warming

Van Engelen, No Date (Angelique, journalist, Global Warming is Real, <http://globalwarmingisreal.com/2009/06/11/nasas-carbon-monitoring-plans/>, accessed 7-2-11, CH)

So now what? Two more projects are still in the making that will provide more or less similar data. The Aquarius, originally scheduled for launch in September 2008 but delayed until May 2010, will monitor salinity levels in the world’s oceans. And another space-based mission, Hydros, will measure Earth’s changing soil moisture and the amount of frost in the land surface. These two factors combined define the state of the Earth’s hydrosphere, which has determining effects on water, energy and carbon cycles. The Aquarius data might lead to a breakthrough in the knowledge of the role the oceans play in global warming. Scientists have speculated for the past decades that man-made climate change contributes to the increased saltiness of the oceans. The North Atlantic Ocean especially affected by increased levels of salinity and this in turn affects the circulation of ocean currents. The redistribution of heat within the waters (a huge factor in climate temperatures) and the overall water cycle is affected by these salinity levels. “NASA plans to [ ..] address key scientific questions regarding how Earth’s atmosphere, oceans and land work together to shape our weather, climate and environment,” said Dr. Ghassem Asrar, NASA’s associate administrator for Earth Science in an interview with Science Daily which detailed the specifics of the Aquarius mission. What’s needed is a global effort to find out what exactly is happening, where, and to what degree. Scientists are especially keen to discover the role ocean salinity plays in big climate events. Aquarius will pass on monthly data plotting out global maps of how salt concentration varies on the ocean surface. The data will fill in the blanks that exist on evaporation, precipitation, ice melt and river runoff on seasonal and inter-annual time scales. The impact of these combined factors on fresh water resources is going to be an eye opener in many respects.

Satellites !—Climate Monitoring Good—Oceans

Climate monitoring key to ocean biodiversity

Environmental News Service 3 (2/26, <http://www.enviroalternatives.com/globalwarming.html#Satellites%20Help%20Monitor%20Warming%20Coral>, accessed 7-2-11, CH)

Using satellite derived information, DHWs monitor the cumulative thermal stress of several coral reefs throughout the globe, including Australia's Great Barrier Reef, Galapagos, the Bahamas, and others. The extent and acuteness of thermal stress - key predictors of coral bleaching - contribute to coral reef degradation worldwide. Coral reefs compose a large and integral part of the coastal ocean, supporting a variety of sea life and providing resources of significant economic importance. Coral bleaching, caused by high water temperatures, occurs as coral tissue expels zooxanthellae, a symbiotic algae essential to coral survival that lives within the structure of the coral.

Satellites !—Climate Monitoring Good—Disasters

Monitoring now key to climate predictions and responsiveness

Auld & MacIver 11 (Heather &Don, Adaptation and Impacts Researcers, Environment Canada, 11/29, <http://pyr.hazards.ca/Docs/images/Adaptation_Options_for_Infrastructure-1568988254.pdf>, accessed 7-2-11, CH)

Climate change will impact infrastructure through gradual changes in weather patterns, increasing variability and severity of extreme events. Because infrastructure built in current times is intended to survive for decades to come, it is critically important that climate change adaptation options be developed today and implemented as soon as possible. The many implications of the changing climate will require a structured approach for the updating of climate design values, codes and infrastructure standards, for reinforcement and retrofit of existing infrastructure and for planning redundancy of critical infrastructure. Underlying these activities will be an ongoing need for careful monitoring of regional climate conditions and prioritization of adaptation actions. “No regrets” adaptation actions are available in the near term to reduce the vulnerability of infrastructure. These “no regrets” actions include measures to reduce uncertainties in climatic design values and to update calculations, to enforce engineering codes and standards, to safeguard the quality and length of climate data records and networks, to require regular maintenance of existing infrastructure and to ensure consistent forensic analyses of infrastructure failures and community disaster management planning. In other cases, it is likely that the impacts of future climate change will lie outside of existing experience and coping ranges of infrastructure, requiring that adaptation options be developed over time through “adaptation learning”.

Weather prediction key to responding to natural disasters—saves lives

Northrop Grumann, No Date (<http://www.northropgrummanglobalsecurity.com/Details.aspx?id=33>, accessed 7-2-11, CH)

What if we could forecast the weather? Not days before, but months before. What if we could monitor and reverse the effects of global warming on our planet? What if we could predict natural disasters — earthquakes before they struck, tornadoes before they touched down, hurricane impact before the eye reached land? We'd save thousands of human lives every year. That's what we're working on. Overview An integral part of ensuring global security is learning to better predict and prepare against climatic threats, and to better understand the effects of climate change.

Satellites !—GEOSS I/L

Aff trades off with the Global Earth Observation System of System, international climate change research, and tanks U.S. space leadership

Sabathier and Faith, International Public Policy Issues, 07

(Vincent and Ryan, Center for Strategic and International Studies, 07-31-07, “Minding the Gaps: Keeping Exploration Alive”, http://csis.org/files/media/csis/pubs/070731\_space\_commentary.pdf, accessed 6-21-11, JG)

Finally, the third challenge relates to the collection of environmental data through earth observation satellites. Global concern with climate change makes the sacrifice of earth observation to support human space exploration a very unappealing option. Further, the United States has already committed to a bold leadership role with the July 2003 launch, by former secretary of state Colin Powell and current National Oceanic and Atmospheric Administration (NOAA) administrator VADM Conrad Lautenbacher (USN, ret.), of a worldwide effort to build the Global Earth Observation System of System. If we establish an organization to create a system like GEOSS and then immediately fail to meet our agreed-on commitments, it will be very difficult indeed to generate future support for international projects, and as a consequence, our basic ability to lead in other space-related areas—especially returning to the Moon—will be greatly compromised. Historically, the way that NASA has dealt with such competing priorities is through the senseless cannibalism of one project after another. This may not, however, currently be an option. On one hand, the broad, bipartisan support for a national vision of space exploration and the immediate interest should encourage solid, robust support for human space exploration; on the other hand, the growing concern of global climate change necessitates full support of earth observation. In these space leadership challenges, failure to provide near-term support will immediately erode our credibility, while in the longer term, our leadership role is at great risk. In recent years, the number of tasks undertaken by our civilian space agencies has grown dramatically, yet budgets have not kept pace with these increased responsibilities. There are some ways to limit the unrestrained growth of space spending, such as through international cooperation or better coordination of other U.S. capabilities like NOAA’s well established operational earth observation capabilities. It is far more important, however, to provide balanced funding for both human space exploration and earth observation at the levels needed to fulfill the obligations we have undertaken. Simply shifting funds from one program to another not only creates program instability and delays but also is, in the end, simply a stopgap measure built around falling short on one promise for the sake of keeping another.

Satellites !—GEOSS I/L

NASA leading GEOSS initiative

Lorentz 8 (Kate, researcher, NASA’s Langley Center, 4/22, <http://www.nasa.gov/centers/langley/science/EarthDay_EPA.html>, accessed 7-3-11, CH)

From the commute home from work to a jog in the park, almost every aspect of our daily lives is affected by the quality of the air we breathe. In order to develop better methods for global forecasting and monitoring of air quality, NASA has joined forces with the Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA), in an initiative called GEOSS, or the Global Earth Observation System of Systems. GEOSS is a collaborative, international effort to share and integrate Earth observation data, and tools that are developed for GEOSS will aid in managing air quality and watersheds, and will improve drinking water, protect the food supply and ensure a safer transportation system.

GEOSS sponsored by NASA

Masa et al 11 (J, P. Diaz, I. Serral and X. Pons, researchers, Center for Ecological Research and Forestry Applications, “Building Quality Interoperability in GEOSS; The GeoViQua role”, 6/28, accessed 7-3-11, CH)

GEOSS is initially a ten-year project (covering the period 2005-2015), sponsored by 85 countries and major international organizations including NASA, ESA and JAXA space agencies. Its goal is to create a global public network of Earth observation data easy to use and available in real time. Its content and accessibility will have a global impact, enhancing the understanding of the dynamics of the planet and influencing environmental policies.

NASA key to GEOSS strategy

US Clivar 7 (3/6, <http://www.usclivar.org/Newsletter/VariationsV5N1/Variations.DroughtWG.pdf>, accessed 7-3-11, CH)

Several agencies including NOAA and NASA are in the planning phase for implementing the National Integrated Drought Information System (NIDIS, 2004). The NIDIS authorization bill was signed into law by the President in December 2006. The vision for NIDIS is a dynamic and accessible drought risk information system that provides users with the ability to determine the potential impacts of drought, and the decision support tools needed to better prepare for and mitigate the effects of drought. As the designated lead agency, NOAA is developing an interagency implementation plan. NASA is also engaged in planning for NIDIS as part of an overall strategy to implement key aspects of the international Global Earth Observation System of Systems (GEOSS) strategic plans. The U.S. Integrated Earth Observing System Strategic Plan (IEOS, 2005), this nation’s contribution to the GEOSS 10-Year Implementation Plan, has embraced NIDIS as one of six high priority Near Term Opportunities.

NASA leading GEOSS

CRS 5 (Congressional Research Service, 6/9, <http://www.spaceref.com/news/viewsr.html?pid=16917>, accessed 7-3-11, CH)

During the 1960s and 1970s, NASA developed communications, meteorological, and land and ocean remote sensing satellites. NASA's role in this aspect of space utilization traditionally is R&D. Once the technology is proven, operational responsibility is transferred to other agencies or the private sector. NASA continues to perform research in many of these areas, however, particularly earth sciences (including global climate change). NASA, sometimes in partnership with other countries, has a variety of earth science probes in orbit today, including three large satellites in the Earth Observing System (EOS). The United States also is leading the international Global Environmental Observing System and Systems (GEOSS) program [http://iwgeo.ssc.nasa.gov/]. NASA's FY2005 and FY2006 budgets assume significantly reduced funding for earth sciences research, an issue that was explored at an April 28, 2005 House Science Committee hearing.

GEOSS ! – Extinction

GEOSS is key to predict climate change – saves us from extinction

Nativi and Mazzeti 8 (Stefano and Paolo, Italian National Research Council, 10-20-08, “Predicting the impact of climate change on biodiversity – a GEOSS scenario”, http://www.macroecology.ca/pdf/fullpicture.pdf, accessed 6-21-11, JG)

While some two million plus species have been described, and many millions more remain to be discovered, climate change threatens to commit 15 to 37 per cent of these to extinction by 2050, accelerating a dangerous trend that land use change has already set in motion. An extinction episode of this magnitude would likely severely degrade the quality of vital ecosystem services, such as nutrient cycling, atmospheric regulation, soil formation, water purification, and pollination, upon which the human enterprise relies. Scientists are presented with the formidable challenge of assessing likely impacts of unprecedented interactions between rapid climate and land use changes, predicting how those impacts will unfold into the future, and providing policy options to decision-makers. These issues have been highlighted in stark terms in the newly released Fourth Assessment Report of the Intergovernmental Panel on Climate Change. 1 In short, global change requires a monumental scientific response, drawing on infrastructure that integrates the enormous volumes of data available from biodiversity research, earth observations, and climate models. Components of this mega science infrastructure already exist, having been established by the IPCC and Global Biodiversity Information Facility (GBIF). Integrating these disparate components will require great effort in terms of metadata development and related service coordination. However, the Global Earth Observation System of Systems (GEOSS) provides the basis for realizing these goals through its clearinghouse registry of registries system. Here, we describe the results of linking the biodiversity and climate change research infrastructures to enable scientists to conduct new, broad-scale ecological analyses. We describe a generic use scenario and a related modeling workbench for studying the impacts of climate change on biodiversity. A scenario, as described here, provides a basis for predicting biodiversity impacts of climate change into the future by demonstrating recent impacts of anthropogenic changes in the 20th century. Models such as this are built using the infrastructure being developed by GEOSS and provide an essential benchmark against which forecasts for the future might be constructed. This development has been conducted in the framework of the GEOSS Interoperability Process Pilot Project initiative.

GEOSS ! – Disasters

GEOSS is key to short-term & long-term disaster relief

GEO 11 (Group on Earth Observations, Copyright 2011, http://www.earthobservations.org/geoss\_di.shtml, accessed 6-22-11, JG)

Earthquakes, tsunamis, wild fires, floods, hurricanes and volcanoes – the list of disasters that can kill and injure people and destroy property is a lengthy one. When disaster strikes, rapid access to data on land and ocean conditions, maps of transport links and hospitals, weather forecasts, and information on socio-economic variables can save uncounted lives. The Global Earth Observation System of Systems is integrate Earth observations with other information to help planners reduce vulnerability, strengthen preparedness and early-warning measures and, after disaster strikes, rebuild housing and infrastructure in ways that limit future risks. GEOSS is also helping to reduce risk over the long term by providing a better understanding of the relationship between natural disasters and climate change. Climate forecasts must become an integral part of sustainable development planning and of strategies for adaptation and risk management. By making it possible to integrate different types of disaster-related data and information from diverse sources, GEOSS aims to strengthen analysis and decision making for disaster response and risk reduction.

Loss of prediction causes millions of deaths

BBC 4 (BBC Worldwide Americas, Copyright 2004, http://www.libraryvideo.com/guides/V6055.pdf, accessed 6-22-11, JG)

Earth, wind, fire and water are environmental forces that make life on Earth possible. They are also responsible for many of the world’s natural disasters. Natural disasters are extreme, sudden events caused by environmental factors and can injure people and damage property. In the last century alone, the death toll from combined natural disasters has reached ten million people, often thousands at a stroke. Shifting external forces cause hurricanes, floods, tornadoes and blizzards. In one day, there may be five hurricane-force storms brewing, at least 15 volcanoes actively erupting, as well as four major earthquakes, plus a handful of tornadoes at any given moment! The deadliest and most destructive storms on Earth, hurricanes and tornadoes continue to fascinate us with their awesome force. The tropical cyclone, known also as a hurricane or typhoon, is a massive storm that develops over water. About 40 such storms wreak havoc on the planet each year. Heat sets up ocean currents and evaporates vast quantities of water at the equator. This creates hot moist air, which is driven to the cooler poles in a process that works like atmospheric air conditioning. Given a spin by Earth’s rotation, the storm steadily builds, drawing energy from the moist, tropical air. Winds increase, causing severe damage to the land and property. More accurate prediction is the best hope for avoiding loss of life.

GEOSS ! – Resources

GEOSS key to resource stabilization & management

GEO 11 (Group on Earth Observations, Copyright 2011, http://www.earthobservations.org/geoss\_en.shtml, accessed 6-22-11, JG)

Exploiting the full potential of energy resources is of critical importance to all countries. This trillion-dollar economic sector includes coal, oil and gas as well as renewable energy sources such as solar, wind and hydropower. Key concerns for both governments and the private sector include reliable access to energy, the efficient management of energy resources, improved technologies for stabilizing or reducing greenhouse gas emissions, and the need to report energy emissions levels to the UN Climate Change Convention and other bodies. The Global Earth Observation System of Systems is helping governments and companies to manage energy resources more effectively. GEOSS provides the information they need for evaluating the potential for producing renewable energy and assessing the risks and potential of carbon capture and storage systems designed to reduce greenhouse gas emissions. GEOSS also provides data and information for monitoring and forecasting fluctuations in hydropower, solar, ocean and wind energy sources; assessing and predicting the environmental impacts of energy exploration, extraction, transportation and consumption; reducing weather-related and other risks to energy infrastructure; matching energy supply and demand; and informing other aspects of energy-policy planning in both developing and developed countries.

Resource destabilization causes extinction level resource wars

Wooldridge 9 (Frosty Wooldridge, Free lance writer @ Cornell University, 2009, http://www.australia.to/index.php?option=com\_content&view=article&id=10042:humanity-galloping-toward-its-greatest-crisis-in-the-21st-century&catid=125:frosty-wooldridge&Itemid=244, accessed 6-22-11, JG)

It is clear that most politicians and most citizens do not recognize that returning to “more of the same” is a recipe for promoting the first collapse of a global civilization. The required changes in energy technology, which would benefit not only the environment but also national security, public health, and the economy, would demand a World War II type mobilization -- and even that might not prevent a global climate disaster. Without transitioning away from use of fossil fuels, humanity will move further into an era of resource wars (remember, Africom has been added to the Pentagon’s structure -- and China has noticed), clearly with intent to protect US “interests” in petroleum reserves. The consequences of more resource wars, many likely triggered over water supplies stressed by climate disruption, are likely to include increased unrest in poor nations, a proliferation of weapons of mass destruction, widening inequity within and between nations, and in the worst (and not unlikely) case, a nuclear war ending civilization.

GEOSS ! – Diseases

GEOSS prevents pandemic multiple pandemic outbreaks

GEO 11 (Group on Earth Observations, Copyright 2011, http://www.earthobservations.org/geoss\_he.shtml, accessed 6-22-11, JG)

Climate change and extreme weather events are associated with a wide range of health risks. Emerging infectious diseases such as HIV/AIDS and Lyme appear to be linked to land-use changes that have opened up previously hidden pathways for disease transmission. The Group on Earth Observations is working with the Health community to improve the flow of user-friendly environmental data. Comprehensive data sets support prevention, early warning, research, health-care planning and delivery, and timely public alerts. Gathered and distributed through the Global Earth Observation System of Systems, these Earth observation data contribute to improving our understanding of how the environment affects human health and well-being. Key variables include airborne, marine, and water pollutants; stratospheric ozone depletion; land-use change; persistent organic pollutants; food security and nutrition; noise levels; weather-related stresses and disease vectors; and many others. For example, remote-sensing observations of weather, land and ocean parameters can now be used to predict outbreaks or trends in infectious diseases such as meningitis, malaria and cholera. Such data need to be readily available to public health workers in a format that they can use.

Uncontrollable disease pandemic causes extinction

Steinbrunner 97 (John, Senior Fellow at Brookings, “Biological Weapons: A Plague Upon all Houses”, JSTOR, accessed 6-22-11, JG)

The use of a pathogen, by contrast, is an extended process whose scope and timing cannot be precisely controlled. For most potential biological agents, the predominant drawback is that they would not act swiftly or decisively enough to be an effective weapon. But for a few pathogens - ones most likely to have a decisive effect and therefore the ones most likely to be contemplated for deliberately hostile use - the risk runs in the other direction. A lethal pathogen that could efficiently spread from one victim to another would be capable of initiating an intensifying cascade of disease that might ultimately threaten the entire world population. The 1918 influenza epidemic demonstrated the potential for a global contagion of this sort but not necessarily its outer limit.

GEOSS ! – Water Shortage

GEOSS solves water shortage crisis – prevents extinction

GEO 11 (Group on Earth Observations, Copyright 2011, http://www.earthobservations.org/geoss\_wa.shtml, accessed 6-22-11, JG)

Freshwater is vital for households, agriculture, and industry, and ever larger quantities will be needed for burgeoning human populations over the coming decades. Unfortunately, current observation systems cannot adequately monitor long-term changes and transfers in the global water system and their implications for people, the climate, and biodiversity. The amount of freshwater available for human consumption and for ecosystem services is affected by many variables. The Global Earth Observation System of Systems seeks to track these variables by filling in existing information gaps about water resources, integrating data sets from various monitoring systems, developing better forecasting models, and disseminating the results to a wider range of decision makers. A key next step for the GEOSS will be to combine water-level data from satellite-based radar altimeters with data from ground-level, in-situ monitors. This will improve the ability of water managers to map the water cycles of major rivers. The Group on Earth Observations is also standardizing metadata and improving the accuracy of data and predictions. It aims to establish global prediction models and then develop national-level models and finally river-basin or catchment-level models. These models will eventually become interoperable, creating a “system of systems” that will facilitate the global exchange of observation data and forecasting information.

Water shortages cause nuclear backlashing

Weiner 90 (Jonathan, Professor at Princeton, “The next 100 years”, p. 270, accessed 6-22-11, JG)

If we do not destroy ourselves with the A-bomb and the H-bomb, then we may destroy ourselves with the C-bomb, the Change Bomb. And in a world as interlinked as ours, one explosion may lead to the other. Already in the Middle East, from North Africa to the Persian Gulf and from the Nile to the Euphrates, tensions over dwindling water supplies and rising populations are reaching what many experts describe as a flashpoint. A climate shift in that single battle-scarred nexus might trigger international tensions that will unleash some of the 60,000 nuclear warheads the world has stockpiled since Trinity

GEOSS ! – Food Shortage

GEOSS key to global agriculture and food production

GEO 11 (Group on Earth Observations, Copyright 2011, http://www.earthobservations.org/geoss\_ag.shtml, accessed 6-22-11, JG)

Food supplies depend on trends in the natural environment, including weather and climate, freshwater supplies, soil moisture and other variables. At the same time, agriculture has a major impact on the environment. Unless they are sustainably managed, farms and pastures can cause erosion, desertification, chemicals pollution and water shortages. Similarly, fishing can deplete fish stocks and damage coastal ecosystems. These risks need to be monitored and managed. The Group on Earth Observations is constructing the Global Earth Observation System of Systems to help farmers, fishers and policymakers maximize productivity and food security while preserving ecosystems and biodiversity. GEO also aims to support the sustainable management of agriculture by disseminating weather forecasts, early warnings of storms and other extreme events, water pollution, long-term forecasts of likely climate change impacts, and information on water supplies. These and other data are being integrated so that they can be used in models for simulating and predicting agricultural trends. Related activities include mapping the changing distribution of croplands around the world, advancing the accuracy of measurements of biomass (the total amount of living material in a given habitat or population), reporting agricultural statistics in a more timely manner, and improving forecasts of shortfalls in crop production and food supplies.

Food shortages cause extinction

Plumb 8 (George, Environmental Activist, 5-18-08,

http://www.timesargus.com/apps/pbcs.dll/article?AID=/20080518/FEATURES05/805180310/1014/FEATURES05, accessed 6-22-11, JG)

Once again the world's food situation is bleak. According to the Food and Agriculture Organization of the United Nations, the price of wheat is more than 80 percent higher than a year ago, and corn prices are up by 25 percent. Global cereal stocks have fallen to their lowest level since 1982. Prices have gone so high that the United Nations World Food Program, which aims to feed 73 million people this year, reported it might have to reduce rations or the number of people it will help. Food riots are happening in many countries and threaten to bring down some countries as starving people demand better from their government. However, this time the problem will not be so easy to solve. There are some 75 million more people to feed each year! Consumption of meat and other high-quality foods — mainly in China and India — has boosted demand for grain for animal feed. Poor harvests due to bad weather in this country and elsewhere have contributed. High energy prices are adding to the pressures as some arable land is converted from growing food crops to biofuel crops and making it more expensive to ship the food that is produced. According to Lester Brown, president of the World Policy Institute, "This troubling situation is unlike any the world has faced before. The challenge is not simply to deal with a temporary rise in grain prices, as in the past, but rather to quickly alter those trends whose cumulative effects collectively threaten the food security that is a hallmark of civilization. If food security cannot be restored quickly, social unrest and political instability will spread and the number of failing states will likely increase dramatically, threatening the very stability of civilization itself."

GEOSS ! – Biodiversity

GEOSS key to sustainable biodiversity globally

GEO 11 (Group on Earth Observations, Copyright 2011, http://www.earthobservations.org/geoss\_bi.shtml, accessed 6-22-11, JG)

Biological diversity encompasses all of the Earth’s plants, animals and micro-organisms; the genetic variation within each species; and the diverse ecosystems in which living things – including human beings – form communities and interact with one another and with the air, water, and soil around them. The conservation and sustainable use of the world’s biological resources is central to promoting sustainable development. The Global Earth Observation System of Systems supports these goals by improving the quality and quantity of biodiversity information and analysis. GEOSS is linking together the world’s many stand-alone biodiversity monitoring systems and connecting them to other Earth observation networks that generate relevant data, such as climate and pollution indicators. It also helps to fill in gaps in taxonomic and biological information, generate updated assessments of global biodiversity trends, track the spread and retreat of invasive alien species, and monitor how biodiversity responds to climate change.

Biodiversity loss causes extinction

Diner 94 (David, Ph.D. Planetary Science and Geology, "The Army and the Endangered Species Act: Who's Endangering Whom?," Military Law Review, 143 Mil. L. Rev. 161, accessed 6-22-11, JG)

To accept that the snail darter, harelip sucker, or Dismal Swamp southeastern shrew 74 could save mankind may be difficult for some. Many, if not most, species are useless to manin a direct utilitarian sense. Nonetheless, they may be critical in an indirect role, because their extirpations could affect a directly useful species negatively. In a closely interconnected ecosystem, the loss of a species affects other species dependent on it. 75 Moreover, as the number of species decline, the effect of each new extinction on the remaining species increases dramatically. 4. Biological Diversity. -- The main premise of species preservation is that diversity is better than simplicity. 77 As the current mass extinction has progressed, the world's biological diversity generally has decreased. This trend occurs within ecosystems by reducing the number of species, and within species by reducing the number of individuals. Both trends carry serious future implications. 78 [\*173] Biologically diverse ecosystems are characterized by a large number of specialist species, filling narrow ecological niches. These ecosystems inherently are more stable than less diverse systems. "The more complex the ecosystem, the more successfully it can resist a stress. . . . [l]ike a net, in which each knot is connected to others by several strands, such a fabric can resist collapse better than a simple, unbranched circle of threads -- which if cut anywhere breaks down as a whole." 79 By causing widespread extinctions, humans have artificially simplified many ecosystems. As biologic simplicity increases, so does the risk of ecosystem failure. The spreading Sahara Desert in Africa, and the dustbowl conditions of the 1930s in the United States are relatively mild examples of what might be expected if this trend continues. Theoretically, each new animal or plant extinction, with all its dimly perceived and intertwined affects, could cause total ecosystem collapse and human extinction. Each new extinction increases the risk of disaster. Like a mechanic removing, one by one, the rivets from an aircraft's wings, 80 [mankind may be edging closer to the abyss.

GEOSS ! – Economy

Climate observation key to our national economy

NTCS 5 (National Science and Technology Council, Executive Report, 4-6-05, http://www.whitehouse.gov/sites/default/files/microsites/ostp/eocstrategic\_plan.pdf, accessed 6-22-11, JG)

In pure economic terms, studies show that national institutions that provide weather, climate, public health, and water services to their citizens contribute an estimated $20-$40 billion dollars each year to their national economies. 4 In the United States, weather- and climate-sensitive industries, both directly and indirectly, account for as much as 1/3 of our nation’s GDP—$2.7 trillion 5 — ranging from agriculture, energy, finance, insurance, transportation, and real estate, to retail and wholesale trade, and manufacturing. Economists have quantified the benefits of improved El Niño forecasts to be an estimated $265- 300 million annually, throughout El Niño, normal and La Niña years. Likewise, annual benefits in a small Northwest Coho salmon fishery are estimated at $250,000 to $1 million. 6 The return on our investments for Earth observations has brought great benefits to the general public. However, we can do much more.

U.S. economic collapse leads to global economic depression-

Mead 4 (Walter Mead, Senior Fellow at the Council on Foreign Relations, March/April, 2004

“America’s Sticky Power”, Foreign Policy, Proquest, accessed 6-23-11, JG)

Similarly, in the last 60 years, as foreigners have acquired a greater value in the United States-government and private bonds, direct and portfolio private investments-more and more of them have acquired an interest in maintaining the strength of the U.S.-led system. A collapse of the U.S. economy and the ruin of the dollar would do more than dent the prosperity of the United States. Without their best customer, countries including China and Japan would fall into depressions. The financial strength of every country would be severely shaken should the United States collapse. Under those circumstances, debt becomes a strength, not a weakness, and other countries fear to break with the United States because they need its market and own its securities. Of course, pressed too far, a large national debt can turn from a source of strength to a crippling liability, and the United States must continue to justify other countries' faith by maintaining its long-term record of meeting its financial obligations. But, like Samson in the temple of the Philistines, a collapsing U.S. economy would inflict enormous, unacceptable damage on the rest of the world.

Extinction

Bearden 2k (Lieutenant Colonel, Lieutenant Colonel in the U.S. Army, www.cheniere.org/techpapers/Unnecessary%20Energy%20Crisis.doc) ET

Bluntly, we foresee these factors - and others { } not covered - converging to a catastrophic collapse of the world economy in about eight years. As the collapse of the Western economies nears, one may expect catastrophic stress on the 160 developing nations as the developed nations are forced to dramatically curtail orders. International Strategic Threat Aspects History bears out that desperate nations take desperate actions. Prior to the final economic collapse, the stress on nations will have increased the intensity and number of their conflicts, to the point where the arsenals of weapons of mass destruction (WMD) now possessed by some 25 nations, are almost certain to be released. As an example, suppose a starving North Korea launches nuclear weapons upon Japan and South Korea, including U.S. forces there, in a spasmodic suicidal response. Or suppose a desperate China - whose long range nuclear missiles can reach the United States - attacks Taiwan. In addition to immediate responses, the mutual treaties involved in such scenarios will quickly draw other nations into the conflict, escalating it significantly. Strategic nuclear studies have shown for decades that, under such extreme stress conditions, once a few nukes are launched, adversaries and potential adversaries are then compelled to launch on perception of preparations by one's adversary. The real legacy of the MAD concept is his side of the MAD coin that is almost never discussed. Without effective defense, the only chance a nation has to survive at all, is to launch immediate full-bore pre-emptive strikes and try to take out its perceived foes as rapidly and massively as possible. As the studies showed, rapid escalation to full WMD exchange occurs, with a great percent of the WMD arsenals being unleashed . The resulting great Armageddon will destroy civilization as we know it, and perhaps most of the biosphere, at least for many decades.

GEOSS ! – Overpopulation

Earth observation key to manage overpopulation

NTCS 5 (National Science and Technology Council, Executive Report, 4-6-05, http://www.whitehouse.gov/sites/default/files/microsites/ostp/eocstrategic\_plan.pdf, accessed 6-23-11, JG)

A growing world population, projected to increase by roughly 50% in the next 50 years before leveling off, 1 will place increasing demands on crucial resources like food and clean water and air. Populations and economic activities are shifting from rural areas to urban centers, many in low-lying coastal regions or seismically active zones. In the United States, more than half of the population lives within 50 miles of our coasts, 2 areas that are particularly vulnerable to storm surges and flooding. We rely upon coastal regions for healthy fisheries, and reliable transport and navigation. Increased dependence on infrastructure networks (roads, power grids, oil and gas pipelines) intensifies the potential vulnerability of more developed societies to impacts from natural disasters. Another potential health-related benefit from improved observations concerns the quality of our air. Despite dramatic improvements in air quality in the United States over the last 30 years, over 100 million people in the U.S. still live in counties with pollution levels that exceed National Ambient Air Quality Standards (NAAQS), posing potential health problems.3 Improved understanding of the complex workings of Earth systems will help us protect society and manage our resources and infrastructure in a more efficient and effective way.

GEOSS is specifically key

NTCS 5 (National Science and Technology Council, Executive Report, 4-6-05, http://www.whitehouse.gov/sites/default/files/microsites/ostp/eocstrategic\_plan.pdf, accessed 6-23-11, JG)

Recognizing this, ministers from 34 nations and representatives from 25 international organizations met at the first Earth Observation Summit in July 2003. This meeting resulted in an international effort to develop a Global Earth Observation System of Systems. This international effort emphasizes the importance of capacity building, as information from Earth observations is critical for developing as well as developed nations. Building capacity is integral to a global implementation strategy, which includes ensuring full utilization of the data. Growing world populations with expanding economies will require access to Earth Strategic Plan for the U.S. Integrated Earth Observation System 10 observations for a wide range of societal, scientific, and economic needs. The development of new systems will contribute to the gross domestic product of countries. International contributions are also essential for completing the data sets needed to address important U.S. national issues.

Overpopulation leads to extinction

Deep Ecology Hub 10 (Ecology Site, 12-30-10, http://www.deep-ecology-hub.com/mass-extinction.html, accessed 6-23-11, JG)

It's not just the potential extinction of charismatic megafauna like tigers and pandas that are concerning. It is the growing number of more obscure plant and animal species disappearing that is most disturbing. The mass extinction is inevitably intertwined with human overpopulation. As humans expand non-humans contract. We must keep a check on our population or eventually disaster will befall us. We think we have a large starving population now but it won't be anything compared to the starving population we will have if the mass extinction continues at its present rate. It's like a game of Jenga. You build the tower upwards by removing blocks from below. The more blocks that are removed, the higher the tower grows and the more unstable it becomes. The only way our civilization has been able to grow at such a quick rate is because we have been kicking out other species from beneath us. Things look pretty good from the top of the tower; but eventually it always collapses.

GEOSS ! – Warming (1/2)

Climate modeling key to foster global warming adaptation for survival

Sullivan and Huntingford 9 (Caroline, Environmental Specialist @ Oxford and Southern Cross, Chris , Centre for Ecology & Hydrology @ Oxfordshire, MSSANZ.org.au, 07-[13-17]-09,

http://www.mssanz.org.au/modsim09/I13/sullivan\_ca.pdf, accessed 6-22-11, JG)

It is well recognised today that climate change is affecting the Earth’s physical and biological systems, and is expected to do so on forthcoming decadal to century timescales. A need exists for useable predictions of the impacts associated with such climate change, and the likely societal responses to these. This must also be seen in the context of other drivers of global change, and be presented at suitable spatial and temporal scales, to enable prioritisation of adaptation measures, which are feasible in the most vulnerable communities, countries and regions. Climate modeling is advancing, with much better simulations able to explain observed changes believed to be a consequence of raised atmospheric greenhouse gas concentrations. Generated from ‘ensembles’ of climate model outputs, these are expected to have more robust predictive capability. Ideally, to link the biophysical and social scales, it will be ecessary to characterize climate behaviour at spatial scales smaller than those of the current climate model outputs, and to include predictions of surface meteorological extremes which incorporate rainfall as well as temperature change. The challenge of this is ongoing. To gain fully from the improved climate change predictions now available, and to develop associated mitigation and adaptation strategies, well-founded socio-ecological-economic 1 models are required, integrating social and biophysical information to provide holistic insights into alternative possible futures. It is also important that these should be both accessible and relevant to the various users of such information, and presented in a way which is easy to understand and explain. Climate vulnerability assessment is complex, touching on social, cultural and economic factors, which need to be combined with the physical aspects of climate change. Many of the changing climate drivers of concern have a hydrological basis – floods, droughts, tidal waves, and humidity levels, this latter affecting incidence of disease vectors. In this work, we will focus on the impact of climate change on water resources and the knock-on effect this will have on human society. With improved representation of the global hydrological cycle, there is more potential to try to link clearer hydro-climatic information explicitly to human scale conditions. Furthermore, advances in computer power now allow climate models to operate at scales below 50 km 2, and processes that were hereto heavily parameterised (such as large-scale storms) can now be modelled more accurately. Despite this progress, there still remain many challenges in meshing together the climate and social sciences, and the very different conceptual foundations on which they are based. In this paper, we present a policy-orientated approach which attempts to address this challenge, by drawing together data from the bio-physical, economic and social sciences, and combining them in order to make a holistic assessment of human vulnerability to climate and other drivers of global change. We have referred to this as the Climate Vulnerability Index (CVI), and we have taken water as a focus, as this is widely considered to be a key driver of human (and ecological) wellbeing. Further work will extend the CVI approach to examine other global impacts, such as disease incidence or agro-ecological changes, resulting from climate change. By linking outputs from global climate modelling to the components, which make up the CVI, we are able to suggest possible areas where vulnerability of water resources is likely to impact both on human livelihoods and on the generation of ecosystem services. We first present the generic methodology used in this approach, and we then provide a test-case based on the geographically differing administrative districts in Peru. The results provide insights into potential stress points, and, on this basis, it is possible to suggest what conditions of vulnerability exist in these different districts of Peru. Using such information, policy makers and other resource managers will be better able to determine what responses may be most appropriate in these heterogeneous conditions. This work is based on publicly available e economic and social data, coupled with climate change data generated from existing simulations by global climate models. 1. INTRODUCTION The importance of adaptation to climate change is now widely recognised. Mitigation is not a sufficient response because the time lags in the global climate system mean that no mitigation effort, however rigorous, will prevent climate change from happening in the next few decades (Huq and Klein, 2003). The warming now being experienced is the result of emissions that took place decades ago, and the first impacts on natural systems are already being observed. It is, therefore, increasingly evident that, in addition to policies aimed at mitigation, it is also necessary to encourage those focused on adaptation to the effects of climate change.

GEOSS ! – Warming (2/2)

GEOSS is specifically key to integrate international data to curve warming

GEO 11 (Group on Earth Observations, Copyright 2011, http://www.earthobservations.org/geoss\_cl.shtml, accessed 6-22-11, JG)

The issue of climate change has moved to the top of the global political agenda. However, many aspects of the global climate system are still not fully understood. Key uncertainties involve clouds, sea-level rise, the carbon cycle and the impact of sulfates and other human-caused aerosols. Solving these uncertainties will assist governments to adopt more effective policies for mitigating, and adapting to, climate change. The Group on Earth Observations is a strong advocate for sustained and coordinated climate observing systems. It is supporting an ambitious and multidisciplinary effort to strengthen the ability of governments to minimize and adapt to the societal and environmental impacts of climate variability and change. As it matures, the Global Earth Observation System of Systems will represent a quantum leap in the speed, resolution, accuracy and sophistication of weather and climate modeling and forecasting. No single country or group of countries has the resources to achieve these advances on its own, but international collaboration promises to advance climate research and monitoring by ensuring that national investments are coordinated and mutually supportive. To strengthen the link between the providers and users of climate data and predictions, GEOSS disseminates user-friendly information and decision-support tools. Meanwhile, GEO plans to build capacity for using climate and Earth observation data and products more effectively and to integrate climate-risk management into national policies for sustainable development.

\*\*Defense D/A\*\*

Defense Shell

Increased funding for NASA would come from defense – its on the chopping block

Roop 2/3 (Lee, writer @ The Huntsville Times, http://blog.al.com/breaking/2011/02/congress\_will\_cut\_defense\_cong.html) JPG

U.S. Rep. Mo Brooks, R-Huntsville, said here Wednesday that Congress will "probably" cut defense spending next year, possibly including R&D programs based in Huntsville, but, if he gets his way, it will boost NASA's manned spaceflight program. "I hate sounding so melodramatic," Brooks told The Times editorial board, "but I do want to emphasize the seriousness of (the deficit) .... We're looking at truly catastrophic effects on our country." Brooks took office in January and joined a new Republican House majority determined to cut federal spending. On Wednesday, he returned repeatedly to what he called the urgent need spend less while still funding programs he supports, such as NASA. Those programs benefit taxpayers, he says, as opposed to wealth-transferring entitlements that should be cut. Tax increases on "job producers" are off the table to bridge the budget gap, Brooks said, but capping unemployment benefits is not. The House will cut spending this year to 2008 levels, Brooks predicted, but that will be "across the board, not per agency." "I hope to increase (NASA) spending for manned spaceflight," Brooks said. The extra money would come from other agencies or other NASA line items such as studies of global warming, he said. Brooks, who sits on the House NASA oversight committee, said there will be hearings soon on global warming. Brooks also said money for NASA could come from the National Science Foundation budget. "We might have to shift money from there," he said. "I think national defense is probably going to lose some ground," Brooks said, although he will try for "level funding." Asked how cuts might affect Huntsville, Brooks said, "I don't know." There are at least three independent estimates already before Congress, he said, one of which would mean "$4- to $7 billion in R&D cuts and that's what we specialize in (at Redstone Arsenal)." Brooks emphasized those estimates are by outside experts with no vote on the outcome. Democrats "loudly proclaim there is a lot of waste" in the defense budget, Brooks said, adding, "Heck, it's a government program. I'm sure there's waste. There always is with any kind of government program. But it is extraordinarily difficult to cut only the waste. How do you separate the two?"

Specifically, F-35s get cut

Goozner 2/10 (Merrill, independent author, former journalism prof @ NYU, http://gooznews.com/?p=2474) JPG

Critics ranging from the president’s bipartisan fiscal commission to former military officers to a coalition of liberal and conservative groups backing steep Defense Department cuts have put the F-35 at the top of their list of Pentagon programs that could be scaled back or eliminated without damaging national security. The Fiscal Commission, for instance, called for cutting the program in half. Their report suggested the fighter fleet could remain at its current size by extending production of modernized F-16, F-18 and A-10 jets, which would save $9.5 billion over the next five years. “The unit cost of F-35 aircraft is estimated at about $133 million compared to $40 million for an F-16 and $80 million for an F-18,” the fiscal commission report said. “The U.S. Air Force and the U.S. Navy, the military’s current fourth-generation fighters – the F-15, the F-16, and the F-18 – are superior to Chinese and Russian aircraft, and they are less expensive than the F-35,” noted Gordon Adams and Matthew Leatherman in an article in the latest Foreign Affairs.

The F-35 is critical to US air power which deters all adversaries

Shackelford 11 (Mark, Office of the Asst Sec-USAF, http://www.airforce-magazine.com/SiteCollectionDocuments/Testimony/2011/March%202011/031511shackelford.pdf)

Fifth generation fighters like the F-22A and the F-35 are key elements of our Nation’s defense and ability for deterrent capability. Hostile nations recognize that U.S. airpower can strike their vital centers with impunity which enhances all other U.S. Government instruments of power. This is the timeless paradox of deterrence; the best way to avoid war is to demonstrate to your adversaries that you have the capability and will to defeat them. The F-22A and F-35 represent our latest generation of fighter aircraft. Both aircraft are necessary to maintain a margin of superiority that permits our air and ground forces freedom of maneuver and attack. The F-22A and F-35 each possess unique, complementary, and essential capabilities that provide the synergistic effects across the spectrum of conflict. The Office of the Secretary of Defense (OSD)-led 2006 QDR Joint Air Dominance study underscored that our Nation has a critical requirement to recapitalize TACAIR forces. Legacy 4th generation aircraft simply cannot survive to operate and achieve the effects necessary to win in an integrated, anti-access environment.

Defense Shell

Air power projection prevents five scenarios for nuclear exchange

Khalilzad and Lesser 98 (Zalmay and Ian, Senior Researchers – Rand, Sources of Conflict in the 21st Century, http://www.rand.org/publications/MR/MR897/MR897.chap3.pdf, AD:6/26/10) jl

This subsection attempts to synthesize some of the key operational implications distilled from the analyses relating to the rise of Asia and the potential for conflict in each of its constituent regions. The first key implication derived from the analysis of trends in Asia suggests that American air and space power will continue to remain critical for conventional and unconventional deterrence in Asia. This argument is justified by the fact that several subregions of the continent still harbor the potential for full-scale conventional war. This potential is most conspicuous on the Korean peninsula and, to a lesser degree, in South Asia, the Persian Gulf, and the South China Sea. In some of these areas, such as Korea and the Persian Gulf, the United States has clear treaty obligations and, therefore, has preplanned the use of air power should contingencies arise. U.S. Air Force assets could also be called upon for operations in some of these other areas. In almost all these cases, U.S. air power would be at the forefront of an American politico-military response because (a) of the vast distances on the Asian continent; (b) the diverse range of operational platforms available to the U.S. Air Force, a capability unmatched by any other country or service; (c) the possible unavailability of naval assets in close proximity, particularly in the context of surprise contingencies; and (d) the heavy payload that can be carried by U.S. Air Force platforms. These platforms can exploit speed, reach, and high operating tempos to sustain continual operations until the political objectives are secured. The entire range of warfighting capability—fighters, bombers, electronic warfare (EW), suppression of enemy air defense (SEAD), combat support platforms such as AWACS and J-STARS, and tankers—are relevant in the Asia-Pacific region, because many of the regional contingencies will involve armed operations against large, fairly modern, conventional forces, most of which are built around large land armies, as is the case in Korea, China-Taiwan, India-Pakistan, and the Persian Gulf. In addition to conventional combat, the demands of unconventional deterrence will increasingly confront the U.S. Air Force in Asia. The Korean peninsula, China, and the Indian subcontinent are already arenas of WMD proliferation

Defense Uq – F-35s Now

Bipartisan support for maintaining the defense budget – F-35s are protected

Goozner 2/10 (Merrill, independent author, former journalism prof @ NYU, http://gooznews.com/?p=2474) JPG

While a showdown looms between the White House and Republicans over steep cuts in spending, the single most costly procurement program in Pentagon history remains fully funded with bipartisan backing. House Appropriations Committee Chairman Harold Rogers, R-Ky., who this week proposed $74 billion in cuts to a broad range of domestic programs, simultaneously proposed a 2 percent increase in defense spending, enough to fund the purchase of 32 F-35s, a stealth fighter that is slated to replace most of the existing U.S. jet fighter force over the next several decades. The Pentagon also purchased 32 F-35s in 2010. The combined Air Force, Navy and Marine Joint Strike Fighter program, which is at least three years behind schedule and significantly over its original budget, is currently slated to cost $382 billion for 2,456 aircraft by 2035. The spending resolution being drafted to carry the government through the remainder of the fiscal year also includes $450 million for continued development spending on a second engine for the F-35, which would be built by a joint venture between General Electric and Rolls Royce. “It’s our understanding it is in there,” said a spokesman for GE, who was in the nation’s capital Wednesday as part of a company lobbying team.

Defense Internals – NASA $ing = Cuts

Calls for NASA-DoD trade-off now

Roop 11(Lee, NASA Correspondent, The Huntsville Times, 2/3, <http://blog.al.com/breaking/2011/02/congress_will_cut_defense_cong.html>, accessed 6-29-11, CH)

HUNTSVILLE, AL - U.S. Rep. Mo Brooks, R-Huntsville, said here Wednesday that Congress will "probably" cut defense spending next year, possibly including R&D programs based in Huntsville, but, if he gets his way, it will boost NASA's manned spaceflight program. "I hate sounding so melodramatic," Brooks told The Times editorial board, "but I do want to emphasize the seriousness of (the deficit) .... We're looking at truly catastrophic effects on our country." Brooks took office in January and joined a new Republican House majority determined to cut federal spending. On Wednesday, he returned repeatedly to what he called the urgent need spend less while still funding programs he supports, such as NASA. Those programs benefit taxpayers, he says, as opposed to wealth-transferring entitlements that should be cut. Tax increases on "job producers" are off the table to bridge the budget gap, Brooks said, but capping unemployment benefits is not. The House will cut spending this year to 2008 levels, Brooks predicted, but that will be "across the board, not per agency." "I hope to increase (NASA) spending for manned spaceflight," Brooks said. The extra money would come from other agencies or other NASA line items such as studies of global warming, he said. Brooks, who sits on the House NASA oversight committee, said there will be hearings soon on global warming. Brooks also said money for NASA could come from the National Science Foundation budget. "We might have to shift money from there," he said. "I think national defense is probably going to lose some ground," Brooks said, although he will try for "level funding." Asked how cuts might affect Huntsville, Brooks said, "I don't know." There are at least three independent estimates already before Congress, he said, one of which would mean "$4- to $7 billion in R&D cuts and that's what we specialize in (at Redstone Arsenal)." Brooks emphasized those estimates are by outside experts with no vote on the outcome.

NASA and DoD are zero-sum

Rambles 11 (Political Blog, 4/9, <http://drtaxsacto.blogspot.com/2011/04/oregon-trail-budgeting.html>, accessed 6-30-11, CH)

There are at least two judgment calls involved. First, what percentage of all the defense related stuff not in the DOD do you add to the DOD budget. For example, is there a military purpose for NASA? Second, what percentage of the national debt is attributable to current and past wars? That translates into debt service which is a part of the budget. (about 6% now but growing) There the estimates seem to be ideologically driven. The estimates I have seen range from a low of 15% to a high of 91%. Ultimately the conclusion is right. At this point the budget is a zero sum game. Add to one portion and you need to take from another, especially if 40% of the budget is debt financed. (Consider that of that deficit the military portion is about 8% of the budget alone.) But in this case the ultimate question just like in Oregon Trail - how do we set priorities.

Defense Internals – $ing = Cuts

**Defense is at the top of the chopping block – public, budget**

Yang 6/28 (Clement, epoch times staff writer, http://www.theepochtimes.com/n2/united-states/congressional-republicans-open-to-defense-cuts-58382.html) JPG

Waning public support for the U. S.’s foreign wars, combined with the current congressional impasse over the budget debate, have many Republican legislators in Congress considering putting defense cuts on the table when it comes to debt ceiling negotiations. With the Aug. 2 Treasury deadline hanging over their heads, the current deadlock over the raising of the debt limit has centered primarily on the issue of tax increases. However, the congressional GOP leadership has more recently recognized a new willingness on the part of rank-and-file legislators to consider cuts to defense, which is in contrast to traditional Republican hawkishness on defense spending. Senior Republicans say that a deal with congressional Democrats and the White House involving Pentagon cuts would be more palatable than one that includes tax increases. Republican legislators are opposed to across-the-board cuts to the military budget; they are open to the idea of targeted cuts to specific programs. House GOP Chief Deputy Whip Peter Roskam (R-Ill.), in an interview with CNN’s Wolf Blitzer in January, outlined the possibility that defense cuts could be an area in which legislators from both parties could find common ground. Roskam voiced his belief that the defense budget would be an area in which some legislators from both sides would seek across-the-board cuts. “So I think, on balance, there's going to be a thoughtful group that's trying to say, ‘Let's prioritize.’ And my hunch is, when push comes to shove, there's going to be plenty of Democrats that will join on,” he said. This new willingness to cut defense spending is also an indicator of the Tea Party influence in the House of Representatives, exemplified by Representative Adam Kinzinger (R-Ill.), currently a reservist captain with prior active duty service in the U.S. Air Force. Elected to the House of Representatives on a Tea Party platform of smaller government and spending cuts, Kinzinger represents a new brand of Republican legislator no longer willing to treat the defense budget as a sacred cow. Testifying before the House Armed Services Committee in April, Kinzinger recommended as a cost-cutting measure shelving the development of a new Air Force flight suit known as the Integrated Aircrew Ensemble, a program that has thus far cost $99.4 million over six years. “I am a strong supporter of the military and ensuring that our military is the best equipped in the world,” Kinzinger said in his testimony. “However, we must make tough decisions with regard to military needs and military wants. Given the difficult budget environment we are in, we must make difficult decisions on how to best prioritize spending the taxpayer’s money.”

The Pentagon would be the first to face cuts

Dreazen 11 (Yochi, senior correspondent of military affairs and national security, National Journal, 4/22, <http://www.nationaljournal.com/nationalsecurity/the-mission-for-the-new-defense-chief-20110422>, accessed 6-29-11, CH)

When Defense Secretary Robert Gates took his post nearly five years ago, his top priority was salvaging the faltering U.S.-led war effort in Iraq. As he prepares to step down this summer, the Defense chief has a new mission: shaping the terms of the coming debate over how much the Pentagon’s budget should be cut to help close the nation’s yawning deficit. Gates has regularly warned that the Pentagon was in for a prolonged period of belt-tightening, but the cutbacks now appear to be coming sooner—and to potentially be much larger—than he had envisioned. In January, Gates announced plans to cut $78 billion from the Pentagon’s budget over the next five years. Last week, by contrast, President Obama said he wanted Gates to help find $400 billion in additional defense-related cuts over the next 12 years, a much larger reduction than senior Pentagon officials had been expecting. Speaking to reporters on Thursday, Gates said he hoped to “frame” the coming budget debate in terms of the concrete trade-offs the administration would have to make in terms of troop levels and military capabilities if it chose to make significant funding cuts. Gates said the department would be undertaking a broad review of its basic strategic thinking, including the decades-old assumption that the United States should maintain enough forces and armaments to be able to fight two large-scale wars at the same time. His biggest fear, Gates said, was that the White House or Congress would bypass that review by simply ordering an across-the-board reduction in the Pentagon’s budget allocation

Defense Internals – $ing = Cuts

New Republican stance would make defense budget the first concession

Epoch Times 6/28 (<http://beforeitsnews.com/story/761/244/Congressional_Republicans_Open_to_Defense_Cuts.html>, accessed 6-30-11, CH)

Waning public support for the U. S.’s foreign wars, combined with the current congressional impasse over the budget debate, have many Republican legislators in Congress considering putting defense cuts on the table when it comes to debt ceiling negotiations. With the Aug. 2 Treasury deadline hanging over their heads, the current deadlock over the raising of the debt limit has centered primarily on the issue of tax increases. However, the congressional GOP leadership has more recently recognized a new willingness on the part of rank-and-file legislators to consider cuts to defense, which is in contrast to traditional Republican hawkishness on defense spending. Senior Republicans say that a deal with congressional Democrats and the White House involving Pentagon cuts would be more palatable than one that includes tax increases. Republican legislators are opposed to across-the-board cuts to the military budget; they are open to the idea of targeted cuts to specific programs. House GOP Chief Deputy Whip Peter Roskam (R-Ill.), in an interview with CNN’s Wolf Blitzer in January, outlined the possibility that defense cuts could be an area in which legislators from both parties could find common ground. Roskam voiced his belief that the defense budget would be an area in which some legislators from both sides would seek across-the-board cuts. “So I think, on balance, there's going to be a thoughtful group that's trying to say, ‘Let's prioritize.’ And my hunch is, when push comes to shove, there's going to be plenty of Democrats that will join on,” he said. This new willingness to cut defense spending is also an indicator of the Tea Party influence in the House of Representatives, exemplified by Representative Adam Kinzinger (R-Ill.), currently a reservist captain with prior active duty service in the U.S. Air Force. Elected to the House of Representatives on a Tea Party platform of smaller government and spending cuts, Kinzinger represents a new brand of Republican legislator no longer willing to treat the defense budget as a sacred cow. Testifying before the House Armed Services Committee in April, Kinzinger recommended as a cost-cutting measure shelving the development of a new Air Force flight suit known as the Integrated Aircrew Ensemble, a program that has thus far cost $99.4 million over six years. “I am a strong supporter of the military and ensuring that our military is the best equipped in the world,” Kinzinger said in his testimony. “However, we must make tough decisions with regard to military needs and military wants. Given the difficult budget environment we are in, we must make difficult decisions on how to best prioritize spending the taxpayer’s money.” Diminishing public support for the U.S.’s military operations abroad also plays a role in the willingness to deal with the defense budget.

Defense cuts are the only thing the public supports

Kaiser Family Foundation 11 (Harvard School of Public Health, Jan, <http://www.kff.org/kaiserpolls/upload/8134-F.pdf>, accessed 6-30-11, CH)

A So what areas of spending are Americans willing to cut? Not too many. Of the twelve areas tested in the poll, the majority were only willing to accept “major reductions” in one: foreign aid. In addition, about four in ten would support major reductions in funding for the conflict in Afghanistan and in salaries and benefits for federal government workers. In most areas, majorities favor at least minor reductions but few want to see major cuts; these areas include expanding coverage under the health reform law, food stamps, national defense, unemployment insurance, and aid to farmers.

Deficits means public mood shifting in favor of cuts—empirically, military cuts first

Marx 11(Gregory, staff, Remapping Debate, 2/9, <http://www.remappingdebate.org/article/deficit-hawks-or-just-fairy-tale>, accessed 6-30-11, CH)

It’s plausible, as the USA Today story suggests, that “at a time of soaring deficits,” public sentiment could shift in favor of cutting spending. But it’s the sort of thing one might like to know, rather than just asserting. So YouGov recently undertook to find out. The outfit conducted one poll asking about public support for federal spending cuts; as usual, it was scarce, and the bigger and costlier the program, the less enthusiasm there was for cutting it. (Military spending was a partial outlier, a result that is also consistent with other polls.)

Defense Internals – $ing = Cuts

Defense isn’t a sacred cow – both sides of the aisle are looking to cut it

Thompson 6/27 (Mark, nat’l security writer @ TIME, http://battleland.blogs.time.com/2011/06/27/defense-on-the-chopping-block/) JPG

That's the word from Capitol Hill as detailed in this morning's lead story in the Washington Post: Freshman Rep. Adam Kinzinger (R-Ill.) could serve as a poster boy for the new breed of conservatives who are eager to wipe out government waste and inefficiency, no matter where they find it. Kinzinger, an active-duty Air National Guardsman who flew missions in Iraq, fought successfully last month to cut a request for $100 million to buy new flight suits for Air Force pilots. The old ones, he argued, are good enough. Defense spending is “a pillar of Republican strength. It's a pillar of national strength. Look, I know there are sacred cows,” Kinzinger said in an interview. “But we cannot afford them anymore.” This growing GOP atttitude, plus the arrival of budget-cutter Leon Panetta as defense secretary on Friday, suggest President Obama's goal of cutting security spending by $400 billion over the coming 12 years won't be as tough as some predict -- and others fear.

Both sides of the aisle are willing to cut defense

Montgomery and Kane 6/26 (Lori and Paul, reporters @ Washington Times, http://www.washingtonpost.com/business/economy/gop-compromise-on-debt-cut-military-spending/2011/06/25/AGPrGBmH\_story.html?hpid=z3) JPG

As President Obama prepares to meet Monday with Senate leaders to try to restart talks about the swollen national debt, some Republicans see a potential path to compromise: significant cuts in military spending. Senior GOP lawmakers and leadership aides said it would be far easier to build support for a debt-reduction package that cuts the Pentagon budget — a key Democratic demand — than one that raises revenue by tinkering with the tax code. Last week, Republicans walked out of talks led by Vice President Biden, insisting that the White House take tax increases off the table. In listening sessions with their rank and file, House Republican leaders said they have found a surprising willingness to consider defense cuts that would have been unthinkable five years ago, when they last controlled the House. While the sessions have sparked heated debate on many issues, Rep. Peter Roskam (Ill.), the deputy GOP whip, said there are few lawmakers left who view the Pentagon budget as sacrosanct. “When we say everything is on the table, that’s what we mean,” said House Majority Whip Kevin McCarthy (R-Calif.), the No. 3 leader who has been hosting the listening sessions in his Capitol offices. Freshman Rep. Adam Kinzinger (R-Ill.) could serve as a poster boy for the new breed of conservatives who are eager to wipe out government waste and inefficiency, no matter where they find it. Kinzinger, an active-duty Air National Guardsman who flew missions in Iraq, fought successfully last month to cut a request for $100 million to buy new flight suits for Air Force pilots. The old ones, he argued, are good enough. Defense spending is “a pillar of Republican strength. It’s a pillar of national strength. Look, I know there are sacred cows,” Kinzinger said in an interview. “But we cannot afford them anymore.”

Defense is on the chopping block

Business Record 5/31 (http://www.businessrecord.com/main.asp?SectionID=33&SubSectionID=96&ArticleID=13686) JPG

As the House Budget Committee worked on a Republican plan to cut more than $6 trillion of government spending over a decade, the panel's senior Democrat proposed a symbolic amendment saying national security costs should be included in any responsible deficit-reduction effort, Bloomberg reported. Seventeen of 22 committee Republicans, including Chairman Paul Ryan of Wisconsin, joined all 16 Democrats in a vote backing Maryland Rep. Chris Van Hollen's measure."Historically, you've had a lot of Republicans who have refused even to consider the possibility of cuts in the area of defense," said first-term Republican Sen. Mike Lee of Utah. "I don't think we have that luxury anymore." That makes the Pentagon budget - more than half of federal discretionary spending - a target for potential compromise as Congress and the White House seek a package of cuts before voting to raise the $14.3 trillion debt limit. "A lot of the new members recognize that if we are going to be serious about deficit reduction, you can't have any sacred cows and you have to take a hard look at defense," said Van Hollen, a member of a bipartisan group negotiating a debt-reduction plan with Vice President Joe Biden. "The budget committee vote was a clear indication that there's a lot of room for discussion."

Defense Internals – $ing = Cuts

**Deficit spending forces cuts in defense**

Greenblatt 10 (Alan, writer @ NPR, 11/17/10, http://www.npr.org/2010/11/16/131360666/pentagon-s-budget-on-the-chopping-block) JPG

For months, some defense experts have warned that the nation's growing deficit could morph into a national security problem, because it could force deep cuts in military spending. That day appears to have arrived sooner than they predicted. A week after the co-chairmen of President Obama's debt commission recommended cutting $100 billion from the Pentagon's budget over the next five years, a second high-profile group has proposed even deeper cuts. The proposal to save $1.1 trillion by freezing military spending after 2012 is part of a broader deficit reduction strategy released Wednesday by a panel headed by Alice Rivlin, who served as budget director under President Bill Clinton, and former Sen. Pete Domenici (R-NM)."There will be even more things on the chopping block there," says Gordon Adams, a defense budget official in the Clinton administration who has advised the Rivlin-Domenici group.

Deficit hawks are looking to cut defense

Greenblatt 10 (Alan, writer @ NPR, 11/17/10, http://www.npr.org/2010/11/16/131360666/pentagon-s-budget-on-the-chopping-block) JPG

Because it consumes such a large share of the budget, reducing the deficit would be a much more daunting task if the Pentagon were held harmless from spending cuts, warn the deficit hawks. "If you don't go to the $700 billion defense budget to make some reductions, it's just hard to take that big a bite out of any deficit," says a spokesman for Rep. Norm Dicks of Washington, the current Democratic chairman of the House Defense Appropriations Subcommittee.

Defense budget is on the chopping block – public disapproval

Yang 6/28 (Clement, epoch times staff writer, http://www.theepochtimes.com/n2/united-states/congressional-republicans-open-to-defense-cuts-58382.html) JPG

Diminishing public support for the U.S.’s military operations abroad also plays a role in the willingness to deal with the defense budget. Polling suggests that the American public is losing the stomach for the 10-plus years of war. In a recent Pew Research Center/Washington Post poll, 56 percent of respondents were in favor of withdrawing U.S. troops from Afghanistan as soon as possible. Other data suggests that Americans are more willing to accept cuts to defense rather than cuts to Medicare and Social Security. The debate over the defense budget began early last year during the showdown over the fiscal year 2011 budget. Neither side has meaningfully attempted to make substantial cuts to the defense budget in order to fix the deficit, with leaders on both sides fearing that deep defense cuts would endanger national security.

Defense spending on the chopping block—debt ceiling forces flexibility

Teixiera 6/27 (Kathleen, senior director of government affairs, AGA Washington Insider Blog, <http://agapolicyblog.org/2011/06/27/debt-ceiling-talks-continue/>, accessed 7-1-11, CH)

The talks on finding a deal to increase the debt ceiling will continue this week as President Obama becomes more personally engaged in the discussions. The Washington Post reports that cutting defense spending could be the compromise that Republicans are willing to make since they refuse to give on the issue of raising taxes. Democrats have been insisting that if domestic spending is to be slashed in any agreement, Republicans should give a little on tax increases and reducing the defense budget. Republicans typically view the defense budget as “off the table,” but in these tough budget times and with a new rank and file that want to reduce government spending, the defense budget is officially on the chopping block.

Defense Internals – $ing = Cuts – AT: GOP Blocks

GOP won’t raise taxes—would rather cut defense

Wasson & Bennett 6/30 (Erik & John, staff, The Hill, <http://thehill.com/homenews/house/169147-defense-cuts-appear-likely-as-pressure-grows-on-debt-deal>, accessed 6-30-11, CH)

Defense cuts proposed by the White House are unlikely to keep a debt-ceiling deal from passing Congress, sources say. As few as 30 House Republicans would likely consider voting against a debt-ceiling deal that cuts $300 billion from security spending, according to a GOP aide. The relatively small bloc of opposition to the level of defense cuts floated by the White House suggests the GOP’s traditional opposition to reducing military spending has taken a backseat to warding off tax increases. “Robust defense spending and lower taxes have been two hallmarks of the Republican Party for years,” one former GOP House staffer said. “And those two things are going to be in direct competition with one another” in the debt talks. Given a choice between lopping funding for the military and increasing taxes — two options for reducing the deficit long seen as anathema to the party — most House Republicans seem ready to pull the lever against the Pentagon, if the cuts are in the White House range.

Republicans opinion has shifted—will sacrifice defense budget if necessary

Montgomery & Kane 6/26 (Lori& Paul, reporters, Washington Post, <http://www.washingtonpost.com/business/economy/gop-compromise-on-debt-cut-military-spending/2011/06/25/AGPrGBmH_story.html>, accessed 6-30-11, CH)

In listening sessions with their rank and file, House Republican leaders said they have found a surprising willingness to consider defense cuts that would have been unthinkable five years ago, when they last controlled the House. While the sessions have sparked heated debate on many issues, Rep. Peter Roskam (Ill.), the deputy GOP whip, said there are few lawmakers left who view the Pentagon budget as sacrosanct. “When we say everything is on the table, that’s what we mean,” said House Majority Whip Kevin McCarthy (R-Calif.), the No. 3 leader who has been hosting the listening sessions in his Capitol offices.

D**efense** Internals – F-35s

**F-35s are being eyed for cuts**

WITN 9 (News Site, 3/13/9, http://www.witn.com/military/headlines/41199997.html) JPG

Hungry budget cutters are eyeing some tasty targets at the Pentagon. Specifically: two of the largest weapons contracts ever awarded by the Pentagon. The Joint Strike Fighter program is building 2,500 high-tech warplanes and could cost more than $1 trillion. The program would build F-35s, which are the same jets the Navy is considering placing at Marine Corps Air Station Cherry Point in Havelock. The Navy has said it could put as many as eleven F-35 squadrons at Cherry Point, while other squadrons would go to the base in Beaufort, S.C. New squadrons of fighter jets would bring a significant economic impact to any military base and surrounding town. The Government Accountability Office, in a report Thursday, says costs for the Joint Strike Fighter Program and the Army's Future Combat Systems are likely to balloon because the technology is not fully proven. The Army's vision of high-tech, interconnected battlefield equipment has a $158-billion pricetag. The military is under pressure to cut costs as the government devotes trillions of dollars toward righting the economy. The Obama administration has promised a rigorous review of weapons programs with a view toward making sure their technology is proven before they go into production.

F-35s are at the top of the chopping block

Goozner 2/10 (Merrill, independent author, former journalism prof @ NYU, http://gooznews.com/?p=2474) JPG

Critics ranging from the president’s bipartisan fiscal commission to former military officers to a coalition of liberal and conservative groups backing steep Defense Department cuts have put the F-35 at the top of their list of Pentagon programs that could be scaled back or eliminated without damaging national security. The Fiscal Commission, for instance, called for cutting the program in half. Their report suggested the fighter fleet could remain at its current size by extending production of modernized F-16, F-18 and A-10 jets, which would save $9.5 billion over the next five years. “The unit cost of F-35 aircraft is estimated at about $133 million compared to $40 million for an F-16 and $80 million for an F-18,” the fiscal commission report said. “The U.S. Air Force and the U.S. Navy, the military’s current fourth-generation fighters – the F-15, the F-16, and the F-18 – are superior to Chinese and Russian aircraft, and they are less expensive than the F-35,” noted Gordon Adams and Matthew Leatherman in an article in the latest Foreign Affairs.

F-35s are low-hanging fruit – Pentagon’s giant wishlist forces trade-offs

Newsweek 10 (11/13/10, http://www.newsweek.com/2010/11/13/the-air-force-s-war-toy-wish.html) JPG

As Lockheed Martin’s Marietta, Ga., plant prepares to begin building the 187th—and last—F-22 super-fighter, the military is already dreaming of its successor. In a query to the aerospace industry earlier this month, the Air Force laid out its wish list, and it wants everything: a plane that can win dogfights, demolish air-defense missile networks, support ground troops, and run surveillance missions; a partial prototype would be ready by 2020, with entry into service by 2030. This may be wishful thinking, given the saga of the current wondercraft, the F-35 Joint Strike Fighter. With a development and production price tag of more than $380 billion, the F-35 is the costliest acquisition program in Pentagon history. Different versions are being developed for the Air Force, Navy, and Marines. But the plane is bedeviled by technical problems, ever-rising costs, and slipping schedules, with the Marines’ incarnation presenting the toughest challenges. Last week the co-chairmen of President Obama’s deficit-reduction commission proposed gutting the program. On Nov. 22, a Pentagon review board is scheduled to take a hard look at it.

**Defense** Internals – F-35s

**Obama’s looking to slash F-35s – kills the entire program**

Reed 10 (Jon, writer @ DefenseTech.org, http://defensetech.org/2010/11/11/proposed-f-35-cuts-could-put-program-at-risk/) JPG

Late yesterday afternoon, news broke that a presidentially-mandated panel is recommending the military slash numerous big-ticket weapons programs, including the F-35 Lightning II Joint Strike Fighter, as part of an overall proposal aimed at dramatically reining-in government costs. The panel calls for the Air Force and Navy to half their planned F-35A and C-model buys through 2015 and for the Marines to completely lose their short takeoff and vertical landing F-35B. The greatly reduced numbers of JSFs would be supplemented by purchase of “new” F-16s for the Air Force and F/A-18EF Super Hornet buys for the Navy. These recommendations fly in the face of all the planning done by the Air Force officials in recent years who have put all their eggs in the F-35 basket and refused to consider buying new versions of F-16s or F-15s. Navy officials seem to have hedged their bets a little by recently buying an mix of 124 F/A-18E/F Super Hornets and EA-18G Growlers to offset a looming fighter gap. Obviously, the Marines would be in the toughest spot if the recommendations become reality with their aging fleet of F/A-18 Hornets, AV-8B Harriers and EA-6B Prowlers that are all supposed to be replaced by the F-35B. All of this begs the question; if (and it’s a big, big if) these cuts are approved by decision-makers will they throw the F-35 into the death spiral that program-watchers have warned about for years? Reduced buys mean cost hikes which in-turn lead to more reduced buys from international partners, etc.Teal Group Aviation analyst Richard Aboulafia sees all of this as a “seriously worst-case scenario, but it’s a dire prospect.”If this nightmare scenario for the F-35 does come to fruition, the fate of the program could indeed hang on the international partners’ resolve to stick with it, according to the analyst. “If it went ahead (I doubt it, but you can’t write off the possibility) then much would come down to the international partners,” Aboulafia said. “If they kept the faith, the program could keep costs from skyrocketing, and avoid a death spiral. If they don’t, the program would definitely be at risk. However, eliminating the B version would also save development and production costs, and probably keep the program from following the F-22 death spiral model.”

F-35 on the chopping block

Fenholz 11 (Tim, staff, National Journal, 2/3, <http://www.nationaljournal.com/house-gop-calls-for-cuts-in-security-spending-20110203?print=true>, accessed 7-1-11, CH)

House Republicans are proposing to slash $74 billion in discretionary spending this year, and have included a surprise cut of $16 billion for defense and other security programs. House Budget Committee Chairman Paul Ryan, R-Wis., is expected to file a budget resolution Tuesday using unilateral powers granted to him by new House rules. Under those rules, his overall budget numbers will amount to marching orders for the House Appropriations Committee, which will have to decide on the specific cuts. Because House appropriators have the authority to set specific limits for all categories of discretionary spending, they could choose to ignore Ryan's call to allocate some of the cuts to security programs. Alternatively, the security cuts could simply hit programs that Defense Secretary Roberts Gates has already targeted for cancellation, such as the Marine Corps' Expeditionary Fighting Vehicle produced by General Dynamics and the Army's surface-launched advanced medium-range air-to-air missile developed by Raytheon. Gates has also put the Marine Corps' troubled version of the F-35 Joint Strike Fighter, a Lockheed Martin program, on a two-year probation that free up cash this fiscal year. Overall, the proposed cuts would be the largest one-year reductions in decades. But they fall short of the House Republicans' campaign promise to roll back non-security discretionary spending to 2008 levels, or the $100 billion in cuts for this year alone. Indeed, the proposed cuts are smaller than they first appear, because they are based on President Obama's budget proposal for 2011 -- which was never enacted. Compared with 2010, the proposal would cut total discretionary spending by only $35 billion.

F-35 is affordable – but austere budgets will force trade-offs

Defense Daily 11 (5/20/11, “Senators Want To Study Alternatives To F-35”, lexis/nexis) JPG

McCain added he sees the F-35 program as being at a "watershed moment," where officials must prove the aircraft can be delivered on time and budget because of the "austere defense budgets for as far as the eye can see." Carter maintained that the Pentagon "didn't come up with any better alternatives to the Joint Strike Fighter" during a so-called Nunn-McCurdy review triggered by an F-35 cost breach. "We want it," he said. "At the same time, it has to be affordable, and at the moment in its projections it's not. I think we're determined to make it affordable, and those who are performing the work for us share in that objective.” The Pentagon now estimates the average cost per aircraft is $95 million in fiscal year 2002 dollars, up from an estimate last year of $80 million derived by the F-35 program office, according to Christine Fox, director of the Pentagon's Cost Assessment and Program Evaluation (CAPE) office. The CAPE last year estimated the $95 million cost, in FY '02 dollars, but had to analyze whether it's figure or the program office's estimate was most accurate. That current per-unit F-35 cost, adjusted for inflation, is $133 million in FY '11 dollars.

**Defense** Internals – F-35s

Deficits mean all agencies will face cuts, but degree uncertain for NASA and DoD

Altman 11 (George, staff, Washington Bureau, 3/6, <http://blog.al.com/huntsville-times-business/2011/03/post_35.html>, accessed 7-1-11, CH)

WASHINGTON - Faced with a more than $1-trillion budget gap, a new, frugal Congress is contemplating cuts that were once inconceivable. Officials have proposed slashing federal assistance for home heating oil as energy prices rise, reducing Pell Grant money that helps send students to college, even overhauling Social Security, long known as the untouchable "third rail" of American politics. If the federal government can't pay as much to fuel poor Americans' furnaces, can it afford to fuel rockets to Mars? Cutting-edge military research at Redstone Arsenal? The Huntsville economy? The answer, as many of Alabama's elected officials see it, is yes. Everyone's budgets will be cut to some degree, space and defense included, they say. But the high-tech, high-flying federal programs that Huntsville has built a reputation around are essential to vital U.S. interests. Washington not only can, but must, pay for such endeavors if America is to maintain its status as the premier global superpower, they say. Rep. Mo Brooks, R-Huntsville, said he thinks that Washington's power brokers recognize Huntsville as a "technological jewel." "They understand how important what we've done is to our war-fighting capability, and with respect to NASA, our technological achievements. By and large, there's great admiration," Brooks said, during an interview in his congressional office. But analysts from Washington-area think tanks say the view of Huntsville from Capitol Hill, and the fate of its federal programs, may not be so clear. "They're going to cut some," John Pike, founder of the national security analysis website GlobalSecurity.org, said regarding coming defense budgets. "It's just a question of whether they are going to be cosmetic cuts, or whether they're going to take the meat cleaver." Pike said he has "no idea" what Congress may have in store for NASA's funding.

Specifically, F-35s are going to be cut

Capaccio and Gienger 6/29 (Tony and Viola, writers @ Bloomberg, http://www.bloomberg.com/news/2011-06-29/lockheed-s-f-35-strike-fighter-may-face-cuts-in-budget-review-gates-says.html) JPG

Lockheed Martin Corp. (LMT)’s F-35 fighter program might be cut back as part of the Pentagon’s new budget review, even as there is a strong need for the program, departing U.S. Defense Secretary Robert Gates said today. “The issue will be less ‘whether’ we go forward with the plane than how many we ultimately buy,” Gates said during an interview with Bloomberg News on his last full day at the Pentagon. Asked if the Pentagon’s costliest weapons program was endangered because of deficit reduction pressures, Gates said, “potentially, one of the issues could be the size of the buy.” “Obviously, if you reduce that, the price per airplane is going to go up. People have to bear that in mind. But, there is no question in my mind we have to have the airplane if we are looking out 10, 20, 30 years,” he said. The Pentagon currently plans to spend $382 billion to buy 2,457 of the stealth jets in different versions for the Navy, Air Force and Marine Corps. The F-35 will be assessed as part of the Pentagon review of how to reach President Barack Obama’s goal to reduce military spending by $400 billion through 2023. Gates in the interview said the review was his idea.

More ev

Povich 5/4 (Elaine, writer @ The Fiscal Times,

http://www.thefiscaltimes.com/Articles/2011/05/04/Defense-Spending-Still-on-the-Chopping-Block.aspx) JPG

However, Singer noted that the programs and operations in line for cuts are more in the area of procurement – such as the elimination of a second engine for the F-35 second engine, endorsed by the Pentagon – and spending on the wars in Afghanistan, Iraq, and now Libya. Small anti-terror units such as the SEALS, which mounted the invasion of a compound in suburban Islamabad that took out bin Laden, are in a better budgetary position despite a report earlier this year that they would be targeted for cuts. Even before the bin Laden mission, commanders had expressed a desire to add several squadrons to Delta Force and the SEALS. “The programs being talked about for cuts tend to be the larger sized programs like major plane and ship programs,” Singer said. Senate Budget Committee Chairman Kent Conrad, D-N.D., while continuing to insist that defense spending has to decrease, noted that the budget for Special Forces like the SEALS was going up even before the successful bin Laden. "They have already seen very significant increases," he said.

Defense !—Heg

Defense cuts kill hegemony

Greenblatt 10 (Alan, writer @ NPR, 11/17/10, http://www.npr.org/2010/11/16/131360666/pentagon-s-budget-on-the-chopping-block) JPG

But the idea of cutting the military's budget at a time when the nation is fighting two wars — and faces an estimated $300 billion in health treatment costs alone over the next five years as a result — is being greeted with scorn and even disbelief in some quarters. Rep. Howard "Buck" McKeon of California, the incoming Republican chairman of the House Armed Services Committee, argued at a Washington forum on Monday that defense spending needs to go up, not down."A defense budget in decline portends an America in decline," McKeon said at the forum, sponsored by Foreign Policy Initiative, a conservative think tank. "It will undermine our ability to project power, strengthen our adversaries and weaken our alliances." McKeon cited the work of yet another top-level panel, created by Congress, which last summer concluded that the nation's military needs to spend more on equipment, expand the Navy and modernize its weaponry. "Let me put this in the simplest terms possible: Cutting defense spending amidst two wars is a red line for me and should be a red line for all Americans," McKeon said.

Defense !—F-35—Heg

The F-35 is key to increasing US military power

Cuttita 11(Chrissy, Elgin Air Force PA, 2/22, http://www.eglin.af.mil/news/story.asp?id=123243481)

As the 33rd Maintenance Group grows steadily in population, they are preparing the way for integrated training and maintenance of the Department of Defense's newest joint fighter - the F-35 Lightning II. "It is the logistics behind the aircraft that makes this jet go," said Col. Laura Sampsel, 33rd MXG commander. "When our team of professional maintainers develops the standard, we'll be able to positively affect policies and practices for all three services and bring logistical power to this country like we've never seen before. Our war fighters here are doing very difficult work right now to prepare for the most powerful weapons system this nation will employ."

F-35 key to military power

New York Times 10 ( 2/15, http://fightercountry.org/partnership/f-35-joint-strike-fighter-program-revitalized-by-robert-gates/71431

A cost-effective F-35 is critical to the future combat needs of the Air Force, Navy and Marines. The project already is years behind schedule and nearly 50 percent above its originally estimated cost. That is clearly too much, especially with the Pentagon planning to buy almost 2,500 of the planes over the next 25 years. That comes to a total cost of $300 billion — provided nothing else goes wrong. Mr. Gates means to see that it does not. This month, he removed the Marine in charge of the program, Maj. Gen. David Heinz, and said his replacement would be a higher-ranking officer with more authority to keep a tighter rein on private contractors’ performance. Reinforcing that message, Mr. Gates also announced that he would withhold, at least for now, $614 million in progress payments from the prime contractor, Lockheed Martin. The money should not be released until Lockheed has significantly improved its performance. This insistence on accountability would be considered normal in most private businesses. But it is virtually unheard of in the cozy world of military procurement. Mr. Gates clearly wants to get the attention of other Pentagon managers and contractors. We hope he has. The F-35 program was supposed to be the prototype for more effective defense procurement. Like the far more expensive F-22, the plane incorporates stealth technology and can successfully engage enemy fighters in air-to-air combat. But it also is built to support ground combat units in today’s wars, like the Air Force F-16 and A-10 and the Navy F-18 it is intended to replace. Mr. Gates will have to keep monitoring the performance of Lockheed Martin and General Heinz’s successor and personally intervene again if needed. The F-35 program is too necessary and budget dollars too scarce to permit further waste or delay.

F-35 key to maintain military dominance

Rush 11 (Ed, http://www.afterburnerclub.com/fighter-jets/f-35-is-a-white-elephant)

It seems to me that the media just likes to pick on military projects because it seems so wasteful when looking at the current world situation. What they don’t realize is that the military has to look 20 to 30 years into the future to see what they will need in order to maintain air, sea, and land superiority. Then they ask around to see if anyone has any ideas on how to develop these weapon systems. The F-35 is a huge long-term project that required the development of software, materials, and technologies that weren’t even around when the Joint Strike Fighter was first proposed. If anything, the existence of the J-20 should let the public know just how badly we need to develop projects like the F-22 and F-35.

The F-35 is critical to military power

Fosters Daily Democrat 10 (http://www.fosters.com/apps/pbcs.dll/article?AID=/20100529/GJNEWS\_01/705299929/-1/fosnews1416)

"The F-35 is critical to our national security and defense," said Shea-Porter spokeswoman Jamie Radice. "We will rely on the F-35 for 90% of our tactical air forces, and having only one engine is an unacceptable risk to our nation and to our pilots." The more than $300 billion F-35 program is regarded as the largest weapons program in history. It will replace nearly every American fighter jet now in operation. The U.S. partnered with several countries to buy more than 3,000 F-35s combined.

Defense !—F-35—Heg

**F-35 key to US military might and allied credibility**

Ivey 11 ( Kay, Lieutenant Governor of Alabama, May, http://ltgov.alabama.gov/PR/PressRelease.aspx?ID=5143&t=28)

Wilbur Wright once said, “It is possible to fly without motors, but not without knowledge and skill.” Recognizing education was essential to success, the Wright brothers founded the first flight school in the United States on the grounds of what would one day become Maxwell Air Force Base. Those early investments resonate today, as many Alabama higher education institutions carry on that same tradition of excellence with the next generation of pilots, engineers and astronauts. But the ability for tomorrow’s graduates to use the knowledge and skill they cultivate from these highly-specialized programs means they have to have jobs in which to use them. That’s why supporting multi-service programs such as the F-35 joint strike fighter are essential. The F-35 program is essential to our national defense needs and the needs of our allies. China, Russia and other countries continue to invest in developing planes with cutting edge technology. If we don’t make the same investments, we will fall behind. The F-35 is required to be four times more effective than older fighter jets in air-to-air combat, eight times more effective in air-to-ground combat, and three times more effective in reconnaissance and suppression of air defenses – while having better range and requiring less logistics support. In light of the increase in the number of issues we are facing in the Middle East and places like Libya, America’s ability to retain its air superiority edge is essential to the security of US and allies forces all over the world.

The F-35 is key for the Navy’s air capabilities

Garamone 10 ( Jim, American Forces Press Service, 5/25,

The Navy has had the F-35C on its horizon for more than a decade, the admiral said. In that time, the FA-18’s capabilities have grown, with the latest aircraft – the E, F and G models – reaching the fourth-generation airframe’s limits. “We need to move into the F-35C to realize our vision of tactical air coming off of carriers,” he said. The joint strike fighter brings stealth capabilities, advanced sensor and data fusion, and a systems approach to warfighting, Manazir said. “We’re completely committed to the F-35C,” he added, noting that staying with the Super Hornet would put the United States at a disadvantage against a near-peer competitor.

F-35 key to military advancement, despite going over budget

Gertler 11( Jermiah, Specialist in Military aviation, 4/26, F-35 Joint Strike Fighter (JSF) Program:

Background and Issues for Congress, pg. 1)

The largest procurement program in the Department of Defense (DOD), the F-35 Joint Strike Fighter (JSF), also called the Lightning II, is a new aircraft being procured in different versions for the United States Air Force, Marine Corps, and Navy. Current DOD plans call for acquiring a total of 2,456 JSFs. Hundreds of additional F-35s are expected to be purchased by several U.S. allies, eight of which are cost-sharing partners in the program. The F-35 promises significant advances in military capability. Like many high-technology programs before it, reaching that capability has put the program above its original budget and behind the planned schedule.

F-35 key to U.S. military and allies

Schanz 10 (Marc V, Senior Editor @ Airforce Magazine, Aug, http://www.airforce-magazine.com/MagazineArchive/Pages/2010/August%202010/0810endgame.aspx)

Big fighter program has been revamped for success. That’s good, because the US is running out of alternatives. The next year shapes up as a critical period for the F-35 Lightning II. The fighter forces of the Air Force, Navy, Marine Corps, and some allied services hinge on its success. After a rash of problems, the US has imposed serious reforms, and the months just ahead will tell whether the get-well program is working.

Defense !—F-35—Air Power

F-35 key to military’s air capabilities

McFeatters 10 (Dale, Staff @ the Herald Sun, February, http://heraldsun.net/pages/full\_story/push?article-Gates+slams+shut+defense+ills%20&id=5783834)

And he also said he was withholding $614 million in performance bonuses from contractor Lockheed Martin. "The taxpayer should not have to bear the entire burden of getting the JSF program back on track," Gates said. To paraphrase another administration official, that's change we can believe in. Earlier this year, he relieved Gen. David McKiernan, the U.S. commander in Afghanistan, over a difference in war-fighting philosophy. He fired the secretary of the Air Force and the Air Force chief of staff when a B-52 flew cross-country accidentally loaded with nuclear missiles on their watch. And he fired the secretary of the Army and the director of Walter Reed Army Medical Center for poor treatment of outpatient soldiers at the hospital. With the cancellation of the F-22, the F-35 is critical to the military's air-war capabilities, and certainly we're paying enough for it: $11.4 billion in the president's new budget, including $8.4 billion to buy 43 F-35s.

U.S. will rely on F-35 for 90% of the air force

Claffey 10 (Jason, Editor @ Fosters, 5/29, http://www.fosters.com/apps/pbcs.dll/article?AID=/20100529/GJNEWS\_01/705299929/-1/fosnews1416)

The F-35 is critical to our national security and defense," said Shea-Porter spokeswoman Jamie Radice. "We will rely on the F-35 for 90% of our tactical air forces, and having only one engine is an unacceptable risk to our nation and to our pilots." The more than $300 billion F-35 program is regarded as the largest weapons program in history. It will replace nearly every American fighter jet now in operation. The U.S. partnered with several countries to buy more than 3,000 F-35s combined.

F-35 is key to invest in for American aircraft.

Bartlett 11 (Roscoe, Chairman of the Subcommittee on Tactical Air and Land Forces, 2/14, http://bartlett.house.gov/News/DocumentPrint.aspx?DocumentID=225080)

I don’t believe the President’s proposal which would increase our $14 trillion debt by an additional $8 trillion comes close to what needs to be done to get our federal government budget under control. However, for one program, the Joint Strike Fighter F-35 Alternate Engine, the President’s budget is penny wise and pound foolish. “I have reviewed the arguments for and against the F-35 Alternate Engine for the Joint Strike Fighter in extensive hearings and briefings by the House Armed Services Committee. I can assure you that the Defense Department’s own data\* provides the proof that Congress must continue to approve the Alternate Engine for the Joint Strike Fighter that was part of the original plan for the F-35. Continuing the engine competition for the F-35 is crucial for our national security and that of our allies. “The current plan calls for the F-35 to be 95 percent of all of America’s fighting aircraft. The original engine awarded under a noncompetitive contract is $3.4 billion over budget and far behind schedule. Competition always produces better, cheaper products. GAO has advised Congress that a competitive alternate engine program could save money over the life of the program. The alternate engine program for the F-16 fighter saved 21%. Right now, we have many different fighter aircraft that can be called upon in the event engine failure requires us to ground one type. If in the future, 95% of our fighters are F-35’s they should be powered by more than one engine to prevent a simultaneous grounding of nearly all of our fighter fleet due to engine problems. Yet, the Department of Defense is asking Congress to approve a monopoly contract for $110 billion for thousands of engines for the F-35 for decades into the future.

F-35 key to US air dominance

Cooper 11 (Elise, Political Analyst, 3/14, http://www.frumforum.com/support-builds-for-americas-next-gen-fighter)

There are three versions of the aircraft. While all F-35s are stealth fighters, the F-35A will be used by the Air Force with a conventional takeoff and landing capability. The F-35B will be used by the Marines with a short takeoff/vertical landing capability. The F-35C will be used by the Navy with catapult launch and arrested recovery capabilities. Presently, there are eight international partners with each one contributing varying amounts to the development phase, the cost of the program, and a commitment to purchase a certain number of the aircraft. All interviewed believe that the F-35 is necessary for America to maintain its air superiority. This high end stealth aircraft replaces several less effective, aging planes flown by three branches: the Air Force, Navy, and Marines. Richard Myers, a four star Air Force General and former Chief of Staff, explained that the F-35 will allow the US and our allies to penetrate those defensive environments that have advanced fighter and missile defense systems. This aircraft has the ability to penetrate and deliver weapons on targets in the face of sophisticated enemy defenses. I definitely support this plane.

Defense !—F-35—Air Power

F-35’s are the key to US air power

Air Force Magazine 9(http://www.airforce-magazine.com/MagazineArchive/Pages/2009/July%202009/0709Fighter.aspx)

In the once-crowded field of manned combat aircraft, the F-35 Lightning II fighter now has become the only game in town. Secretary of Defense Robert M. Gates, with his April 6 budget cut recommendations, terminated further production of the USAF F-22 fighter, began winding down the Navy’s F/A-18 carrier-based fighter, and postponed the next generation bomber, which was supposed to enter service in 2018. That leaves only the F-35 as a full-fledged manned air program. Gates has heaped on the aircraft the burden of providing most of the capability and credibility of American airpower for decades to come.

The F-35 is the best plane ever

Lockheed Martin 9 (http://www.lockheedmartin.com/aero-india/aero-india-F-35.pdf)

All-aspect advanced stealth enables the F-35 to dramatically reduce the detection and engagement ranges of enemy defense systems or aircraft. Very low-observable (VLO) stealth cannot be added on – it must be designed in from the outset. The F-35’s shape, embedded antennas, aligned edges, internal weapons and fuel, and special coatings and materials all contribute to its VLO stealth capability. The F-35 excels in all air-to-surface and air-to-air combat missions while operating around the clock in any threat environment. The unmatched situational awareness of the F-35, along with extreme agility, acceleration and stealth, provides an asymmetrical advantage over all adversary aircraft. Unrivaled Situational Awareness The F-35 features the most powerful and comprehensive integrated sensor package of any fighter aircraft in history. Its next-generation avionics and sensor fusion give the pilot real-time access to battlefield information with spherical coverage and an unparalleled ability to dominate the tactical environment. Joint Force Multiplier and Enabler Embedded, network-enabled capability allows distribution of fused information to enhance and enable other platforms. Information gathered by F-35 sensors can be immediately shared with commanders at sea, in the air or on the ground, providing an instantaneous, high-fidelity view of ongoing operations.

Defense !—F-35—Air Power – Heg

**Air power is critical to US military power**

Melinger 3 (Phillip, US Air Force Col. (ret.), Ph.D in military history, “The air and space nation is in peril,” http://www.airpower.maxwell.af.mil/airchronicles/apj/apj03/spr03/vorspr03.html)

Just as the Royal Navy defended British economic strength over a century ago, so do our air forces protect our economic security. This is especially true because military strategy has evolved so dramatically over the past decade. The basic factors that shaped our geopolitical environment during the Cold War era have changed. The Soviet threat is gone, but other threats and other commitments remain. In fact, US military deployments have increased fourfold while the size of our military has shrunk by 40 percent. The character of these engagements has also altered. It is ever more essential that the United States maintain strong public support for its actions. This in turn means we must be extremely careful about both inflicting and sustaining casualties. Our military campaigns from the Persian Gulf War to Afghanistan have been marked by remarkably low losses, and the increasing use of precision weapons has limited civilian casualties and collateral damage, essential to maintaining worldwide public support. It is obvious, however, that if such sterilized warfare is our goal, then certain types of strategies, tactics, and weapons are more desirable than others. Precision or nonlethal weapons delivered by air platforms- ideally either unmanned, unseen, or flying beyond the range of enemy fire- are the instruments of choice. To be sure, the process of identifying, tracking, and destroying mobile targets- tanks, trucks, and terrorists- remains one of our most difficult challenges, but this problem is being addressed through the use of a combination of space-, air-, and land-based sensors tied to strike aircraft by satellite. It would be foolish for our leaders to think that air and space power could be effective in any crisis, but it has now become their weapon of first resort. The American people intuitively realize this: recent Gallup Polls reveal that 42 percent of those surveyed believe the Air Force is the most crucial arm of our national defense, and a like number believe it should be built up to a greater extent than the other services. Just as our commercial air fleet is the largest and most modern in the world, so too is our military airpower. Our superiority is even greater than a comparison of the number of US military aircraft to the totals of other leading countries would indicate (fig. 4). Although China has a large supply of aircraft, most are obsolescent, including over 4,500 Vietnam-era MiG-17s, -19s, and -21s. Certainly, quantity has its own quality, but most of the Chinese air force would stand little chance against a frontline adversary. Similarly, Russia’s air force has atrophied dramatically over the past decade. Once the pride of the Soviet state, much of this vaunted air force now sits unused. Examining the types of military aircraft comprising the world’s air forces is also revealing. The majority of combat aircraft worldwide consists of short-range fighter-bombers, such as the F-16, Mirage 2000, and MiG-21. The United States has nearly 4,000 such aircraft but has far more capability than that. Our airlift and aerial-tanker fleets allow us to project power anywhere in the world on short notice. The United States possesses the vast majority of the world’s large military cargo aircraft, such as the C-17 and C-5, while also having four times more tankers than the rest of the world combined. Tankers turn our tactical fighters into strategic bombers. No other nation has such an impressive capability to project power and influence. China, for example, has fewer than 50 modern cargo aircraft and virtually no aerial-refueling capability. Our dominance in space is equally compelling. At present, approximately 550 operational satellites are in orbit. Nearly half of those were launched by the United States, and approximately 100 of them have military missions. In addition, the Global Positioning System’s constellation of 28 satellites provides precise geographical data to users all over the world. In contrast, Russia now has only 90 operational spacecraft, and much of its space infrastructure- its missile-launch detection system, for example- is moribund. Although China can be expected to become a space competitor- it is currently working on an antisatellite system- it has launched an average of fewer than four satellites per year over the past decade. Within the US military services, one finds an increasing reliance and emphasis on air and space power. According to an old saying, if you want to know what’s important, follow the money. In the American military, that trail is clear. The backbone of the Navy is the aircraft carrier, which costs over $5 billion each (without its aircraft and support ships), and the Navy spends nearly as much on aircraft each year as does the Air Force. The top funding priority of the Marine Corps is the tilt-rotor V-22 cargo plane, which will cost $85 million apiece. The Army has major production and modernization programs for Comanche, Apache, and Black Hawk helicopters that will total $70 billion. Indeed, over the past decade, the Army has spent more on aircraft and missiles than it has on tracked combat vehicles. In sum, over 60 percent of the US defense budget is devoted to air and space forces. In fact, a comparison of our four air arms with those of the rest of the world shows that each individually is greater than the military air assets of most major countries (fig. 5). The qualitative superiority of American aircraft makes our air and space dominance even more profound. The reason for this emphasis on air and space power among our soldiers, sailors, and marines is their realization that military operations have little likelihood of success without it. It has become the American way of war. Indeed, the major disagreements that occur among the services today generally concern the control and purpose of air and space assets. All of them covet those assets, but their differing views on the nature of war shape how they should be employed. Thus, we have debates regarding the authority of the joint force air component commander, the role of the corps commander in the deep battle, the question of which service should command space, and the question of whether the air or ground commander should control attack helicopters. All the services trumpet the importance of joint operations, and air and space power increasingly has become our primary joint weapon. Air and space dominance also provides our civilian leadership with flexibility. Although intelligence is never perfect, our leaders now have unprecedented information regarding what military actions can or cannot accomplish and how much risk is involved in a given action. For example, our leaders understood far better than ever before how many aircraft and weapons would be needed over Serbia and Afghanistan to produce a specified military effect, weapon accuracy, collateral damage that might occur, and risk to our aircrews. This allowed our leaders to fine-tune the air campaign, providing more rapid and effective control than previously.

Defense !—F-35—Air Power – Heg

Air power is critical to deter and win conflicts in Asia and the Middle east

Khalilzad and Lesser 98 (Zalmay and Ian, Senior Analysts At RAND, Sources of Conflict in the 21st Century, http://www.rand.org/publications/MR/MR897/MR897.chap3.pdf)

REGIONAL CONCLUSIONS AND IMPLICATIONS FOR THE UNITED STATES AIR FORCE This subsection attempts to synthesize some of the key operational implications distilled from the analyses relating to the rise of Asia and the potential for conflict in each of its constituent regions. The first key implication derived from the analysis of trends in Asia suggests that American air and space power will continue to remain critical for conventional and unconventional deterrence in Asia. This argument is justified by the fact that several subregions of the continent still harbor the potential for full-scale conventional war. This potential is most conspicuous on the Korean peninsula and, to a lesser degree, in South Asia, the Persian Gulf, and the South China Sea. In some of these areas, such as Korea and the Persian Gulf, the United States has clear treaty obligations and, therefore, has preplanned the use of air power should contingencies arise. U.S. Air Force assets could also be called upon for operations in some of these other areas. In almost all these cases, U.S. air power would be at the forefront of an American politico-military response because (a) of the vast distances on the Asian continent; (b) the diverse range of operational platforms available to the U.S. Air Force, a capability unmatched by any other country or service; (c) the possible unavailability of naval assets in close proximity, particularly in the context of surprise contingencies; and (d) the heavy payload that can be carried by U.S. Air Force platforms. These platforms can exploit speed, reach, and high operating tempos to sustain continual operations until the political objectives are secured. The entire range of warfighting capability—fighters, bombers, electronic warfare (EW), suppression of enemy air defense (SEAD), combat support platforms such as AWACS and J-STARS, and tankers—are relevant in the Asia-Pacific region, because many of the regional contingencies will involve armed operations against large, fairly modern, conventional forces, most of which are built around large land armies, as is the case in Korea, China-Taiwan, India-Pakistan, and the Persian Gulf.In addition to conventional combat, the demands of unconventional deterrence will increasingly confront the U.S. Air Force in Asia. The Korean peninsula, China, and the Indian subcontinent are already arenas of WMD proliferation. While emergent nuclear capabilities continue to receive the most public attention, chemical and biological warfare threats will progressively become future problems. The delivery systems in the region are increasing in range and diversity. China already targets the continental United States with ballistic missiles. North Korea can threaten northeast Asia with existing Scud-class theater ballistic missiles. India will acquire the capability to produce ICBM-class delivery vehicles, and both China and India will acquire long-range cruise missiles during the time frames examined in this report. The second key implication derived from the analysis of trends in Asia suggests that air and space power will function as a vital rapid reaction force in a breaking crisis. Current guidance tasks the Air Force to prepare for two major regional conflicts that could break out in the Persian Gulf and on the Korean peninsula. In other areas of Asia, however, such as the Indian subcontinent, the South China Sea, Southeast Asia, and Myanmar, the United States has no treaty obligations requiring it to commit the use of its military forces. But as past experience has shown, American policymakers have regularly displayed the disconcerting habit of discovering strategic interests in parts of the world previously neglected after conflicts have already broken out. Mindful of this trend, it would behoove U.S. Air Force planners to prudently plan for regional contingencies in nontraditional areas of interest, because naval and air power will of necessity be the primary instruments constituting the American response.

Defense !—F-35—Air Power – Heg

Air dominance key to heg

Melinger`3 (Phillip, US Air Force Col. (ret.), Ph.D in military history, “The air and space nation is in peril,” http://www.airpower.maxwell.af.mil/airchronicles/apj/apj03/spr03/vorspr03.html)

This is a good news, bad news story. The United States is the world’s first and only air and space nation. That fact is evidenced in our dominance of air and space technology and infrastructure, as well as in the future visions shared by our political, economic, military, and cultural leaders. This domination has important implications for our national security. Unfortunately, many Americans have come to view air and space dominance as their birthright. It is not, and troubles are brewing, so we must take steps now to ensure our dominance in the future. Americans have always looked to technology to ease their problems, so they took naturally and quickly to air and space power- the epitome of advanced technology. America was the birthplace of aviation, and it is now difficult to imagine life without our television satellites, cell phones, Internet, and air travel. Indeed, US airline-passenger traffic has tripled over the past 25 years (fig. 1). Speed is the engine of commerce and economic growth. Rapid means of transportation have been essential for nations seeking economic dominance. The rise of Britain in the eighteenth century was based on global trade carried by its large merchant fleet, which in turn was protected by the Royal Navy, the world’s largest and most powerful. By the beginning of the twentieth century, the United States was also a maritime power, possessing a sizeable merchant fleet and navy. As the twentieth century progressed, however, speed became synonymous with aircraft, and expanding American aviation began to push out the ship. Over the past 40 years, the growth of the US airline industry has been dramatic, in contrast to the decline of our shipping industry. Since 1960 the number of airliners has quadrupled (and aircraft have more than doubled in size), while the size of the US merchant fleet has dropped 84 percent, a mere 2 percent of the world’s total (fig. 2). In addition, airport expansion is under way at many airports because airline-passenger travel is expected to double over the next decade. As for cargo, 95 percent of the world’s air-cargo capacity resides in Boeing airframes, and the value of goods shipped is telling. In 1997 the average pound of cargo traveling by boat was worth seven cents; by rail it was 10 cents, but by air it was $25.59. When Americans have something important and valuable to ship and it needs to get there quickly, they send it by air. Air and space trade has significantly increased over the past several decades. In 1999 America’s air and space industry contributed $259 billion to the nation’s economy. The black ink in the air and space balance of trade rose to over $32 billion in 2000, making it the largest net exporter in the US economy (fig. 3). At the same time, the *overall* US trade balance has been negative for 27 of the past 30 years, and the deficit now exceeds $250 billion annually. Given these statistics, it is apparent that the United States has now become an air and space nation- indeed, the air and space nation.

Air power key to US military dominance

Meilinger 3 (Colonel Phillip S. Meilinger, USAF, “The Air and Space Power Nation is in Peril” Air and Space Power Journal Spring 2003. http://findarticles.com/p/articles/mi\_m0NXL/is\_1\_17/ai\_100727610/pg\_1?tag=artBody;col1)

Within the US military services, one finds an increasing reliance and emphasis on air and space power. According to an old saying, if you want to know what's important, follow the money. In the American military, that trail is clear. The backbone of the Navy is the aircraft carrier, which costs over $5 billion each (without its aircraft and support ships), and the Navy spends nearly as much on aircraft each year as does the Air Force. The top funding priority of the Marine Corps is the tilt-rotor V-22 cargo plane, which will cost $85 million apiece. The Army has major production and modernization programs for Comanche, Apache, and Black Hawk helicopters that will total $70 billion. Indeed, over the past decade, the Army has spent more on aircraft and missiles than it has on tracked combat vehicles. In sum, over 60 percent of the US defense budget is devoted to air and space forces. In fact, a comparison of our four air arms with those of the rest of the world shows that each individually is greater than the military air assets of most major countries (fig. 5). The qualitative superiority of American aircraft makes our air and space dominance even more profound. The reason for this emphasis on air and space power among our soldiers, sailors, and marines is their realization that military operations have little likelihood of success without it. It has become the American way of war. Indeed, the major disagreements that occur among the services today generally concern the control and purpose of air and space assets. All of them covet those assets, but their differing views on the nature of war shape how they should be employed. Thus, we have debates regarding the authority of the joint force air component commander, the role of the corps commander in the deep battle, the question of which service should command space, and the question of whether the air or ground commander should control attack helicopters. All the services trumpet the importance ofjoint operations, and air and space power increasingly has become our primary joint weapon.

Defense !—F-35—Air Power – Heg

Air power is key to US military capabilities in Asia

Khalilzad and Lesser 98 (Zalmay and Ian, Senior Researchers – Rand, “Sources of Conflict in the 21st Century,” http://www.rand.org/publications/MR/MR897/MR897.chap3.pdf)

The first key implication derived from the analysis of trends in Asia suggests that **American air and space power will continue to remain critical for conventional and unconventional deterrence in Asia.** **This argument is justified by the fact that several subregions of the continent still harbor the potential for full-scale conventional war**. **This potential is most conspicuous on the Korean peninsula and**, to a lesser degree, **in South Asia, the Persian Gulf, and the South China Sea. In some of these areas, such as Korea and the Persian Gulf, the United States has clear treaty obligations and, therefore, has preplanned the use of air power should contingencies arise.** U.S. Air Force assets could also be called upon for operations in some of these other areas.**In almost all these cases, U.S. air power would be at the forefront of an American politico-military response because** (a) **of the vast distances on the Asian continent;** (b) **the diverse range of operational platforms available to the U.S. Air Force, a capability unmatched by any other country or service**; (c) **the possible unavailability of naval assets in close proximity, particularly in the context of surprise contingencies; and** (d) **the heavy payload that can be carried by U.S. Air Force platforms. These platforms can exploit speed, reach, and high operating tempos to sustain continual operations until the political objectives are secured**.**The entire range of warfighting capability**—fighters, bombers, electronic warfare (EW), suppression of enemy air defense (SEAD), combat support platforms such as AWACS and J-STARS, and tankers—**are relevant in the Asia-Pacific region, because many of the regional contingencies will involve armed operations against large, fairly modern, conventional forces,** **most of which are built around large land armies**, as is the case in Korea, China-Taiwan, India-Pakistan,and the Persian Gulf.

Air Power is key to military ground capabilities

Peck 7(General Allen G Peck, Air Force Institute of Technology, Airpower’s Crucial Role in Irregular Warfare, http://www.airpower.maxwell.af.mil/airchronicles/apj/apj07/sum07 /peck.html)

**Although the capabilities and effects that America’s airpower brings to the fight are not as visible to the casual observer as the maneuvers of ground forces, airpower** (including operations in the air, space, and cyberspace domains) **remains an invaluable enabler for those forces**. **Airpower can also serve as a powerful Irregular Warfare capability in its own right,** as it did early in Operation Enduring Freedom in Afghanistan. **No one should dismiss IW as falling strictly within the purview of ground or special operations forces. Understanding the IW environment and, in particular, airpower’s immense contributions is critical for America’s future Air Force leaders, who will prove instrumental in ensuring that the service continues adapting to an ever-changing enemy and bringing relevant capabilities to bear in an ever-changing fight.**

Defense !—F-35—Air Power – Heg

Air power key to US military power

Khalilzad and Shapiro 2 (Zalmay, United States Permanent Representative to the United Nations, Jeremy, RAND, Ph.D. candidate, Massachusetts Institute of Technology, M.A., Johns Hopkins University School of Advanced International Studies, “United State Air and Space Power in the 21st Century,”)

Aerospace power has become the archetypal expression of the U.S. ability to project force in the modern world. Throughout the world, U.S. aerospace power—and thus, the U.S. Air Force (USAF)—plays a critical, and often primary, role in securing U.S. interests, in promoting American values, and in protecting human rights. While the USAF has had significant success in employing aerospace power in the recent past, emerging trends in international relations, in technology, and in our own domestic society will create a wide variety of new challenges and new opportunities for U.S. aerospace power. Meeting these challenges and exploiting these opportunities will require careful planning, wise investments, and thoughtful training, as well as difficult cultural adaptations within the USAF. This book identifies many of these challenges and opportunities in a wide variety of issue areas and assesses the degree to which the USAF is prepared to meet them.

**Air Force transformation is key to operational dominance in the future**

Johnson`7 ((David E., Ph.D. and M.A. in history, Duke University; M.S., Industrial College of the Armed Forces; M.M.A.S., U.S. Army Command and General Staff College; B.A., Trinity University, RAND, “Learning Large Lessons: The Evolving Role of Ground Power and Air Power in the Post-Cold War Era,” EB, http://www.rand.org/pubs/monographs/2007/RAND\_MG405-1.sum.pdf)

Nevertheless, the effectiveness of air power at the operational level of war is clear. Also clear is that the United States must prepare for potentially sterner tests than it has faced since the end of the Cold War. It is also obvious that U.S. military transformation plans and programs to meet the challenges of the future must reflect the reality that U.S. air forces have repeatedly demonstrated the ability to dominate adversaries at the operational level of warfighting and the fact that Army deep attack systems—in the current inventory or that planned for the future—are not adequate to the task of shaping the large ground AOs called for in Army doctrine. Consequently, the task of shaping the theater— strategically and operationally—should be an air component function, and joint and service doctrines and programs should change accordingly. However, a clear transformation challenge for the United States remains: to ensure that air power can operate effectively against future, first-class opponents, who will undoubtedly pose significantly more formidable challenges to its employment than has been the case in the post–Cold War conflicts discussed in this study.

Defense !—F-35—Air Power – Terrorism

Air Power solves terrorism

**Peck`7** (Allen G Air Force Institute of Technology, Airpower's Crucial Role in Irregular Warfare, http://www.airpower.maxwell.af.mil/airchronicles/apj/apj07/sum07/peck.html)

In an IW environment, the traditionally recognized ability of airpower to strike at the adversary’s “strategic center of gravity” will likely have less relevance due to the decentralized and diffuse nature of the enemy.3 The amorphous mass of ideological movements opposing Western influence and values generally lacks a defined command structure that airpower can attack with predictable effects. Still, airpower hold)s a number of asymmetric trump cards (capabilities the enemy can neither meet with parity nor counter in kind). For instance, airpower’s ability to conduct precision strikes across the globe can play an important role in counterinsurgency operations. Numerous other advantages (including information and cyber operations; intelligence, surveillance, and reconnaissance [ISR]; and global mobility) have already proven just as important. These capabilities provide our fighting forces with highly asymmetric advantages in the IW environment. Innovation and adaptation are hallmarks of airpower. Cold War–era bombers, designed to carry nuclear weapons, can loiter for hours over the battlefield and deliver individual conventional weapons to within a few feet of specified coordinates. Fighter aircraft, designed to deliver precision weapons against hardened targets, can disseminate targeting-pod video directly to an Air Force joint terminal attack controller who can then direct a strike guided by either laser or the global positioning system (GPS). Unmanned systems such as the Predator, once solely a surveillance platform, now have effective laser designation and the capacity for precision, kinetic strike. Airborne platforms offer electronic protection to ground forces, including attacking insurgent communications and the electronics associated with triggering improvised explosive devices (IED). Exploiting altitude, speed, and range, airborne platforms can create these effects, unconstrained by terrain or artificial boundaries between units. Forward-thinking Airmen developed these innovations by using adaptive tactics, techniques, procedures, and equipment to counter a thinking, adaptive enemy. To be sure, our IW adversaries have their own asymmetric capabilities such as suicide bombers, IEDs, and the appropriation of civilian residences, mosques, and hospitals as staging areas for their combat operations. However, they lack and cannot effectively offset unfettered access to the high ground that superiority in air, space, and cyberspace provides.

Terrorism risks extinction

Alexander 3 (Yonah, Professor for Inter-University for Terrorism Studies http://www.washtimes.com/news/2003/aug/27/20030827-084256-8999r/)

Last week's brutal suicide bombings in Baghdad and Jerusalem have once again illustrated dramatically that the international community failed, thus far at least, to understand the magnitude and implications of the terrorist threats to the very survival of civilization itself. Even the United States and Israel have for decades tended to regard terrorism as a mere tactical nuisance or irritant rather than a critical strategic challenge to their national security concerns. It is not surprising, therefore, that on September 11, 2001, Americans were stunned by the unprecedented tragedy of 19 al Qaeda terrorists striking a devastating blow at the center of the nation's commercial and military powers. Likewise, Israel and its citizens, despite the collapse of the Oslo Agreements of 1993 and numerous acts of terrorism triggered by the second intifada that began almost three years ago, are still "shocked" by each suicide attack at a time of intensive diplomatic efforts to revive the moribund peace process through the now revoked cease-fire arrangements (hudna). Why are the United States and Israel, as well as scores of other countries affected by the universal nightmare of modern terrorism surprised by new terrorist "surprises"? There are many reasons, including misunderstanding of the manifold specific factors that contribute to terrorism's expansion, such as lack of a universal definition of terrorism, the religionization of politics, double standards of morality, weak punishment of terrorists, and the exploitation of the media by terrorist propaganda and psychological warfare. Unlike their historical counterparts, contemporary terrorists have introduced a new scale of violence in terms of conventional and unconventional threats and impact. The internationalization and brutalization of current and future terrorism make it clear we have entered an Age of Super Terrorism (e.g. biological, chemical, radiological, nuclear and cyber) with its serious implications concerning national, regional and global security concerns.

Defense !—F-35—Air Power—China

An effective Air Force is key to check China

Donnelly & Sullivan 8 (Thomas & Tim, a resident fellows at AEI, April 30, 2008 Wednesday   
AEI: NATIONAL SECURITY OUTLOOK APRIL 2008, States News Service, Lexis)

Responding to the rise of China as a global power with growing military strength presents an increasingly complex operational puzzle. The immediate focus is the balance of military power in maritime Northeast Asia--a problem set that engages not only naval and air power issues, but also space and cyberspace--but it is clear that the size of the potential "battlespace" will expand in fairly short order. Yet it is likely that, as the Fulda Gap defined the strategically and symbolically central front during the Cold War standoff with the Soviet Union, maritime Northeast Asia will occupy a central role in hedging against China's rise. This puts increasing demands on the ability of the United States to project elements of naval, air, and space power to the region, combining the problems of persistence and sustainment with those of lethality and firepower.

Chinese nuclear war risk growing in the short-term – High probability w/o U.S. attention

Epoch Times 5 (http://en.epochtimes.com/news/5-9-11/32195.html)

One of China’s most famous democracy advocates says that America has not paid enough attention to the threat of nuclear war with China. Wei Jingsheng, who spent 18 years in confinement in China, spoke at a forum on Chinese leader Hu Jintao at the National Press Club, sketching a disturbing picture of a powerful nation on the march to war. The forum consisted of China expert panelists giving their various perspectives on the underlying meaning behind the visit of Chinese leader Hu Jintao, who has been in power for the last two years. Wei stated that China needs the distraction of a war with Taiwan to turn attention away from the Chinese people’s frustration with rampant corruption and failed policies at home. Wei also stated that a number of factors allow them to consider traditional warfare against Taiwan and even nuclear warfare against the U.S. First, Russia, who China has often seen as an enemy, has offered a tacit agreement to China’s military plan, said Wei. He pointed out that “China has signed a treaty with Russia that basically says if China invades Taiwan, Russia will not support the U.S.”, that meant that they would defend Taiwan if the island came under attack. China also teamed up with Russia recently for joint military exercises on the Shandong Peninsula, an area fairly close to Taiwan, indicating both China’s intentions and Russia’s acceptance of those intentions. Wei said that China had also been considering nuclear war against the U.S. as a way to defeat America in the war. The Chinese Communist Party (CCP) is considering nuclear war, Wei said, because it is not afraid to sacrifice China’s people.

Defense !—F-35—Air Power—China

An improvement in Air Force readiness is key to deter China and preclude conflict over Taiwan

Mastro`7 (Oriana Skylar Mastro, Junior Fellow in the China Program at the Carnegie Endowment.States News Service, July 17, 2007 Tuesday CHINESE MILITARY MODERNIZATION AND TAIWAN'S SECURITY, Lexis)

Roger Cliff spoke last about his chapter The Implications of Chinese Military Modernization of U.S. Force Posture in a Taiwan Conflict. According to Cliff, U.S. force posture in the Asia-Pacific region may soon be inadequate to protect Taiwan against a Chinese use of force. Much of China's military hardware is inadequate by modern standards and these limitations are paralleled by challenges in China's intelligence, logistics, etc. However, geography works in China's favor, with its forces much closer to the Taiwan theater than are U.S. forces. Furthermore, China's defense industry, after years of backwardness, is starting to produce weapon systems that are comparable to similar systems coming out of the United States. China's economic growth also means that China will have increasingly more money to acquire and develop weapons systems. Because of these trends, the US needs to make a few changes in US force posture in the region. For example, the United States must follow through with currently planned enhancements to U.S. force posture in the region; must improve its capabilities to detect a surprise use of force; it must increase the readiness levels of air and naval forces in Hawaii and on the west coast of the United States so that they can be surged to the Western Pacific on short notice; the United States must ensure that its most capable new weapon systems are deployed first to the Pacific theater as they are fielded. Cliff closed with the comment that conflict in the Taiwan Strait is not inevitable, but as long as China reserves the right to use force, and the United States is committed to deterring this use of force, the United States needs to improve its force posture in the region. Michael D. Swaine explained the overall conclusions of the volume. On balance, this volume does not confirm the argument that the balance of power has shifted; instead, China still faces many daunting challenges to its military power, especially in terms of seizing Taiwan outright. China will not be able to maintain air superiority or a naval blockade in the foreseeable future. However, this volume reaffirms concern that China is acquiring new and large capabilities in some areas that are narrowing the gap in ways that could over time weaken deterrence and undermine the cross-strait military balance. This especially applies to area denial capabilities, missile forces, submarine forces, etc. Therefore, there is a need to assess how these capabilities apply to different contingencies and how the Chinese leadership believes these capabilities apply to a Taiwan conflict. For example, these capabilities might encourage the Chinese leadership to take preemptive action to force Taiwan to capitulate before the U.S. has time to intervene. However, this is a very risky option, and there is no indication that China is currently preparing for this option; most of these capabilities the Chinese view as deterrence. Furthermore, there are features of the U.S., China, and Taiwan military doctrine and crisis management that could lead to unintended escalation and consequences that undermine regional stability. In order to reduce the potential for conflict, the United States needs to continue to improve its ability to reply swiftly to a Chinese attack without striking the Chinese mainland early on. This is difficult given that much of U.S. military doctrine is offensive oriented. The U.S. should also continue to support Taiwan's acquisition of defense capabilities-this is a critical element of the maintenance of deterrence because there may be a period of time in which Taiwan needs to hold on until the U.S. can intervene. Taiwan cannot defend itself unaided against China and Taiwan's primary strategic objective should be to resist a Chinese attack until U.S. forces can arrive to repel such an attack. The book also offers a series of recommendations that China and the United States should implement in order to improve crisis management capabilities.

Defense !—F-35—Air Power—China

China must control the air before it can even think about invading Taiwan-A strong Air Force kills that thought

Siong`3 (**Fan Sui Siong, Kelvin,** CPT Fan Sui Siong Kelvin is a Weapons System Officer (ADA) by vocation and is currently serving as Tactical Control Officer at an Air Defence Artillery Squadron, Will China Attack Taiwan, June 2003, http://www.mindef.gov.sg/safti/pointer/back/journals/2003/Vol29\_2/7.htm)

Military Drawbacks Islands have a natural defence barrier because of the difficulty of securing beachheads when the shores are well defended. The British Isles, for instance, have not been successfully invaded since 1066. By virtue of the 80 mile Taiwan Strait between mainland China and Taiwan, Taiwan is accorded similar protection from mainland China's large army. However, successful landings have been staged in recent years, with the Normandy landing on D-day being the most prominent example to

date. According to O'Hanlon(2000),14 three key elements are necessary for a successful amphibious assault (i) air superiority, (ii) initial superiority in troops/firepower at point of attack, and (iii) reinforcement advantage at point of attack. To add to this list, a successful assault will require (iv)well-trained, well-equipped troops who are properly coordinated in the battlefield. However, to quote the Pentagon, "China probably has never conducted a large scale amphibious exercise which has been fully coordinated with air support and airborne operations."15 Air Superiority To invade Taiwan, China would first have to win control of the air before she could begin transporting its troops and equipment across the Straits without overly strong resistance. Air superiority can be gained with a well-coordinated surprise attack on Taiwanese key assets such as airfields, C2 facilities, and aircraft. This could be done by simultaneously launching China's 200 ballistic missiles and her 800-1000 attack aircraft to target Taiwan's key assets. However, both options face limitations. As argued, Chinese ballistic missiles, already limited in number, are also known to be inaccurate. The option of using attack aircraft to weaken Taiwanese resistance fares no better. Firstly, mobilising so many aircraft to bases near Taiwan could alert Washington and Taipei to an imminent attack, thus negating the surprise element. Secondly, her aircraft are unlikely to attack effectively and efficiently. Taiwan possesses three times as many 4th generation fighters as China.16 Chinese aircraft are mostly obsolete and slow, travel at barely supersonic speeds17 and lack radar, thus limiting their ability to attack at night and rendering them vulnerable to beyond visual range attacks from radar-guided missiles of Taiwanese modern fighters. Thirdly, according to O'Hanlon, even with a well-coordinated first strike by China, at least half of Taiwan's combat aircraft would survive and be used to frustrate China's amphibious assault.

Defense !—F-35—Allied Cred

F-35’s key to allied coop

Tirpak 9 (John A, Exec Editor @ Airforce Magazine, july, http://www.airforce-magazine.com/MagazineArchive/Pages/2009/July%202009/0709Fighter.aspx)

Gates, in his budget announcement, praised the F-35 as emblematic of his vision for new weapons, saying that it would be adaptable to a wide variety of missions, producible in large numbers at “sustainable cost,” and not too specialized. In contrast, Gates lashed out at programs he scornfully referred to as “exquisite.” By this, he evidently meant systems tailored to meet specific military requirements, lacking direct value in today’s irregular wars in Afghanistan and Iraq, or costing more (in his view) than they are worth. He promised to field the F-35 as quickly as possible, accelerating the program by adding some aircraft to the operational test fleet. However, he didn’t change the overall target number. That would remain at 2,443 aircraft across all the services, reached in 2035. If Gates’ plan proves out, the F-35 will be produced in numbers exceeding 100 per year for US requirements, and top 200 a year when foreign sales are included. This production pace exceeds that posted by any fighter program since the late 1980s. F-35s will equip not only the Air Force, Navy, and Marine Corps, but also the air arms of at least eight US allies who are partnered on the program’s development, and many others that will simply buy the fighter.

Allied cooperation is critical to military readiness

Office of Technology Assessment 1 (Congress, http://www.princeton.edu/~ota/disk1/1991/9106/9106.PDF)

The size and capability required of U.S. forces is related to their autonomy. The U.S. forces stationed in Germany or South Korea would have no hope of defending those countries alone and were never intended to. Clearly, if allies are fighting alongside, the requirement for U.S. forces is reduced. The logistical burden on U.S. forces is also reduced by host-nation support and the existence of secure lines of resupply. Required readiness levels are also affected by the degree to which the United States is willing to depend on allies to defend common interests. A rational division of responsibilities could leave quick response to those allies nearer the threat, while the United States maintains its huge reserve potential. The composition of U.S. forces will depend on the degree of allied cooperation. In many cases, efficiency calls for specialization. NATO is an example of how individual nations in a group have-to a limited extent-divided up military responsibilities

so that each can become more expert at their tasks or geographic areas. For example, Denmark has special

responsibilities to maintain control of its straits, which are important to all of NATO; the United States has a disproportionate responsibility in air power because it can be reinforced across the Atlantic quickly; and Belgium and the Netherlands have special logistical responsibilities in their harbors. The division of these tasks maybe obvious and straightforward, but no nation’s forces could do its job smoothly without the other nations’ doing theirs. The disadvantage of such a division of labor is that without the cooperation of the other members of the alliance, any single member may become vulnerable. As a simple illustration, if one navy were good at protection against submarines and the other at protection against missiles, then the two may be able to work together but each would face major problems working alone.

Defense !—F-35—NATO

**F-35 key to NATO**

Grant 10 (Rebecca, Editor @ Airforce Magazine, July, http://www.airforce-magazine.com/MagazineArchive/Pages/2010/July%202010/0710nato.aspx)

Several NATO countries have the technical capability to deliver US nuclear warheads with nuclear-certified fighters. Each munitions storage site—some were completed as recently as 1998—can securely house a score or more of warheads in NATO’s central and southern regions. NATO members Germany, Belgium, Luxembourg, the Netherlands, and Norway formally requested that the alliance discuss potential withdrawal of US weapons from the continent as the alliance reviews its strategic concept. Other nations, including several formerly under Soviet domination, disagree. They say such weapons are critical symbols of the US military commitment to Europe. Secretary of State Hillary Clinton rebuffed the call. "First," she said, "we should recognize that, as long as nuclear weapons exist, NATO will remain a nuclear alliance." In short, the policy of extended deterrence is alive and well, but meeting the NPR’s guidance over the long run will hinge on success with the F-35 and the B61 bomb refurbishment. The Air Force has a long and successful track record with extended deterrence. In fact, fighters carrying tactical nuclear weapons have been around nearly as long as NATO itself.

F-35 key to U.S. allies and NATO

Goure 11 (Daniel, PhD in Intl Relations, 4/1, http://www.defpro.com/news/details/23365/?SID=88dc6009a73c91600ba853338bfb356c)

The Libyan operation would have been entirely different if the F-35 Joint Strike Fighter (JSF) had been available. With its stealthy characteristics, advanced AESA radar, unique sensors and modern avionics, the fifth-generation F-35 would have allowed the coalition to establish a no-fly zone without having first to entirely suppress Libyan air defenses. In addition, the F-35 could have conducted combat air patrols with a reduced need for supporting aircraft. This would lower both the cost and risks associated with the air operation. For example, the U.S. Navy could have imposed a no-fly zone with a single aircraft carrier; today, with fourth-generation aircraft, such an operation would require as many as three carriers. F-35Bs would have replaced Harriers in supporting the MV-22 Osprey when it rescued the downed U.S. pilot. As a consequence of the reduced need for unique air assets that only the U.S. deploys, NATO allies operating their own fleets of F-35s could have implemented the no-fly zone by themselves. Against modern air defenses, the F-35 could make the difference between success and failure in future air operations. The F-35 would not only conduct both combat air patrols and ground strikes but electronic warfare, suppression of enemy air defenses and ISR. The ability of the F-35 to share data will also lead to entirely new combat tactics. In combination with the F-22, the F-35 promises to revolutionize air warfare. U.S. allies and F-35 partner countries recognize that the F-35 is their only chance to retain a capability for modern air operations.

F-35 is key to NATO

Brady 10 (General, Roger, USAFA, http://www.afa.org/events/AWS/2009/post\_Orlando/scripts/2009\_aws\_panel\_EAO.pdf)

Six of nine F-35 partners are in Europe. Most importantly, I think, we are in Afghanistan, as you know, with 41 countries. Of the 40 partners that we have in Afghanistan, 34 of them are from Europe. I think it’s instructive. Mr. Biden at the Munich Conference just recently said, “Americans and Europeans still look to one another before they look to anyone else.” So our European partnership is extraordinarily important to us when we try to defend the ideas of freedom around the world. We always find partners in Europe.

Continues…

F-35 is critical to maintaining leadership in NATO and Europe. We’re programmed to have it. And we’re in the process of trying to pull that arrival to the left.

Defense !—F-35—NATO – NW

Only NATO-US relations prevent NW

O'Sullivan 98 (John is editor of the National Review and founder of the New Atlantic, 6-1998 [American Spectator] )

Some of those ideas--notably, dissolution and "standing pat"--were never likely to be implemented. Quite apart from the sociological law that says organizations never go out of business even if their main aim has been achieved (the only exception being a slightly ominous one, the Committee for the Free World, which Midge Decter closed down after the dissolution of the Warsaw Pact), NATO's essential aim has not been permanently achieved. True, the Soviet threat is gone; but a nuclear-armed and potentially unstable Russia is still in the game; a major conflict has just been fought in the very Balkans which sparked the First World War; and there are a number of potential wars and civil wars lurking in such regions as the Tyrol, the Basque country, Northern Ireland (not yet finally settled), Corsica, Belgium, Kosovo, and Eastern Europe and the Balkans generally where, it is said, " every England has its Ireland, and every Ireland its Ulster." If none of these seems to threaten the European peace very urgently at present, that is in part because the existence of NATO makes any such threat futile and even counter-productive. No nation or would-be nation wants to take NATO on. And if not NATO, what? There are international bodies which could mediate some of the lesser conflicts: the Organization for Security Cooperation in Europe is explicitly given that responsibility, and the European Union is always itching to show it can play a Big Power role. But neither body has the military heft or the prestige to deter or repress serious strife. The OSCE is a collective security organization, and as Henry Kissinger said of a similar body: "When all participants agree, there is no need for it; when they split, it is useless." And the EU only made itself look ridiculous when it attempted to halt the Bosnian conflict in its relatively early stages when a decisive intervention might have succeeded. As for dealing with a revived Russian threat, there is no military alliance in sight other than NATO that could do the job. In a sense, NATO today is Europe's defense. Except for the American forces, Western armies can no longer play an independent military role. They are wedded to NATO structures and dependent on NATO, especially American, technology. (As a French general admitted in the Gulf War: "The Americans are our eyes and ears.") If NATO were to dissolve--even if it were to be replaced by some European collective defense organization such as a beefed-up Western European Union--it would invite chaos as every irredentist faction sought to profit from the sudden absence of the main guarantor of European stability

**Defense !—F-35—Econ**

F-35’s key to jobs

Lautenberg 11 (Frank, Sen-AL, http://www.njmcl.org/wp-content/uploads/downloads/2011/06/Senate-MVAC.pdf)

In my capacity as Chair, I often hear directly from Veterans and military families that there is no better way to support our service members than by providing them with the best available technology and equipment as they lay their lives on the line in service to our country. I also understand the local economic impact derived from supporting military bases in our state. The equipment needs of the active military and the Air National Guard directly impact our economy by creating invaluable local job opportunities. The F-35 Joint Strike Fighter Jet marries these fundamental issues, A Fifth Generation stealth fighter, the F-35 affords the United States and its allies a tactical air advantage for detecting and engaging asymmetric threats with advanced radar and other detection capabilities that has been fundamental to military strategy since World War II. The program also provides quality jobs across the country, including more than 127,000 throughout the United States who depend upon the F-35 program directly or indirectly for employment.

F-35’s key to jobs and international economic ties critical to the world economy

Burbage 11 (Tom, exec-VP, Lockheed Martin, http://armed-services.senate.gov/statemnt/2011/05%20May/Burbage%2005-19-11.pdf)

The F‐35 also leverages the economies of commonality and scale in procurement and sustainment that come with much broader participation than traditional single‐service fleet recapitalization. From the industrial perspective, we are also recapitalizing the aerospace industry with new manufacturing technologies as we introduce production efficiencies across the industrial partnership.  The F‐35 program today involves more than 1,300 suppliers in 47 states and supports nearly 127,000 direct and indirect U.S. jobs. In addition, we are implementing global industrial partnerships as part of the Government to Government agreements. Those industrial ties will enhance the economic relationships between the U.S. and participating allied nations and will underscore the military ties that enable coalition burden sharing in the future. This international participation also makes F‐35 potentially the largest program in the Department of Defense that can favorably affect the U.S. balance of trade. It is clear that capturing the full potential of F‐35 depends on maintaining a strategic perspective and making decisions that will enable the future success of this program.  In this new reality, the value proposition is more relevant today than ever before

**Defense ! – F-35 – TNW – A2: Miscalc**

The risk of escalation forces intense scrutiny, preventing accidental war

Kenneth Waltz, The Spread of Nuclear Weapons: A Debate, 1995, p. 111

Deterrence is also a considerable guarantee against accidents, since it causes countries to take good care of their weapons, and against anonymous use, since those firing the weapons can neither know that they will be undetected nor what form of punishment detection might bring. In life, uncertainties abound. In a conven­tional world, they more easily lead to war because less is at stake. Even so, it is difficult to think of wars that have started by accident even before nuclear weapons were invented. It is hard to believe that nuclear war may begin accidentally, when less frightening conventional wars have rarely done so.

Thousands of launch histories prove zero risk – Not a single miscalc incident in 40 yrs

Payne 8 (Keith, Natl Inst for Pub Pol, S. HRG. 110–205, *Nuclear And Strategic Policy Options*, p. 88)

But with regard to that question, let me just mention that the United States has, according to all the unclassified sources, over 1,100 at-sea launches of submarine-launched ballistic missiles (SLBM) in the test program over the years. Through 1988, we had no notification provisions to the Soviet Union. After 1988, we had notification provisions established, and we carried through with those notifications to the Soviet Union that we would be launching a SLBM in the appropriate timeframe, in the appropriate direction. So, there’s a long, long history of U.S./Soviet and now U.S./Russian relations with regard to notification for the safe launching of nonnuclear ballistic missiles, and there’s been no problem, there’s been no misinterpretation, there have been no problems such as folks have mentioned with regard to a possible Russian misinterpretation. I wouldn’t be as confident in this, other than I look back, with 1,100 launches, open-sea launches of SLBMs, and we have provisions, since 1988, of notifying the Russians—Soviets then, Russians now—in that regard, as do the British have provisions for notifying the Russians with regard to their at-sea launches. So, I understand the concern. I agree we need to absolutely minimize the concern of a Russian misinterpretation. I’m also confident that we’ve already gone a long way towards that over the last 40 years.

Russian accidental launch is very unlikely

Kerr 8 (Paul, non-prolif expert, Congressional Research Service, Nuclear, Biological, and Chemical Weapons and Missiles: Status and Trends)

Moscow’s strategic forces are designed to deter nuclear and conventional aggression, but Russia “is prepared to conduct limited nuclear strikes” to repel an enemy or change the course of battle. An unauthorized or accidental nuclear launch of a Russian strategic missile is deemed highly unlikely.

Strict controls and organizational doctrine prevent

East-West Institute 9 (Reframing Nuclear De-Alert, p. 6)

Russian opponents of de-alerting assert that neither country’s systems are targeted at the other; in fact, highalert levels have not prevented the two countries from building a strategic partnership. Nuclear weapons are under strict technical and organizational control, which excludes the possibility of accidental or unauthorized use. “The issue of the possibility of an ‘accidental’ nuclear war itself is hypothetical. Both states have developed and implemented constructive organizational and technical measures that practically exclude launches resulting from unauthorized action of personnel or terrorists. Nuclear weapons are maintained under very strict system of control that excludes any accidental or unauthorized use and guarantees that these weapons can only be used provided that there is an appropriate authorization by the national leadership.

**Defense !—F-35—A2: Fails**

All major plane programs suffered technical setbacks in development – The F-35 will still be awesome

Air Force Magazine 10 (http://www.f-16.net/index.php?name=PNphpBB2&file=viewtopic&p=181132)

This article sounds like an assault on the Air Force’s F-22 and F-35 fighter programs, but it isn’t new at all. Rather, it is from April 8, 1982. Levin was not chairman of the Senate Armed Services Committee, as he is today, but a low-ranking member. The aircraft purchase he was objecting to was the F-15, which in decades to come would prove to be one of the most successful combat aircraft in history. To be fair, Congressional critics at the time were complaining about Air Force plans to purchase large numbers of F-15s for defense of the continental US, while many felt the Navy F-14 could do that job at a lower price. But this news piece from the past points out a basic fact of warplane development. For 30 years, most new models have been the subject of caustic criticism. Technical setbacks are treated as surprises which threaten a system’s viability—or its very existence. Airframes always seem to be too complicated, too high-tech, too expensive, and not what the US really needs. That’s the criticism, at least. Lost in the volume is recognition of the fact that modern warplanes are among the most complex machines ever designed. It takes patience and hard work to make them deployment-ready. Many of today’s Air Force legacy systems came out of "a long, arduous, and turbulent process," notes a RAND Corp. monograph on fighter acquisition. "Nonetheless, these often vitriolic debates ended in the design and development of several of the world’s most capable fighters."

Defense !—F-35—A2: Inefficiency

The F-35 doesn’t spend a lot of money

Smith 11 (Rich, Staff @ MotleyFool, 5/27, http://msn.fool.com/server/printarticle.aspx?file=/investing/general/2011/05/27/everybody-hates-lockheed.aspx?logvisit=y)

Here in the 21st century, "trillion" may be the new "billion" -- but it's still not a lot of money. Not when you consider what we get for it. For one thing, a "trillion dollars" spent over the anticipated 50-year lifetime of the Lockheed F-35 only works out to about $20 billion a year. Add in the flyaway cost of the plane itself, and the tally rises to $27.7 billion -- or less than $100 a year per U.S. citizen. When you consider that: the F-35 isn't "just another airplane," but the single fighter jet designed to replace multiple fighters already in our air forces according to Joint Chiefs Chairman Admiral Mike Mullen, this is the last manned fighter jet we'll ever but and that the $1.385 trillion figure covers the cost of the planes, their fuel, maintenance, training -- plus the cost of hangars, spare parts, and inflation even I submit to you that we're really "not paying a lot for this muffler." The F-35's annual cost will make up all of 4.1% of our 2012 defense budget -- and that's not a lot of money to buy an air force.

F-35’s key to US military and aerospace revenues

Smith 11 (Rich, Staff @ MotleyFool, 5/27, http://msn.fool.com/server/printarticle.aspx?file=/investing/general/2011/05/27/everybody-hates-lockheed.aspx?logvisit=y)

In short, this "trillion-dollar price tag" really isn't as big a deal as the Journal makes it out to be -- at least not for taxpayers. In contrast, a trillion dollars is pretty significant to the companies that will be building and maintaining the plane -- subcontractors like GE, UTC, Honeywell (NYSE: HON ) , Northrop Grumman (NYSE: NOC ) , and FLIR Systems (Nasdaq: FLIR ) (these latter three being responsible for the plane's wheels and brakes; its software, fire control radar, and communications; and its infrared radar, respectively.) And of course, to Lockheed itself. Make no mistake: The F-35 is crucial to the U.S. military's long-term planning. It will make up an important, and growing, portion of the revenue streams of Lockheed's partners. But as I think I've mentioned before, the F-35 is absolutely central to the investment case for Lockheed itself. Revenues from U.S. F-35s alone could secure an average of 60% of Lockheed's annual revenue stream for the past 12 months -- for the next half-century. Factor foreign F-35 sales into the mix, and Lockheed could put perhaps 75% of its revenue stream in the bag from this one product alone.

F-35’s are efficient

Carden 11 (Michael J., Army Sgt. 1st class, 2/16, http://www.defense.gov/news/newsarticle.aspx?id=62829)

The right plan is in place to ensure the program is efficient in terms of cost-savings and production, he added, noting that the program has undergone an intense technical review under his watch. The latest restructuring, he said, was realistic, achievable and based on deep assessments of all aspects of the program. “Previous plans had shortcomings, but this plan is very resilient,” he said. “The plan has been able to overcome spotty parts shortages, engine delivery problems, [and] it absorbed snow days where weather shut down production in the Dallas-Fort Worth area.” Venlet said he has instituted more testing, increasing the number of hours and flights that test pilots fly, having recently increased the mandated number of test flights through fiscal 2016 from 5,800 to 7,700. He’s confident, he said, that the additional $4.6 billion will hold up, as development and testing concludes in 2016. Competition for the F-35 contract began in 1996. The $200 billion contract was awarded to Lockheed-Martin in October 2001, and the program immediately went into a 10-year testing and development phase. The Defense Department plans to purchase 325 aircraft through 2016, and the overall program consists of 2,443 total aircraft in three different variations. The variations include a takeoff and landing variant for the Air Force, an aircraft carrier-suitable version for the Navy and short takeoff and vertical landing variant for the Marine Corps.

\*\*\*General Links\*\*\*

UQ – No New Spending

Republicans key—House influence, spending reduction commitment, elections

Chaddock 11 (Gail Russell, staff, Christian Science Monitor, 3/31, <http://www.csmonitor.com/USA/Politics/2011/0331/Tea-party-rally-to-Congress-Spending-cuts-aren-t-deep-enough>, accessed 6-30-11, CH)

But the tea party is still a powerful presence on Capitol Hill, especially within the House Republican conference. While only 57 of 241 Republicans formally joined the House Tea Party Caucus, most conservatives share the movement’s focus on cutting spending and reining in the size of government. Moreover, Republicans, including tea party Republicans, are wary that appearing to cave to Democrats on spending could leave them vulnerable to primary challenges from the right in 2012. “Democrats know that if main street Republicans and tea party Republicans split, it’s all over,” says 10-term Rep. Jack Kingston (R) of Georgia.

No new spending—Republicans control the House and the Senate will vote to appease voters

Morrissey 11 (Ed, blogger for Heritage, Hot Air, 5/11, <http://hotair.com/archives/2011/05/19/coburn-we-have-to-raise-taxes-in-order-to-pass-spending-cuts/>, accessed 6-30-11, CH)

Really? The polling I’ve seen indicates that voters don’t want tax hikes at all as a solution to the budget deficit. The latest came this week from The Hill, in which the largest plurality — 45% — wanted cuts alone. Only 28% were willing to personally pay higher taxes. Coburn does frame this as the only “plan that would ever make it out of Congress,” but is that so? Republicans control the House and aren’t likely to vote for tax hikes at all. Democrats control the Senate, but a large number of them have to face voters, and they have to be cognizant of the national mood — especially after the object lesson delivered to their colleagues in the midterms about voter anger. Barack Obama might veto a budget without tax hikes, but producing that kind of a budget from Congress is more likely at this point than getting John Boehner to commit political seppuku by pushing through a tax increase even before fighting for spending cuts.

Debt ceiling bargaining proves Republicans won’t approve new spending

Goldfarb and Bacon Jr. 11(Zachary and Perry, staff, Washington Post, 4/17, <http://www.washingtonpost.com/politics/obama-to-hit-road-to-rally-support-for-debt-reduction-plan-ahead-of-budget-battles/2011/04/17/AFl50OwD_story.html>, accessed 6-30-11, CH)

The first battleground for this debate will be the imminent clash on Capitol Hill over raising the limit

on how much the federal government can borrow. The Treasury Department has concluded that the $14.3 trillion debt ceiling will be breached next month and will have to be raised by early July. Republicans want legislation to reduce government spending to be part of the vote to raise the debt limit; the Obama administration has said that further deficit reduction is needed but that the issues should not be joined.

Link—Spending Climate = T/Off

Bipartisan demand for balanced funding cuts

Yokley 11 (Elijah, 3/9, <http://politicmo.com/2011/03/09/budget-extension-proposals-fail-in-u-s-senate/>, accessed 6-29-11, CH)

U.S. Senator Claire McCaskill (D-Missouri) voted against both continuing resolutions Wednesday afternoon. Her problem? McCaskill says the House of Representatives’ proposal cut too deep, and the Senate cuts were insubstantial. “The House’s resolution frankly was not smart in the way they did the cuts,” McCaskill said of their proposal. “All the pain was in one place. And they are killing off the very part of our budget that has the best chance of increasing economic activity in this country: the building of roads and bridges, the educating of our kids, the research and the science and the development.” She was equally vocally critical of the Senate Democrats’ plan, calling it “disappointing.” “I still think that there are way too many people in denial around here about the nature of the problem and how serious it is. And I don’t think we’re demonstrating to the American people that we understand the nature of the problem when we present an alternative proposal with such a small number of cuts,” McCaskill said. The Missouri Republican Party weighed in Wednesday afternoon, chastising McCaskill for not voting for the cuts in the House proposal. “Claire McCaskill talks like a conservative and votes like a liberal. She claims that we need to cut significant amounts of spending—but when she was actually given the opportunity to reduce the size of government by $60 billion, she refused,” said Lloyd Smith, Executive Director of the Missouri Republican Party. The $60 billion of cuts in the House plan cut at things like science and energy research and education, things Democrats say are investments in the future and are worth protecting. But Republicans, like U.S. Senator Roy Blunt (R-Mo.), say the federal government “can’t spend money we don’t have.” “Once again, we’re at an impasse thanks to the Senate Democrats’ unwillingness to lead or support real and substantive budget cuts. Their plan to cut only $4.5 billion when our government is borrowing about $4 billion a day is unacceptable,” Blunt said. “And the White House’s assessment that this plan meets Republicans halfway is simply untrue – at best, their plan only goes one-sixth of the way, which is simply not far enough.” “The status quo is not a solution,” Blunt said. “We must make the cuts to balance our budget just like every family and job creator in Missouri and nationwide is forced to do on a daily basis.” Both Senators have shown interest limiting federal spending. Blunt has been a proponent of a federal balanced budget amendment, which would require the federal government to only spend what it takes in. And McCaskill has sponsored Pay-As-You-Go legislation, and has introduced legislation to cap federal spending at a percentage of the GDP.

Bipartisan support for spending and tax cuts—CUTGO prevents hidden expenditures and new spending allowed under PAYGO

WSJ 11 (1/5, “Rules For Smaller Government”, accessed 6-29-11, ProQuest, CH)

House Republicans are pledging to cut spending, and one early sign they're serious is the rules package they are bringing to the House floor. More than the last time it held power, the GOP is changing the rules to make it harder to tax and spend. Such procedural changes may be boring but they can be crucial to policy success, as Democrats have long understood. Take "paygo," or pay-as-you-go budgeting, under which Democrats required that any tax cut or spending increase had to be offset with other tax increases or spending cuts. The main goal was to make tax cutting that much harder. Paygo always exempted spending increases in existing entitlements and Democrats waived the rule routinely for other spending in any case. In their new rules, Republicans are giving paygo the heave-ho and substituting a rule called "cut as you go." From now on, increases in mandatory spending -- for new or existing entitlements -- will require that spending be cut by an equal or greater amount elsewhere in the budget. Another new rule will make it harder to hide deficit spending by gaming the so-called budget window. The cost of spending bills are scored over periods of one, five and 10 years, and Democrats have routinely disguised the true cost of such bills by pushing the spending into the "out years" beyond a decade. Famously, they also counted 10 years of revenue but only six years of spending to make ObamaCare appear to cut the deficit. The new House rules require budget projections for four additional 10-year windows. And if mandatory spending increases the deficit by more than $5 billion in any of those 10-year windows, the bill will be subject to a House point of order, forcing Members to vote in favor of increasing deficits.

Link—Spending Climate = T/Off

GOP massively opposes new spending—House and Senate leaders

Berger 11(Joseph, staff, NYT, 1/23, <http://www.nytimes.com/2011/01/24/us/politics/24repubs.html>, accessed 6-29-11, CH)

The Senate’s top Republican, Mitch McConnell of Kentucky, said on Sunday that his party will vigorously oppose the spending initiatives President Obama plans to include in his State of the Union address on Tuesday because “it’s not a time to be looking at pumping up government spending.” And the number two Republican in the House, Representative Eric Cantor of Virginia, said that his party would press ahead with its plans for immediate cuts in spending, including in the defense budget. “Every dollar should be on the table,” he said. In a video Mr. Obama sent to supporters on Saturday that gave a preview of the speech, the president indicated that he would seek to balance an attack on the deficit with increased spending in fields like education, research and technological innovation that he called crucial to long-term job growth. Speaking on Fox News Sunday, Mr. McConnell countered that “The American public, as one pundit put it, issued a massive restraining order,” against government spending and excessive debt in November’s Congressional elections. Indeed, Mr. McConnell seemed at times gleefully sardonic about President Obama’s efforts to depict himself as a centrist trying to find common ground with Republicans. The president, he said, has certainly moved to the enter , but mostly “rhetorically.” “The president needs to pivot,” Mr. McConnell said. “He seems to be pivoting on virtually everything else, and I don’t put him down for that. I mean he obviously saw what happened in the November election and is trying to go in a different direction. He’s quit bashing business and is now celebrating business.” “Well it’s about time,” Mr. McConnell added, “because the only way we’re going to get unemplo A new poll by Resurgent Republic finds that the public is surprisingly receptive to cutting government spending.

Link—Spending Climate = T/Off – Public

Public against spending

Sargent 6/22 (Greg, staff, Washington Post, <http://www.washingtonpost.com/blogs/plum-line/post/dems-lost-argument-over-deficit-and-spending-because-they-never-engaged-it/2011/03/03/AG7q7ufH_blog.html>, accessed 6-29-11, CH)

In case you need further evidence that the Dem decision to effectively endorse the right’s austerity/cut-cut-cut frame is only harming themselves, check out the internals of the new Bloomberg News poll. They show that the public broadly agrees with Republican arguments about the deficit, spending cuts and what it takes to rebuild the “confidence” required for an economic rebound. The key numbers: \* Fifty-five percent of Americans think that spending cuts and tax cuts will give businesses more confidence to hire. Only 17 percent think government should spend more to stimulate the economy, and only another 17 percent think we should maintain current spending levels. \* Sixty-five percent say that a major reason for the economy remaining in the toilet is because the large federal deficit makes the economy “unstable.” \* Fifty-two percent think a major reason for our economic doldrums is that “uncertainty” created by government regulations and taxes is harming hiring. \* Only 35 percent think a major reason for the economic doldrums is that spending cuts hurts jobs. In other words, the public broadly believes in what Paul Krugman refers to as the “confidence fairy,” i.e., the notion that deficit cutting is an important component in restoring “economic confidence,” a notion that even the White House has endorsed. It also agrees with the GOP’s argument that excessive regulation and taxes create “uncertainty.”

Public key—Democrats know elections depend on economic policy

Duclos 11 (Susan, Editor, Wake Up America Blog, 6/30, <http://wwwwakeupamericans-spree.blogspot.com/2011/04/democrats-join-republicans-insisting-on.html>, accessed 6/30/11, CH

In 2012, 23 Democratic Senate seats are in play and 10 Republican Senate seats, so decisions made now will be watched and judged and will undoubtedly be a factor in how constituents vote in those elections. Resurgent Republic: President Obama’s policy of raising the federal debt limit without any preconditions relating to limiting spending, i.e. a "clean debt limit," is supported by only one-out-of-ten voters, the least popular option of three presented in a Resurgent Republic survey conducted jointly with the American Action Forum. The second-ranking option overall is "not raising the debt limit under any circumstances." That option places second among Independents and Democrats, and is the top preference for Republicans. The preferred option, drawing support from a plurality of voters overall, is "raising the debt limit, but only in exchange for substantial spending cuts and a commitment to reduce the deficit." The days of "routine" debt limit increase votes may be history, with voters holding firm views about the debt ceiling vote in a time of concern over the economy and a pervasive view that "we have got to stop spending money we don’t have," as has been seen in previous Resurgent Republic polling. The Democrats listed above understand the Republicans in Congress enjoy an overwhelming amount of public support to lower the deficit, cut spending and get our fiscal house in order. They understand this because their chances at being reelected depend on it

Public against spending—polls

Elkins 11 (Polling Director, Reason.com, 5/6, <http://reason.com/poll/2011/05/06/public-opinion-debt>, accessed 6-29-11, CH)

In terms of strategy to reduce the debt, the Reason-Rupe poll shows a clear majority (74%) of Americans favor a government-spending cap. This does not directly address reducing the debt, but it does mean slowing its rate of growth. Republicans (84%) and Independents (81%) are significantly more likely to want a spending cap than Democrats (64%), though a strong majority of all favored the limit. (The opposition to a spending cap may be the result of a preference for using increased government spending during a recession in efforts to stimulate the economy. A spending cap would make this difficult.)

Public against spending—polls

Elkins 11 (Polling Director, Reason.com, 5/6, <http://reason.com/poll/2011/05/06/public-opinion-debt>, accessed 6-29-11, CH)

When given the trade-off between reducing spending and raising taxes, the largest response (45%) was to reduce spending while maintaining current taxation levels. Another 16% of respondents wanted to primarily reduce spending along with some increase in taxes, bringing the total of those wanting to focus on lowering spending to 61%. Of the remaining respondents, 14% wanted equal emphasis on both increasing taxes and reducing spending, 8% wanted to primarily increase taxes with some reduction in spending, 4% wanted to increase taxes while maintaining current spending, and 11% said they did not have an opinion.

Link—Spending Climate = T/Off – Public

Public calls for more cuts—Congress will support to gain electoral advantage

Page 11 (Susan, staff, USA Today, 2/24, <http://www.usatoday.com/news/washington/2011-02-24-budgetpoll24_ST_N.htm>, accessed 6-30-11, CH)

Yet there is wide public support for spending cuts that go beyond those President Obama is proposing, a finding that could embolden Republicans as the deadline to extend funding for the government approaches. Although 25% of those surveyed say Republican-proposed cuts go too far, twice as many say that Obama's cuts don't go far enough. In fact, nearly one in four say even the deeper GOP cuts aren't sufficient. Both parties are jockeying for advantage on the issue, an early test for the fiscally conservative Tea Party forces that helped the GOP win control of the House of Representatives in midterm voting. White House spokesman Jay Carney and House Speaker John Boehner insist they want to avoid a shutdown, but each side accuses the other of refusing to negotiate in good faith.

Republicans committed to spending cuts—public calls mean best political option

Cole 11(Tom, Congressman, 1/25, <http://cole.house.gov/news/press-releases/2011/01/cole-comments-on-state-of-the-union-address-1.shtml>, accessed 6-30-11, CH)

"For the first time in four years, we have an opportunity to make real progress in reducing the deficit before it's too late. Public support for spending cuts has reached the highest levels in recent memory, and that determination is shared by the Republican majority in the House. "With both the debt and the public appetite for spending cuts reaching historic highs, deficit reduction has rapidly become not only the smart option politically but the only option fiscally. If President Obama offers a legitimate deficit reduction plan, he will certainly find allies in the American people and the Republican House.

Link—Spending Climate – AT: Public Won’t Support Cuts

Polls prove, poor economic conditions mean the public opposes new spending

Bolduc 11 (Brian, William F. Buckley Fellow, National Review Online, 3/9, <http://www.nationalreview.com/corner/261662/poll-public-says-cut-spending-now-brian-bolduc>, accessed 6-29-11, CH)

The survey of 1,000 registered voters asked respondents to compare competing political messages. On spending, 49 percent agreed with the argument that “We have got to stop spending money we don’t have.” By contrast, the statements, “We have got to stop mortgaging our children’s future,” and, “We have got to stop bankrupting the country,” received 20 and 18 percent, respectively. There’s more good news for the GOP: Sixty-two percent agreed with “Republicans who say we need to cut significant federal spending through the rest of this fiscal year” versus “Democrats who say we should continue federal spending at close to the current level.” Even Democrats, by a margin of 52 to 35 percent, thought the deficit was a result of too much spending. Nonetheless, Republicans face familiar pitfalls. Fifty-three percent agreed with the statement that “We should not balance the budget on the backs of our seniors and the poor. We need to cut back federal spending, but Social Security, Medicare, and Medicaid should be off limits.” That said, in a conference call with reporters, former GOP chairman Ed Gillespie and Republican pollster Whit Ayres remained optimistic about the GOP’s chances for convincing voters about the need for entitlement reform. “The conventional wisdom in Washington is that voters like spending cuts in theory but they don’t like spending cuts in reality,” said Gillespie. “That’s the conventional wisdom because that’s where voters have been. What this survey reveals is there’s been a change in that approach.” Indeed, even when respondents heard the argument that “these proposed cuts will destroy American jobs and hurt middle-class families, young adults, seniors, and veterans,” they still favored the Republican message by 60 to 34 percent.

Link—CUTGO Enforcement = T/Off

CUTGO rules force trade-off

Sange 11 (Alexandra, Legislative Assistant to the Federal Affairs Department, National Association of Community Health Centers, 1/18, <http://blogs.nachc.com/washington/?p=1163>, accessed 6-29-11, CH)

Changing Pay-go to Cut-go. The new rules replace the previous ‘pay-as-you-go’ or PAYGO requirement with a ‘cut-as-you-go’ or cut-go requirement. Cut-go prohibits the House from considering any bill that produces a net increase in mandatory spending within the 1-year, 5-year and 10-year budget windows, as opposed to PAYGO’s ten-year window. If a bill increases mandatory spending by any amount, the bill must cut the budget somewhere by that same amount. Under PAYGO, spending cuts could serve as offsets to spending increases, however, revenue increases could also serve as offsets. Under the ‘cut-go’ rule increases in revenue cannot be used to offset increases in mandatory spending.

CUTGO prevents new spending more than PAYGO—only opposition is Democrats who want more cuts

Main Street Insiders 11 (1/17, <http://www.mainstreetinsider.org/90secondsummaries/?p=178>., accessed 6-29-11, CH

While in the House majority, the Democrats had in place a “pay-as-you-go” budget rule, requiring that any tax cut or increase in mandatory (entitlement) spending must be offset by cuts in other mandatory spending or increases in other taxes, in order to avoid increasing the deficit. They also barred use of budget reconciliation on any measure that would increase the deficit, as was the case in the 2001 and 2003 Bush tax cuts and the law that established Medicare Part D. While the incoming Republican majority professes strong support for fiscal responsibility, it is more deeply committed to low taxes and less spending. The changes to PAYGO in their rules package reflect those priorities. Summay: The new rules include a number of provisions intended to lock in the Republicans’ budget principles for the 112th Congress. Specifically, they: • Replace “pay-go” with “cut-go”, a new system that requires all new mandatory spending to offset by other mandatory spending cuts. Tax increases are no longer allowed to act as offsets; • No longer require tax cuts to be budget-neutral; • Grant the Budget Committee Chairman complete authority to set aggregate spending limits for FY11, limits usually set through a budget resolution; • Overtly exempt the repeal of health care reform and the extended Bush tax cuts from requiring budgetary offsets; • Allow deficit-increasing tax cut measures to be passed through budget reconciliation, but bar its use for measures that would increase net spending; • Extend “cut-go” to bar measures that increase spending by over $5B in any ten years within a 40-year window; • Eliminate the “Gephardt Rule” that had allowed the House to avoid stand-alone votes to raise the debt ceiling; • Require each committee to formulate proposals to cut or eliminate programs that are inefficient, duplicative, outdated, or more appropriately administered by State or local governments. It should be noted that the Senate has no obligation to concur with these rules, and likely will engage in a bitter fight with the House majority on budgetary issues. Nevertheless, the rules are deliberately designed to virtually guarantee that mandatory spending will not increase, and likely will decrease, during the 112th Congress. Supporters: most Republicans, Tea Party and small government advocates • Supporters applaud these measures as an important reflection of commitment to reduce federal spending and shrink government in the coming years. Opposition: most if not all Democrats, deficit hawks • Detractors view the changes as a significant weakening of pay-go’s deficit reducing impact, and many believe it demonstrates Republicans’ fundamental unseriousness about tackling persistent budget deficits.

Link—CUTGO Enforcement = T/Off

Republicans forcing trade-offs—CUTGO limits new spending even more than PAYGO

Mehan 11 (G. Tracy, adjunct professor @George Mason University, The American Spectator, 1/6, [http://spectator.org/archives/2011/01/06/ryan-takes-the-point-on-fiscal#](http://spectator.org/archives/2011/01/06/ryan-takes-the-point-on-fiscal), accessed 6-29-11, CH)

But there is more. The House Republicans are going to enact new rules "to make it harder to tax and spend," writes the Wall Street Journal editorial page. The GOP will, among other things, replace the Democrats' often ignored "paygo" approach with a "cut as you go" requirement in which increases in mandatory spending -- for new and existing entitlements -- must be matched by spending cuts in an equal or greater amount elsewhere in the budget. Another encouraging aspect of the new rules package is the empowerment of Rep. Paul Ryan (R-WI), the new Budget Committee Chairman, the point on budget reform, to impose budget limits, on his own, for the current fiscal year.

GOP CUTGO makes deficit zero-sum—new programs will have to trade-off

Khimm 11 (Suzy, staff, Washington Bureau of Mother Jones, 1/6, <http://motherjones.com/politics/2011/01/cutgo-deficit-boehner>, accessed 6-29-11, CH)

Under the Democrats' "pay-as-you-go" rules—introduced during the Clinton era and continued under President Obama—Congress had to match every spending increase or tax cut with a commensurate spending cut or tax increase. The GOP has now upended "pay-go" with "cut-go" rules, under which tax cuts don't have to be paid for and tax increases can't offset spending hikes. "The idea is that the only two things you can do are cut spending and cut taxes," explains the Washington Post's Ezra Klein. The problem is that cutting taxes without paying for them gives the government less to work with when it comes to balancing the budget and reducing the deficit. Effectively, the GOP rules could make it even more difficult to create new government programs, while making it far easier for the GOP to hand tax breaks to corporations and the wealth

No loopholes—CUTGO means no new spending, can’t be offset by tax increases

Van Hollen 11 (Chris, Member , Committee on the Budget, 1/5, <http://democrats.budget.house.gov/PRArticle.aspx?NewsID=1933>, accessed 6-29-11, CH)

The rules package guts the pay-as-you-go concept, replacing the House rule with a new one-sided “cut-as-you-go” scheme that not only exempts certain tax cuts, but also requires new net mandatory spending to be offset by only spending cuts, not revenue increases. In particular, the new rules exempt tax cuts for the wealthiest Americans, as well as any repeal of the health care law, from having to comply with the deficit neutrality standard Democrats followed under our House pay-as-you-go rule. The rules also allow reconciliation packages to deepen the deficit – a change that flies in the face of the original purpose of budget reconciliation – and exempt tax cuts from statutory pay-as-you-go requirements. The rules also give the Budget Committee Chair extraordinary power to establish new 2011 appropriations limits that were not even available before the vote on the rules package. Giving the Chair unilateral authority to impose new spending levels without even a vote or debate is a violation of their promises to operate in a transparent and open manner. On their very first day in the majority, House Republicans put in place rules to limit open debate and keep the American people in the dark. Notable Changes “Cut-as-you-go” Replaces Pay-as-you-go – The new rules replace pay-as-you-go with a “cut-as-you-go” scheme that enforces discipline only on the spending side of the budget. In a break from past pay-as-you-go rules, spending increases must be offset dollar for dollar by spending cuts; revenue increases are no longer eligible to offset spending increases. The rule allows for an emergency exemption but decreases transparency by no longer requiring a separate vote on that aspect.

Link—CUTGO Enforcement—A2: CutGo Won’t Solve

Food stamps prove Congress will abide by paygo

Berman 10 (Russell, Prof Humanities@Stanford, The Hill, 8/14, <http://thehill.com/homenews/house/114271-dems-may-use-food-stamp-money-to-pay-for-michelle-obamas-nutrition-initiative->, accessed 6-29-11, CH)

Food stamps have made multiple appearances on the fiscal chopping block because Democrats have few other places to turn to offset the cost of legislation. Party leaders raided the budget to find off-setting tax increases and spending cuts to pay for their top legislative priorities, including the roughly $900 billion healthcare law. Congressional pay-as-you-go rules require lawmakers to offset all non-emergency spending. Democrats have turned to the food-stamp program because funding increases enacted in the stimulus package last year were already scheduled to phase out over time. The changes proposed in the state-aid and nutrition bills would simply cut off that increase early, in March 2014. Because the cuts would not take effect for more than three years, Democratic leaders have voiced the hope that they will be able to stop the cuts in future legislation.

Republicans committed to CUTGO

Hill 11(Frank, federal spending consultant, Family Security Matters, 1/11, <http://www.familysecuritymatters.org/publications/id.8379/pub_detail.asp>, accessed 6-29-11, CH

Same as with the federal budget nowadays that has been spinning out of control for these past 10 years or so. We might start calling the federal budget ‘El Diablo’ to put it on par with these spectacular Brahman bulls on the rodeo circuit. Anyway, one of the things the new GOP majority has said they are going to do in the 112th Sitting of Congress is to institute the ‘CUTGO’ budget mechanism…’Cut-As-You-Go’. Meaning specifically, if any Member of Congress wants to ‘increase’ spending in one area of the budget, say education for example, they also have to produce a corresponding ‘decrease’ in spending in another part of the budget, say, agriculture, to balance it out.

Republican CUTGO would still force trade-off

Dinan 11 (Stephen, staff, Washington Times, 1/5, <http://www.washingtontimes.com/news/2011/jan/5/partisan-lines-take-center-stage-congress-convenes/>, accessed 6-29-11, CH)

Republicans have taken Democrats’ pay-as-you-go, or “pay-go,” rules and changed them into what the GOP calls “cut-as-you-go.” Under those changes, new spending would have to be “paid for” by other spending cuts, but tax cuts would not need to be offset. The new rules also would streamline the process for repealing the new health care law by exempting the repeal bill from budget requirements.

Link—Inner NASA T/Off

NASA budget is zero-sum—Constellation proves

Homans 10 (Charles, editor, Washington Monthly, <http://www.washingtonmonthly.com/features/2010/1005.homans.html>, accessed 7-1-11, CH)

Searching for funding within the zero-sum confines of the NASA budget, Griffin began dipping into other projects’ accounts. Soon Constellation was not only behind schedule, but forcing the cancellation of more useful NASA research and technology development programs. By 2009 Ares’s first flight was optimistically projected for 2015 and realistically years after that, and the estimated cost of building the rockets had grown from $14.4 billion to $35 billion. The moon base, to say nothing of Mars, receded into the distant future. What had begun as an audacious bid for NASA’s past glory was quickly becoming a very expensive means of continuing the dull obligations of the present, the perfunctory trips to and from the International Space Station—something Griffin had long scoffed at as a waste of time and resources. And even that wouldn’t be possible until years after the space shuttle was scheduled to be retired, meaning that American astronauts who wanted to get to the station would be reduced to paying to hitch rides with the Russians, whose Soyuz rocket and capsule would be the only means of getting into orbit.

NASA projects trade off

Handberg 10 (Roger, author of *Space, The Dormant Review,* The Space Review, 3/1, <http://www.thespacereview.com/article/1576/1>, accesed 7-1-11, CH)

In addition, within the space community, there exist severe splits between those who support unmanned or robotic missions as opposed to human spaceflight programs. These distinct clusters of space exploration supporters, especially the former, see the competition for scarce resources as essentially zero-sum; that is, if one wins, the other loses. Strategies to overcome this problem can take several forms, usually with bad results. One strategy taken by NASA when the space station program was originally set up after President Reagan’s approval of the program, over the objections of his science and political advisors, was to incorporate all the major NASA centers and other players into the program. The space station office originally was not located at any center in order to make the point that everyone had a piece of the pie, as it were. The result was a program out of control and incapable of disciplining itself to stay on schedule and within budget parameters. The result was a near-death experience in 1993 when the House of Representatives came within one vote of cancelling the program. That same summer, the Superconducting Super Collider program was cancelled due to a House vote. In addition, the cost overruns from the space station and the space shuttle forced the science community, including space sciences, to come out in public opposition to the station’s continuation since they saw its completion coming only at the cost of the space science community’s decimation. Given their previous history during shuttle development, they saw no alternative to becoming publicly critical of the space station. This was highly unusual within the Washington political community but reflected their desperation if Congress was not mobilized.

No new funding—NASA programs must trade-off

AAAS 99 (American Association for the Advancement of Science, 9/10, <http://www.aaas.org/spp//rd/nasa00h.pdf>, accessed 7-1-11, CH)

The House VA-HUD bill was originally scheduled to be debated on the House floor this week, but floor action has been postponed until after Congress returns on September 8. [The House approved the bill on September 9.] The Senate version of the bill will not be drafted until September, but it may contain cuts as severe as the House bill because its VA-HUD allocation is well below the House allocation. The Clinton Administration has issued a veto threat over the funding levels in the House bill, making enactment of the bill in anything resembling its current form highly unlikely. During floor debate, there are likely to be several proposed amendments to restore some of the funding cuts, but any restorations of NASA funding will have to be offset. [None of the NASA-related amendments were approved.] Currently, the only offset available is to cut another program’s funding in a zero-sum game, but the total amount available for the bill could be raised if 1) the discretionary cap is raised; or 2) some funds are designated “emergency” as they were in the Commerce-Justice bill; or 3) a further raid on the Labor-HHS bill’s allocation takes place

Link—Inner NASA T/Off

NASA budget zero-sum—competition and cuts between ISS, Constellation, shuttle program prove

Thangavelu 9 (Madhu, Prof. Department Of Aerospace Engineering@USC, Space News, 8/24, <http://www.spacenews.com/commentaries/consortium-for-the-international-space-station.html>, accessed 7-1-11, CH)

Now, a most poignant exchange between Augustine Committee members and NASA’s ISS manager reveals that NASA’s current budget, including stimulus funds, will still not allow us to keep the shuttle flying, the ISS operations rolling, and simultaneously provide enough resources for building the systems in the Constellation program for returning people to the Moon. Crawley points to the direct impact of this zero sum situation by suggesting that the Constellation program will have to be delayed until the ISS is decommissioned.

NASA funds limited—new programs would trade-off

Space Weather 9 (5/1, <http://www.solarstorms.org/SWChapter10.html>, accessed 7-1-11, CH)

NASA, and the space scientists that advise this agency, are not interested in building a follow-on satellite to ACE just to supply private industry with a forecasting tool, unless it can be justified on solely scientific terms of advancing our understanding. Even so, any prospective follow-on to ACE will have to compete with astronomy satellites such as the Next Generation Space Telescope to secure its funding, and with MAP, AXAF and Hubble Space Telescope to maintain their year-to-year operating budget. NASA has been forced into a zero-sum, or even declining, fiscal game by Congress, at a time when space research has exploded into new areas and possibilities. Whether the power industry gets a GIC-forecasting tool to keep Boston lights turned on, or NOAA's Space Environment Center can help satellite owners prevent another major communication satellite outage, hinges on whether investigating quasars is deemed more important than studying the physics of solar magnetic field reconnection.

Spending zero-sum, NASA spending would force cuts elsewhere

Blond 95 (Kara, staff, Defense Daily, 7/12, ndarticles.com/p/articles/mi\_6712/is\_n6\_v188/ai\_n28658227/, accessed 7-1-11, CH)

He conceded, though, that "this is a zero sum game" and that cuts would have to be made elsewhere if the centers are maintained. Previously, Hoyer voted to defer space station funding. Yesterday he suggested that station be examined as a possible source of budget cutting. Appropriators left untouched station's $2.1 billion FY '96 request. During Monday's markup, Rep. David Obey (D-Wis.) went a step further than Hoyer, proposing an amendment which would have terminated station, cutting $1.4 billion and leaving $700 million for termination costs. His amendment also assigned $400 million for deficit reduction and added back to the bill only $200 million for NASA science. The remaining $800 million, he reassigned to other agencies. The amendment was defeated by voice vote. NASA officials argue that closing centers threatens the agency's mission.

Link—Inner NASA T/Off

NASA budget constrictions means Mars funding would have to trade-off within the agency

Smith 1 (Marcia, Pres. Space and Technology Policy Group, CRS Issue Brief for Congress, 5/11, <http://www.cnie.org/NLE/CRSreports/science/st-57.cfm#_1_13>, accessed 7-1-11, CH)

The 1999 Mars failures raised concerns in general about NASA's "faster, better, cheaper" (FBC) approach to building spacecraft. Three reports requested by NASA were released in March 2000 that looked at the Mars failures and/or at the FBC paradigm in general. Colloquially they are called the Stephenson Report, the Spear Report, and the Young Report and are available at http://www.nasa.gov/newsinfo/publicreports.html. A fourth report was prepared by the National Research Council at the request of Congress prior to the Mars failures (Assessment of Mission Size Trade-Offs for Earth and Space Science Missions). The reports generally founds flaws in the implementation of FBC but none suggested abandoning FBC. NASA released a new, more modest approach to Mars exploration in November 2000 that it hopes will lead to greater success. It also initiated reviews of other FBC programs and concluded that some required additional funding to maximize the probability of success. To provide that funding, NASA had to terminate other space science programs, such as a planned mission to Pluto--the only planet not yet visited by a NASA probe. Criticism of the Pluto mission's cancellation led NASA to open another "announcement of opportunity" (AO) for proposals for a lower cost mission to the planet. However, President Bush's FY2002 budget endorses a "robust" Mars exploration program, which requires additional funds for Mars from within the space science account. NASA therefore again said it would cancel the Pluto mission, as well as a Solar Probe project. Congress objected to NASA's cancellation of the Pluto mission, so NASA is still accepting proposals even though it is unclear if the program will be funded. NASA also has revealed $4 billion in cost growth on the space station program. At the same time, NASA announced it was cancelling two programs (X-33 and X-34) that were the centerpieces of NASA's attempt to develop new reusable launch vehicle (RLV) technology because of cost overruns and schedule delays. The agency plans to fund new RLV concepts through the Space Launch Initiative, begun in FY2001. Thus, NASA is facing challenges on many fronts in terms of program management and funding constraints. NASA's FY2002 budget request of $14.5 billion is approximately 2% more than its FY2001 level, an increase slightly less than the rate of inflation.

**Obama’s budget freeze guarantess trade offs**

FOX 10 (Fox News, 2/1/10, http://www.foxnews.com/politics/2010/01/31/obama-offers-budget-deficits-far-number-crunchers/) JPG

In the proposed budget, the White House is touting $20 billion in cuts and savings. But those savings are offset by increases elsewhere. For instance, the administration is budgeting a $20 billion increase in certain education funding -- a $17 billion increase for Pell Grant funding and a $3 billion increase for programs under the Elementary and Secondary Education Act. The budget assumes unemployment will remain high in the near future. It projects 10 percent unemployment on average for 2010 and 9.2 percent unemployment for 2011. It projects a 3.8 percent increase in GDP in 2011, compared with a 2.7 percent increase this year. And like last year, the budget includes a limit on charitable and mortgage deductions for families making more than $250,000 a year. The measure is expected to bring in $291 billion over the next decade. The numbers come as the president and congressional Democrats have pivoted from preparing a $1 trillion health care proposal to focusing on jobs and the deficit. Speaking at the State of the Union last week, Obama told a joint session of Congress that he wants to freeze spending -- beginning in 2011 -- on discretionary spending except the military, veterans and homeland security. The president said that would save $250 billion over 10 years. The budget also includes a freeze on pay for White House senior staff. But keeping budget deficits where they are currently projected will happen only if tax cuts passed in 2001 and 2003 expire as scheduled at the end of this year. The White House calculates tax hikes would generate $1.2 trillion in revenue over 10 years."We just did an 84 percent increase in a very short period of time of all this new spending. Democrats, since they took over Congress, increased domestic discretionary spending by $1.4 trillion," Rep. Paul Ryan, R-Wis., said on "Fox News Sunday." "We don't think taking all this money out of the private economy up to Washington and spending it through Washington is the way to create jobs. We believe we should keep that money in the economy," Ryan added. Under the proposed budget, NASA's moon mission would be put on hold, though NASA's overall budget would increase. The Pentagon and Department of Homeland Security budgets would also see increases.

Link—Inner NASA T/Off

NASA science budget is flat – Obama’s freeze guarantees funding trade-offs

LBA 8 (Lewis-Burke Associates, government relations firm specializing in public policy, 2/5/8, http://www.cswe.org/File.aspx?id=23851) JPG

The budget proposal presents a challenge to the Congress to deliver on the proposed ACI investments. Given that the overall domestic budget is essentially a freeze, these increases are proposed at the expense of funding reductions across the federal government. The President proposes to eliminate or reduce funding for 151 federal programs to save $18.2 billion in the budget. These proposed savings on paper help make room for the President to propose new spending initiatives, such as the ACI, within a flat domestic budget. These savings are likely to be rejected by Congress again this year, leaving it no choice but to increase domestic spending (as it did last year) or come up short on funding to implement the ACI. Following Defense Secretary Gates’ review of the Department of Defense science and technology programs, the FY 2009 budget proposes a promising increase of $65 million (4 percent) for DOD basic research. Not all federal research programs, however, would do as well under the FY 2009 Administration request as would the ACI agencies. The budget for the National Institutes of Health (NIH) would remain flat yet again with a request of $29.2 billion for FY 2009. The NASA science program would be essentially flat as well, and research at the National Oceanic and Atmospheric Administration (NOAA) would decline by $20 million or 5 percent.

Link—Inner NASA T/Off

New NASA funds would be reallocated from other NASA projects

CBO 4 (Congressional Budget Office, Sept, <http://www.cbo.gov/doc.cfm?index=5772&type=0&sequence=3>, accessed 7-2-11, CH)

CBO assumed in its analysis that funding for farther-term robotic support missions (those envisioned for beyond 2009, for which there is little detailed planning) and activities from the other categories (the space shuttle, the ISS, and aeronautics and other science programs) would not experience cost growth but would remain at their planned levels. NASA's budget projection incorporates the assumption that through 2020, the number and content of those activities will be adjusted to fit within their projected annual funding levels--in the case of the farther-term robotic support missions, funding held constant at the level projected for the missions for 2009, or about $1.9 billion per year. The agency plans to accommodate any increases in the funding required for those longer-term projects by extending schedules or reallocating funds, either within the category or between categories. Alternatively, the number of missions or the content of missions could be scaled back to reduce costs. In some cases, however, NASA's ability to make such adjustments might be limited--in particular, if the knowledge or experience that NASA expects to obtain from the yet-to-be-defined robotic support missions is critical to conducting the human exploration mission. (CBO addresses the possible implications of cost growth in all robotic support missions in the analysis described in Chapter 3.)

Link—Out-of-NASA T/Off

R&D is zero-sum within all agencies

Raloff 11 (Janet, science reporter, Wired, 2/15, <http://www.wired.com/wiredscience/2011/02/science-obama-budget/> accessed 7-1-11, CH)

To pay for those priorities, Holdren says, agencies were asked to make the painful determination of which programs were underperforming or of lower priority to the president’s national objective “to out-innovate, out-educate and out-build the rest of the world.” “I think it is especially encouraging to have a president who really supports R&D and education,” says Albert Teich, who directs science and policy programs at the American Association for the Advancement of Science in Washington, D.C. “You wish every president saw things this way. What’s discouraging, of course, is that we face this huge deficit. And not everybody in Congress is going to agree with the president’s priorities. So there’s bound to be fights over it.” How big a tussle? “That’s the question of the hour. And for the answer, I think you should ask the IBM computer on Jeopardy this week,” Teich says. This “zero-sum game” for federal R&D budgeting is novel, Teich notes. It is also virtually impossible to achieve, he adds, since a host of different congressional committees are responsible for eventually drafting the spending bills that will determine how money will be apportioned for individual agencies. And they don’t coordinate their spending plans to allow such a finely balanced ledger.

Tight budgets force trade-offs across agencies

Williams 11 (Jesse, columnist, Yale News, 1/20, <http://www.yaledailynews.com/news/2011/jan/20/war-of-the-wars/>, accessed 7-1-11, CH)

The budget-tightening weeks are a tough time in Washington. After all, our revenues are finite, so budgeting is a zero-sum game: every dollar we spend on education is a dollar we can’t spend on the military; every dime we put into Social Security is one dime that can’t go to NASA, and so on. So when it comes time to cut, every portion of spending can, in a very real sense, be evaluated against any other portion. Yet, we rarely do that kind of broad evaluating — we stay busy trying to decide whether we’re giving the Marine Corps a new tank instead of a new jet. That’s not a conversation about national priorities, and not the kind of conversation we can and should be having. Why not weigh that tank against, say, $12 billion in federal subsidies for education?

Link—Out-of-NASA T/Off

**NASA trades off with other agencies – empirics**

SpacePolitics 11 (2/22/11, http://www.spacepolitics.com/2011/02/22/briefs-assigning-members-and-blame/) JPG

It’s not posted yet on the committee’s web site, but the full House Science Committee will hold a hearing on Wednesday, March 2, on NASA’s FY12 budget request. NASA administrator Charles Bolden is the sole witness scheduled to testify. Last week the Senate Commerce Committee announced the chairs and ranking members of its subcommittees. To no one’s surprise, Sen. Bill Nelson (D-FL) will return as chairman of the science and space subcommittee. The committee’s new ranking member is freshman Sen. John Boozman (R-AR). However, it’s likely that full committee ranking member Sen. Kay Bailey Hutchison (R-TX) will continue to play a major role in any space topics during this Congress. Last week the full House approved an amendment to its 2011 continuing resolution to transfer nearly $300 million from NASA to a Justice Department community policing program. The amendment was introduced by a Democrat, but passed thanks to the votes of 70 Republicans, who joined 158 Republicans to approve the amendment. So what was the reaction of Rep. Mo Brooks (R-AL)? He blames the Obama Administration: “If the White House had argued for NASA among House Democrats, we would have protected NASA from this cut,” he told the Huntsville Times. Of course, if those 70 Republicans hadn’t voted for it, the amendment wouldn’t have passed regardless of what the Democrats did, as the GOP is now in the majority, but Brooks offers no explanation why 70 of his fellow House Republicans voted for the amendment.

NASA cuts get reallocated to other agencies – same committee oversees multiple agencies

Mervis 10 (Jeffrey, deputy news editor, Science Magazine, 2/5/10, http://www.wbur.org/npr/123410020/president-obamas-science-spending) JPG

But more broadly, Congress isn't going to go for all of these things. Congress, as you'll talk about later with NASA, is not going to be happy with that reallocation and savings. And the reason that's important to the rest of the science budget is because NASA is funded by the same committee that funds the National Science Foundation, the Environmental Protection Agency, the Department of Commerce, which has NOAA and NIST. And so if they have a fixed amount of money, the more they give to one agency, the less there is for everybody else. So sometimes Congress makes decisions not because they're opposed to research, but because they have other higher priorities.

Link – NASA Budget Tight

NASAs budget is allocated – funding comes from internal trade-offs

Moskowitz 11 (Clara, writer @ space.com, 2/14/11, http://www.msnbc.msn.com/id/41582976/ns/technology\_and\_science-space/t/white-house-freezes-nasas-budget-level/

The Obama administration has announced its 2012 budget request, which if approved would freeze spending for NASA and other federal agencies at 2010 levels for the next fiscal year. The 2012 budget request allocates $18.7 billion for NASA, the same amount the agency received in 2010. That's about $300 million less than NASA was alloted in the president's 2011 budget request. "The times today are very difficult fiscally, and we're going to live within a budget," NASA Administrator Charles Bolden said at a press conference Monday. "What we do has to be affordable, sustainable, and it has to make sense."

Link – NASA Budget Tight

**NASA is facing billions of dollars in budget cuts**

Svitak 11 (Amy, Staff @ SpaceNews, 3/18, http://www.spacenews.com/civil/20110318-money-woes-batter-planetary-budget.html)

NASA could be forced to impose a roughly $1 billion cap — including launch costs — on any new planetary flagship mission it undertakes this decade, far less than the U.S. National Research Council (NRC) recommended for this class of probe in its most recent survey of planetary priorities and more in line with what the agency spends on medium-sized missions. Jim Green, head of the Planetary Science Division at NASA headquarters here, said fiscal hard times necessitate a change in the way the agency develops and builds large-scale missions like the Mars Astrobiology Explorer-Cacher (MAX-C) that topped the NRC’s list of flagship-class planetary science priorities. The decadal survey pegged the cost of MAX-C, part of the U.S. contribution to a joint Mars campaign with the European Space Agency (ESA), at $3.5 billion, or possibly $2.5 billion if the mission were scaled back. “We really have to have a fundamental change in how we look at partnering and doing flagships,” Green said in a March 16 interview. “Maybe the real number is $1.2 [billion] or $1.3 billion, but it’s not $2.5 [billion],” he said, adding that once NASA accounts for other high-priority science objectives outlined in the survey, including small- and medium-sized robotic missions, $1 billion is all that remains.

Budget cuts in NASA leads to loss of global leadership

Svitak 11 (Amy, Staff @SpaceNews, 3/17, http://www.spacenews.com/civil/110317gop-lawmakers-appeal-for-manned-exploration-funds.html)

The members lauded America’s history of global leadership in space exploration but criticized Obama for what they said was undermining the nation’s leadership in space exploration. Obama’s plan also supports commercial astronaut transportation services and space technology development over deep space exploration systems favored by Congress. “[O]nce again, the Obama Administration’s budget willingly cedes that leadership to China, Russia and India — countries that understand the importance of human space exploration,” the letter states. “We cannot continue to accept this administration’s assault on American exceptionalism and world leadership.”

NASA has lost over 200 million from budgets

Moskowitz 11 (Clara, Senior Writer @ space.com 4/15, http://www.space.com/11411-nasa-2011-budget-cuts-constellation-funding.html)

The new measure is a political compromise between democrats and republicans, and includes significant spending cuts in the 2011 federal budget. NASA will have to make do with about $18.5 billion, putting its budget roughly $240 million below last year's funding level. NASA and the rest of the federal government had been in limbo while lawmakers haggled over the budget. But on Thursday (April 14), Congress passed a spending measure called a continuing resolution that will cover the last five months of the year 2011.

NASA’s funding has been cut in technology and aerospace development

Clark 11 ( Stephen, Staff @ SpaceNow, 4/14, http://spaceflightnow.com/news/n1104/14budget/)

We appreciate the work of Congress to pass a 2011 spending bill," Bolden said. "NASA now has appropriated funds to implement the 2010 authorization act, which gives us a clear path forward to continue America's leadership in human spaceflight, exploration and scientific discovery." What's missing in the budget is a line item for technology development. The bill also cuts NASA's space operations budget by more than $600 million from the 2010 level, an expected reduction due to the planned retirement of the space shuttle. It also denies a boost in aeronautics funding requested by the White House last year.

Link – NASA Budget Tight

Ending of the shuttle program caused major budget cuts

Fyke 11 ( Jeff, MBA in Pol. Science, 6/29, http://www.nerditorial.com/?p=1547)

2011 will be the year that sees the end of NASA’s shuttle program. There are only two launches left. Tomorrow, the Endeavour is scheduled to launch after a series of delays, and on 28 June, Atlantis will have its final launch. In a ceremony last month, NASA’s first flight director, Christopher C Kraft, lamented the close of this astounding program that commenced over 30 years ago: “I think the space shuttle is by far the greatest space ship we have ever built in this country… It’s too bad we’re not taking advantage of it for the next 30 years.” Whilst not the end of NASA by any means, the closing of the space shuttle program is a disappointment to many. It also represents a new, troubling strategy of budgetary cuts of government spending in the scientific fields, most notably astronomy and physics.

**Budget is only larger enough for the last of the shuttle program**

Florida Today 11 (4/14, http://space.flatoday.net/2011/04/congress-approves-nasa-budget-cuts.html)

The U.S. House and Senate today both approved a spending plan for the remainder of the 2011 fiscal year that cuts NASA's total budget by $241 million from 2010 levels, to $18.48 billion. The reduction is not believed to be deep enough to prevent NASA from flying a final planned shuttle mission in late June. The fiscal year ends Sept. 30. A statement from NASA chief Charlie Bolden doesn't specifically mention the shuttle flight, but says the agency can now implement legislation passed last year that says NASA "shall" fly the mission. The budget also removes language that prevented NASA from cancelling the Constellation program.

**NASA has an incomplete budget now, and Obama will change plans for human spaceflights.**

Foust 11 (Jeff, Editor @ Space Review, 1/3, http://www.thespacereview.com/article/1752/1)

A new year brings with it new hopes for the future, and new resolutions to do things better, or differently, than before. The new year also brings with it its fair share of challenges, though, not to mention unresolved problems and other baggage from the previous year. Spaceflight is no exception to this. The past year was a tumultuous one for civil space in particular, as the Obama Administration rolled out a budget proposal with significant changes for the agency’s human spaceflight plans, triggering a vociferous debate that raged into the fall. While the passage of a new NASA authorization act that enacted some of those changes ended that chapter of the debate, NASA and commercial space still have a number of major challenges ahead of them in the coming year, from wrapping up its still-incomplete budget for 2011 and gearing up for future budget battles to pressing ahead with the end of the Space Shuttle, the continued development of commercial human spaceflight capabilities, and exploring new opportunities for international cooperation.

**NASA’s budget is needed for human space flight**

Private Officer News 11 ( 2/24, http://privateofficernews.wordpress.com/2011/02/24/us-house-votes-to-transfer-298-million-away-from-nasa-and-spend-it-on-police-www-privateofficer-com/)

House conservatives such as Posey and Adams want NASA to stop spending money on climate-change research and spend it instead on space exploration. Rep. Pete Olson, R-Texas, drafted – but later withdrew – an amendment to the spending bill that aimed to shift $517 million from climate research to exploration. “In this tight budget cycle, we must reduce duplicative spending and target our resources where they will be most beneficial,” Olson said. “The 15 other agencies conducting climate research can pick up the slack while freeing up resources for NASA to make a truly unique contribution – maintaining U.S. dominance in human space flight.” Adams said tens of thousands of jobs depend on NASA’s commitment to space exploration. “At a time when unemployment is at 12 percent in Florida and 9 percent nationwide and our country is facing trillion-dollar deficits, I believe that limited federal funds are better invested in NASA’s human space flight program, not climate-change research,” Adams said.

Link – NASA Budget Tight

**NASA’s limited budget is needed to develop space launch systems.**

Palm Beach Post 11(1/27, http://www.palmbeachpost.com/opinion/editorials/nasa-grounding-itself-with-complaints-about-deadlines-budget-1214893.html)

President Obama said Tuesday that America faces a "Sputnik moment." If so, the space agency founded in response to the launch of the Soviet Union's satellite isn't rising to that moment. On this date in 1986, the space shuttle Challenger broke apart 73 seconds after launch, killing all seven astronauts aboard. That tragedy did not end the shuttle program, which by that time had replaced travel to the moon as NASA's core mission. Showing characteristic resilience, NASA pressed ahead. Now, a new emphasis on commercial development of low-Earth-orbit space travel, coupled with budget constraints, is ending the shuttle program and leaving NASA's future in considerable doubt. Last year, President Obama and Congress replaced NASA's Bush-era goal of returning to the moon and then going to Mars - the Constellation program. The new mandate is to develop a "Space Launch System" and a "Multipurpose Crew Vehicle" - basically, a rocket capable of carrying heavy payloads and a manned spacecraft it would propel into the solar system and eventual deep-space exploration.

**NASA doesn’t have enough budget to support extra costs.**

Semeniuk 11 ( Ivan, Staff @ NatureNews, http://www.nature.com/news/2011/110210/full/news.2011.84.html?s=news\_rss)

Some of the cuts look worse on paper than they may be in practice. Because the previous Congress was unable to reach a consensus and pass a 2011 budget last year, agencies are currently operating under a continuing resolution that directs them to spend money at 2010 levels. In some cases, the proposed cuts amount to maintaining that 2010 status quo. For example, NASA — which is slated by the Appropriations Committee for a $379-million cut — would remain near its 2010 funding levels. However, this leaves a number of questions unanswered, such as where the agency will find the money to support an extra shuttle flight — which was approved by Congress last year — and cover cost overruns by the James Webb Space Telescope project.

**NASA has been forced to cut spending on traveling to the moon.**

Hennigan 10 ( W.J., Aerospace Writer @ LA times, 4/5, http://articles.latimes.com/2010/apr/05/business/la-fi-rocket5-2010apr05)

The news comes as the Obama administration is pushing NASA to trim costs, an effort that agency staff and aerospace industry officials say could serve as a boon to space entrepreneurs in the private sector. In February, the president called on NASA to pull the plug on its plans to put astronauts back on the moon. The administration's proposed cuts, outlined in its 2011 budget, came after the federal government had already poured $9 billion into the lunar program. The agency, however, has also taken other cost-cutting measures, as in the March 26 propulsion contracts, said Karin E. Huth of NASA Glenn Research Center in Cleveland.

NASA needs budget for human space flight research

Cherry 11 (Mary Alys, staff @ HoustonNews,3/21 http://www.yourhoustonnews.com/bay\_area/news/article\_5ade7e55-0704-5b94-82e9-c76acbf789e0.html)

NASA’s future space missions are critical to the continued development of new American technologies, as well as our high-tech infrastructure throughout all sectors of the economy. “It is our belief that the commitments we make to the continuation of human space flight today will yield meaningful and sustained economic returns for decades to come.” Then, pointing to the nation’s debt problems, they added, “as our nation faces critical economic challenges, we must look to cut funding in places that will be challenging to accept . . . with a budget that also prioritizes current spending where it can do the most with the resources we have. This is why we are asking that any substantial reductions in programs or budget lines within the NASA budget would spare human spaceflight.”

Link – NASA Budget Tight

**Budget cuts have caused setbacks in technology development and job losses**

Gaudin 10 ( Sharon, Staff @ ComputerWorld, 2/1, http://www.computerworld.com/s/article/9150382/Fla.\_senator\_hits\_White\_House\_over\_reported\_NASA\_budget\_plan)

"Based on initial reports about the administration's plan for NASA, they are replacing lost shuttle jobs in Florida too slowly, risking U.S. leadership in space to China and Russia, and relying too heavily on unproven commercial companies," said Sen. Bill Nelson, (D-Fla.) in a statement on his Web site. "If the $6 billion in extra funding is for a commercial rocket, then the bigger rocket for human exploration will be delayed well into the next decade. That is unacceptable." Nelson added, "We need a plan that provides America with uninterrupted access to space while also funding exploration to expand the boundaries of our knowledge." NASA scientists had been preparing in recent years for what the agency calls the Constellation moon landing plan initiated by former President George W. Bush. The latest budget plan reportedly ends the NASA plan to send humans back to the moon by 2020. And instead of building rockets to replace the retiring space shuttle fleet, several billion dollars will be set aside for contracts with private companies whose spacecraft will be used to ferry NASA astronauts on space missions.

**NASA’s budget will only continue to decline over the next 4 years due to inflation**

Atkinson 11 ( Nancy, Staff @ Universe Today, 3/4, http://www.universetoday.com/83740/nasa-mission-to-europa-may-fall-to-budget-cuts/)

The out-years budget means no major new starts of a flagship planetary [mission],” Ronald Greeley, a regent’s professor at Arizona State University in Tempe and chairman of the NASA Advisory Council’s planetary science subcommittee, said during a March 1 conference call with panel members. “That’s a major, major issue for our community.” The only flagship-class planetary mission in the works is the $2.5 billion Mars Science Laboratory Curiosity. The Juno mission to Jupiter, scheduled to launch in August 2011, is a medium-class “New Frontiers” mission set to study Jupiter only and not any of its moons. The 2012 budget request for NASA, unveiled February 14, 2011 by President Obama, would boost spending on planetary science activities from the current level of $1.36 billion to $1.54 billion next year. But funding would steadily decline over the following four years, to $1.25 billion in 2016. Space News reports that “NASA’s projected top-line budget is flat over the next five years at $18.72 billion, which when inflation is factored in translates into a decline in spending power. But there are budgetary scenarios under which NASA’s budget would decline over the next five years, even as the agency tries to replace the space shuttle and contends with runaway cost growth on the $5 billion-plus James Webb Space Telescope, the designated successor to the Hubble Space Telescope.”

**NASA’s budget has been cut**

Berger 11 (Brian, Staff @ space.com, http://www.foxnews.com/scitech/2011/04/15/congress-approves-1845-billion-nasa/)

The U.S. Congress included $18.45 billion for NASA in hard-fought spending compromise lawmakers passed April 14 to fund the federal government for the last five months of the 2011 budget year. Formal passage of the budget compromise Congress and the White House reached April 8 to avert a government shutdown brings an end to the uncertainty that has frustrated decision making at NASA and other federal agencies since the new fiscal year began last October. But it also leaves NASA with a budget some $240 million below last year's level.

Link – NASA Budget Tight

NASA has huge cuts in its aeronautics and technologies programs.

Space Today 11 (2/13, http://www.spacetoday.net/Summary/5190)

The House Appropriations Committee released late Friday proposed legislation that would cut NASA's budget by over half a billion dollars from the administration's request for 2011. The continuing resolution, which would fund NASA and other federal agencies for the remainder of fiscal year 2011, cuts the administration's proposed $19-billion budget for NASA by $579 million, or $303 million below what the agency got in 2010. NASA's science, exploration, and aeronautics and space technology accounts would each get cut by over $500 million each, while space operations, which covers the shuttle and ISS, would get an increase over the proposed 2011 budget to account for continued shuttle operations through at least the middle of this year. The bill includes a provision removing language from a 2010 appropriations act that prevented NASA from canceling elements of Constellation, and another provision that prohibits NASA from spending any funds on cooperation with China. The legislation will be taken up by the full House in the next week, although key members of the Senate have criticized the legislation, indicating its passage is not assured. NASA and the rest of the government have been running on a series of stopgap spending bills since the fiscal year began last October 1, which continues agency programs at 2010 spending levels.

**NASA is facing budget cuts in the shuttle and environmental programs**

Svitak 11 (Amy, Staff @ Space.com, 4/6, http://www.space.com/11315-nasa-budget-cuts-congress-bill.html)

NASA could lose $139 million in funding this year if Congress adopts a short-term spending bill introduced by the U.S. House of Representatives April 4 to keep the government operating through mid-April. The proposal, which includes $12 billion in proposed reductions to discretionary spending in 2011 and would fund the U.S. Defense Department through the remainder of the fiscal year, would trim NASA’s space shuttle program by nearly $100 million below the 2010 appropriated level of $6.14 billion. Another $40 million cut would come from the agency’s construction and environmental compliance account, for which Congress appropriated $448 million last year. If enacted, the temporary spending bill, H.R. 1363, would prevent a government shutdown for an additional week beyond Friday (April 8), when the current stopgap spending measure expires.

**NASA barely has enough to fund current space tech research.**

Bhattacharjee 11 (Yudhijit, Staff @ ScienceInside, 4/12, http://news.sciencemag.org/scienceinsider/2011/04/nasa-science-budget-holds-steady.html)

There is $3.8 billion for the exploration directorate, which includes $1.8 billion for the development of a heavy-lift vehicle and $1.2 billion for building a multipurpose crew capsule to go into low-Earth orbit. The bill, H.R. 1473, also gives NASA permission to cancel the Constellation Program. Until now, NASA had been prevented from terminating Constellation, which was keeping it from starting on the new initiatives. The Science Mission Directorate will get $4.945 billion, just $60 million short of what the President requested, and $452 million more than what it got in 2010. However, that amount seems unlikely to be enough to solve some of the science mission's financial difficulties, which includes an over-budget and behind-schedule James Webb Space Telescope.

Link – NASA Budget Tight

NASA has a low budget now because of stop gap

Berger 11 (Brian, staff @ space.com, 2/11, http://www.spacenews.com/policy/110210-house-propose-nasa-cut.html)

NASA’s budget would drop at least $103 million this year if Congress adopts spending cuts proposed by the House Appropriations Committee. NASA, like the rest of the federal government, has been operating since October under a stopgap spending measure that expires March 4. For NASA, the stopgap measure — known as a continuing resolution — has meant making do with the $18.724 billion Congress appropriated for 2010. House appropriators intend to introduce a new continuing resolution soon that would fund the government through the end of September. Among the $74 billion in cuts outlined Feb. 9 is a $379 million reduction to NASA’s proposed $19 billion budget for 2011. If enacted, that would leave NASA funded at $18.621 billion, or $103 million below the agency’s 2010 level.

NASA’s funding could get cut to 17 billion, and is still funding programs that are due to be cancelled

Roskens 11 ( Jess, Staff @ Prairie News, 2/15, http://www.theprairienews.com/2011/02/15/nasa-faces-budget-cuts/)

Instead of looking at a budget increase for NASA, Congress could be looking at a decrease to 2008 levels ($17 billion). A spending reduction act proposed by Rep. Jim Jordan (R-OH) would make this change. Many experts say this proposal is going to make the deep-space goals more difficult. Even more troubling for NASA, as pointed out by NASA Inspector General Paul K. Martin in a letter to the Chair and Ranking Member of the House Committee on Science, Space and Technology Ralph Hall (R-TX), until Congress gives the go ahead, NASA cannot start work on the SLS, but also cannot stop working on the Ares rockets from the cancelled Constellation project. “Due to restrictive language in NASA’s fiscal year (FY) 2010 appropriation (the Constellation program NASA is continuing to spend approximately $200 million each month on the Constellation Program,” General Martin said. “Aspects of [the Constellation Program that] both NASA and Congress have agreed not to build.”

Link – NASA Jobs Down

NASA budget constraints are causing job cuts across the board

Kuo 11 ( Vivian, Staff @ CNN, 4/7, http://articles.cnn.com/2011-04-07/us/alabama.nasa.cuts\_1\_nasa-administrator-charlie-bolden-nasa-employees-contractor?\_s=PM:US)

NASA said Thursday, because of budget constraints, between 150 and 300 contractor positions will be eliminated at the Marshall Space Flight Center, the agency's Huntsville, Alabama facility. "Funding to Center support contractors will be reduced and that will result in reductions to the contractor workforce here," NASA said in a statement. Marshall spokesman Dominic Amatore said the furloughs were not wholly unexpected. "Our director back in January talked about budget issues and at that time, told employees about forming groups to look at expenditures, especially procurement money," he said. Advertisement Amatore said Marshall Center director Robert Lightfoot delivered an all-hands message on Tuesday to announce the layoffs. "The cuts are broadly across the center," Amatore said. "The jobs that are directly affected by this budget involve center operations and maintenance, so it really cuts across the operation." The contract employees will get additional information from the organizations they work in and, ultimately, from the specific contract companies they work for, Amatore said

More than 1, 000 cuts have happened in NASA and there will be even more as the shuttle program comes to the end

Padmore 10 (Russell, Business Reporter @ BBC, 4/7, http://www.bbc.co.uk/news/10535140)

The US's leading space contractor is to cut the jobs of more than 1,000 of the world's leading scientists and technicians after Nasa ended its space shuttle programme. United Space Alliance, which manages the shuttle fleet and handles Nasa's International Space Station, said most jobs would go in Florida and Texas. Two shuttle missions remain, which are scheduled to be completed by 2011. The job cuts represent about 15% of the workforce, with more cuts expected. "People being laid off now is just the beginning. Many more thousands will be laid of as the shuttle programme is wound down," Keith Cowing, the editor of space specialist website Nasa Watch, told the BBC World Service.

NASA has already made thousands of budget cuts

Dean 11 (James, Staff @ Federal Times, 3/17, http://www.federaltimes.com/article/20110317/AGENCY01/103170305/1001)

Already coping with thousands of layoffs tied to the shuttle program's end, Kennedy Space Center is cutting more jobs because of flat federal financing so far this year. About 150 positions are expected to be eliminated by April 1 to reduce costs associated with the center's day-to-day operations. Custodial, library, health, security and transportation services are among those affected by reductions in hours or staffing. "I know that these reductions will not be easy," center Director Bob Cabana wrote in a memo to employees last month. "All of the changes have been thoroughly considered, and we believe they are the best possible solutions to a very difficult problem." The problem is that the space center, like the rest of NASA, has been operating at 2010 financing levels for nearly the first half of the 2011 fiscal year while Congress has haggled over the budget

Link – NASA Jobs Down

The shuttle program ending will cut thousands of jobs

Nichols 11 (Hans, Staff @ Business Week, 4/29, http://www.businessweek.com/news/2011-04-29/nasa-delays-shuttle-endeavour-s-launch-until-at-least-may-2.html)

The end of the shuttle program will translate into thousands of lost NASA jobs in a state crucial to Obama’s re- election. “At the Cape they stand to lose seven or eight thousand jobs in the next year because of the shuttle program ending,” said Bretton Alexander, the president of the Commercial Spaceflight Federation, a Washington-based trade association of companies promoting commercial human spaceflight. Obama and Senator Bill Nelson, a Florida Democrat who in 1986 flew one shuttle mission as a payload specialist, “are taking a lot of heat for that, but that was going to happen no matter what,” he said. Florida Republicans have criticized Obama’s approach. “The president’s space policy is jeopardizing America’s longstanding commitment to manned space exploration,” Senator Marco Rubio wrote in the Orlando Sentinel on April 26. “This has serious consequences for Florida

Wasserstrom 11 (Greg, Staff @ TPM, 2/11, http://idealab.talkingpointsmemo.com/2011/02/massive-layoffs-await-nasa-workforce-as-shuttle-program-winds-down.php)

As NASA's space shuttle program comes closer to its long-scheduled termination later this year, concern is growing in Florida and around the country about the future of the massive workforce currently employed both directly and indirectly by the program. Brevard County -- the central Florida home of the Kennedy Space Center, the famous Cape Canaveral launchpad and ten of thousands of highly trained and specialized aerospace workers -- is bracing itself for the worst. Many fear the impending end of the shuttle program will bring about a repeat of the economic devastation of 1975, when NASA abruptly cancelled the Apollo program; everything from rocket science to real estate was impacted, practically overnight.

Huge layoffs are coming soon.

Berger 11 (Eric, Staff @ Houston Chronicle, 6/30, http://blog.chron.com/finalmission/2011/06/behind-the-scenes-of-launch-preparations-massive-job-losses/)

Today NASA is down to 5,500 contractor employees and 1,200 civil servants working on the shuttle, said program manager John Shannon. That’s a total of 6,700 people who process the shuttle and support it during flight. John Shannon talks about STS-119. (NASA) If the shuttle launches July 8, as expected, another big layoff will come on July 22. At that time NASA will lay off about 3,200 contractors, Shannon said. “It’s tough to break up a team that has performed so well, for so long,” he said. The shuttle program will officially end 30 days after Atlantis’ wheels stop on Kennedy Space Center’s runway. By later this summer the number of contractors will fall to about 1,000 people to dispose of the program’s assets and prepare the shuttle’s for public display. In museums other than those in Houston.

Link – NASA Jobs Down

Without the 6 billion promised by Obama the budget is a cut.

Smith 11 (Josh, Staff @ International, 2/14, http://www.nextgov.com/nextgov/ng\_20110214\_6925.php)

The total amount budgeted for NASA matches 2010's funding of $18.7 billion, but the plan strips nearly $2 billion from the Space Operations program, which is responsible for operating the space shuttle and International Space Station. This reduction is based largely on the shuttle program drawing to an end (the last flight is scheduled this year), as well as a planned merger of the two directorates. Funding for NASA's Exploration directorate got a bump, funneling dollars to the programs developing the next generation of space vehicles and technology. Last year, Obama scuttled a Bush-era plan to return to the moon and called for more privatization, as well as missions to an asteroid and Mars. To meet those goals, however, the president proposed a $6 billion surge in funding over the next five years. Without any of that money, analysts say the current plan amounts to a budget cut.

A2: Link Turns – No Immediate Returns

Cuts from the budget aren’t allocated immediately

Moore 95 (David, Principal Analyst of Natural Resources and Commerce Division Congressional Budget Office, 3/16/95, http://www.cbo.gov/doc.cfm?index=4787&type=0) JPG

Mr. Chairman and Members of the Subcommittee, I appreciate this opportunity to discuss restructuring the National Aeronautics and Space Administration (NASA) and the agency's continuing effort to adapt to lower budgets. The Congressional Budget Office (CBO) presented testimony to this Subcommittee in October 1993 and released a related study, Reinventing NASA, in March 1994, both of which respond to the questions before the Subcommittee today. CBO's last look at NASA reached two conclusions: Changing the way that NASA does business may offer improved program management and technical performance and some cost reductions, but the associated budgetary savings are uncertain and unlikely to be realized in the near term. Canceling, scaling back, or stretching out programs and reducing NASA's federal workforce are necessary to lower the cost of NASA's program to the level included in the President's 1994 budget plan. Cost reductions created by more efficient management, procurement, and acquisition practices are unlikely to be large enough to allow NASA's budget to be cut further without additional reductions in its program. Ultimately, a smaller budget will mean a smaller program and fewer accomplishments for the civilian space program. The five-year plan consistent with the President's budget for 1996 requires the agency to make unspecified reductions of slightly more than $4 billion for 1997 through 2000. The agency is faced with the unenviable choice of reducing its current program, trimming its institutional capability (including the civilian workforce), dramatically narrowing its focus, or some mix of the three. The conclusion CBO reached 18 months ago seems more pertinent than ever: ultimately, a smaller budget will mean a smaller program and fewer accomplishments for the civilian space program. Absorbing a large part of the $4 billion reduction may be possible by decreasing NASA's civilian workforce and other costs carried in the agency's institutional accounts (largely captured in the accounts known as research and program management). One might question, however, whether maintaining the current program's scope with reduced overhead delivers the most benefit to the taxpayer. An alternative approach would be to adopt a strategy that narrows the agency's mission, or product line (to use the language of the private sector), based on a clear understanding of which activities produce the greatest benefit for their cost. That approach may capture even greater saving than those required by the President's request for 1996. NASA might be called on to make such larger reductions should the Congress devise an overall budget plan that reduces the deficit more than the President's budget proposal does.

\*\*\*AFF\*\*\*

NUQ – NASA Cuts Now

New budget shortfalls make cuts inevitable

Foust 9 (Jeff, writer @ The Space Review, 1/15/7, http://www.thespacereview.com/article/785/1) JPG

Easily the biggest near-term problem facing the Vision, and NASA in general, is the agency’s budget. When the Vision was first announced, it was sold to Congress and the public as an effort that required very little additional money, instead taking advantage of the savings that would be realized once the shuttle was retired and the ISS completed. NASA produced an elaborate chart, soon dubbed the “sand chart”, which showed how the budget for the exploration program would grow while the overall size of the agency’s budget grew only at roughly the rate of inflation through 2020. This avoided the half-trillion price tag that doomed SEI, although initially there were media reports that claimed the whole effort would cost a trillion dollars (see “Whispers in the echo chamber”, The Space Review, March 22, 2004). This appeared to win over Congress, which provided NASA with the modest initial budget increase requested to kick off the program (thanks, in part, to some last-minute maneuvering by then-House Majority Leader Tom DeLay in the final negotiations for the fiscal year 2005 appropriations bill.) Since then, though, NASA has found it more difficult than initially expected to ramp up the Vision without impacting other agency programs. The high costs of returning the shuttle to flight and continuing work on the station led NASA, in its FY 2007 budget proposal, to propose cutbacks in science and aeronautics programs to avoid bigger cuts in the exploration program—something that Griffin, who returned to NASA as administrator in April 2005, had previously claimed he would not do. This has created a growing degree of opposition to the Vision within the scientific community where previously, when it appeared the Vision and science missions could co-exist in some degree of harmony, there had been little active opposition. Exacerbating the problem is the lack of a 2007 budget for NASA. The 109th Congress adjourned in December without approving most of the FY 2007 appropriations bills on its plate, including the one that funds NASA. The new Congress, now under Democratic leadership, announced last month that instead of finishing those outstanding bills, they would instead quickly pass a “joint funding resolution”, which, in effect, would be a longer version of the stopgap continuing resolutions that have funded NASA and other affected parts of the government since the fiscal year began on October 1. The new resolution, which would run through the end of the fiscal year, would continue to fund agencies at the FY 2006 levels—meaning that NASA could end up with about a half-billion dollars less than what it anticipated for 2007. That’s not good news for an agency that was already feeling squeezed. Some reports have suggested that there may be some room for improvement in the weeks to come as Congress hashes out the joint funding resolution, allowing NASA to win back some of the money it currently stands to lose. However, given the expected fierce competition for funding, it seems unlikely NASA will get it all back, making a bad situation worse. In an interview with Aerospace Daily published last week, Griffin said both the two key programs of the Vision, the Orion spacecraft and Ares 1 launcher, as well as the shuttle and station, would have the highest priority for funding, suggesting that science and aeronautics programs or even lower-priority exploration programs, such as robotic lunar missions that would follow the Lunar Reconnaissance Orbiter, could be in greater jeopardy.

Cuts are inevitable – NASA has unfunded projects

Morris 10 (Jefferson, writer @ Aviation Week, 9/28/10, http://www.aviationweek.com/aw/generic/story\_channel.jsp?channel=space&id=news/asd/2010/09/28/03.xml) JPG

Both the House and Senate versions of the NASA authorization provided for an additional space shuttle flight after the two remaining on the manifest, which would likely occur in February. But Gordon said he is concerned by an “unfunded mandate” in the Senate bill that would keep the program going through the remainder of Fiscal 2011, even after the fleet is retired. This provision would cost “$500 million or more without clarifying where the funds will come from, all but ensuring that other important NASA programs will be cannibalized,” he said. Gordon said another concern is that the Senate bill is “overly prescriptive” on the design of a follow-on human-rated launch system, as compared to the House Science compromise language, which he said would let NASA determine the best approach to design and safety.

No Link – PayGo/CutGo

The plan is new spending – PAYGO doesn’t guarantee trade-offs – each committee allocates its own funds guaranteeing funding for each project

Riedl 5 (Brian, Grover M. Hermann fellow in federal budgetary affairs @ Heritage, 1/25/5, http://www.heritage.org/research/reports/2005/01/whats-wrong-with-the-federal-budget-process) JPG

The budget process is designed with a bias toward higher spending and taxes. Public choice theory recognizes that how democracies make decisions has a substantial effect on what is decided. Multi-year constraints, such as PAYGO and discretionary spending caps, represent an attempt by policymakers with a long-term view to constrain the decisions of annual budgeters who are focused only on the short term. However, these multi-year constraints fail to settle the question of whether the budget process should be used to limit spending (as discretionary caps suggest) or to slow the growth of the budget deficit, regardless of government size (as PAYGO suggests). This confusion created odd situations whereby even policies that would achieve both goals of reducing spending and reducing the budget deficit (such as a discretionary spending cut accompanied by a smaller tax cut) have not been allowed. Furthermore, PAYGO did not successfully blunt the pro-spending bias of annual budget writers because it focused only on the effects of new policies and ignored current policies-because it was rarely enforced. Public choice theorists also note the pro-spending bias caused by the decentralization of spending committees. Although a single appropriations committee in the House and the Senate annually approves all discretionary spending, nearly a dozen different committees in each body of Congress write mandatory spending programs. The lack of coordination between these committees creates a "tragedy of the commons," whereby each committee is responsible only for the funding of its own pet programs with no obligation to trade off their costs with the costs of other committees' programs.[3] Accordingly, each committee over-prioritizes and consequently over-funds its own programs. A single committee reviewing all legislation would solve this bias by taking on the responsibility to make the difficult trade-offs.[4]

No Link – PayGo/CutGo

Senate and House won’t abide PAYGO—empirics

Williams 11 (Roberton, Senior Fellow at the Tax Policy Institute, Crhistian Science Monitor, <http://www.csmonitor.com/Business/Tax-VOX/2011/0111/PAYGO-in-the-House-What-it-means-and-won-t-mean>, accessed 6-29-11, CH)

While the new rules will make it easier for House Republicans to pass more budget-busting tax cuts, the combination of the Democrats’ majority in the Senate and President Obama’s veto pen could limit the fiscal damage. But don’t be so sure. Remember that in recent years, the House obeyed its strict PAYGO rules by offsetting AMT relief with higher taxes on managers of hedge funds and other investment firms. But the Senate then ignored its own PAYGO requirements and let each year’s patch add to the deficit. And last month, after insisting for two years that fiscal restraint demanded that the Bush-era tax cuts expire for high-income taxpayers, the president quickly gave away that revenue in his compromise agreement with Republicans.

No PAYGO—it’s just a gimmick

Bernstein 11 (Jonathan, staff, The Atlantic, 4/6, <http://www.theatlantic.com/daily-dish/archive/2010/03/budget-gimmicks/189731/>, accessed 6-29-11, CH)

The important thing to remember about all budget gimmicks is that they there are really only two ways to change the federal deficit: raise more revenues, or cut spending. The presidents and Congresses that have really wanted to cut deficits (most notably George H.W. Bush in 1990 and Bill Clinton in 1993, along with Democratic Congresses in both cases) have done so by actually supporting proposals that would change government revenues and/or outlays. Any time you hear someone propose a budget gimmick instead of proposing to raise revenues or cut spending, you can be fairly certain that it's just hot air. The only exception I'd make would be for a pol who does both. Barack Obama, for example, is putting together a commission which is purely a public relations gimmick, but he's also supporting a health care plan that will, if implemented, probably cut the long-term deficit quite a bit. (Commissions can work if everyone involved wants to do something but doesn't want to leave fingerprints; that's not the case with Obama's commission). In general, I'd probably be willing to speculate that the more distant the gimmick, the less serious the authors are about it. So the one gimmick that actually might matter is the Democrats' PAYGO rules...although even there, the only real way it's going to matter is if Congress and the president abide by those rules, which means that the rules themselves are close to, although not quite completely, irrelevant.

No PAYGO—political ploy, loopholes

Shenk 11 (Jerry, contributor, American Thinker, 6/3, http://www.americanthinker.com/2011/01/paygo\_cutgo\_no\_go.html , accessed 6-29-11, CH

Among the most deceptive measures passed in the 111th Congress was the Statuary Pay-As-You-Go Act of 2010, or, in Washington vernacular, Pay/Go. Democrats passed Pay/Go in February 2010 to convince Americans of their fiscal moderation while plotting to raise taxes and engage in more shameless spending. Though they proposed to bypass Pay/Go within a week of its enactment, congressional Democrats and the White House told us that the bill established pay-as-you-go rules that would require legislation affecting mandatory spending to be "budget-neutral" -- in other words, that it would not increase the deficit. The bill also directed the Office of Management and Budget to review enacted legislation to determine if president-ordered, automatic, across-the-board spending cuts would be required to bring the federal budget into balance. In fact, the bill contained loopholes through which you could drive a dealer's showroom's worth of unsold federally subsidized Chevy Volts.

No Link – PayGo/CutGo

GOP will ignore PAYGO

MetroWest Daily News 11 (1/9, <http://www.metrowestdailynews.com/opinions/editorials/x1964017968/Editorial-Playing-politics-with-the-deficit>, accessed 6-29-11, CH)

The measure is unsubtly titled "Repealing the Job-Killing Health Care Law Act," lest some of the slower members not realize they're voting to kill President Obama and the Democrats' prize health-care reform. Republicans freely concede repeal is going nowhere as long as the Democrats control the Senate and the White House, but they argue it is not a complete waste of time because of the vote's symbolic importance. It is also symbolically important for another, less honorable reason. To get to that vote, the Republicans, who took office on a pledge to cut the deficit, had to ignore a critical mechanism called pay-as-you-go intended to put a brake on the deficit by requiring that tax cuts and spending increases be offset by tax increases and spending cuts elsewhere in the budget. The nonpartisan Congressional Budget Office reported Thursday that repealing the new health-care law will add $230 billion to the deficit over the next 10 years. The Republicans have no plans to cover that cost under the "pay-go," as it's commonly called. Apparently adding to the deficit is bad only as long as the other party is doing it. Moreover, House rules changes adopted by the Republicans leave a gaping hole in pay-go. New spending will still have to be offset but new tax cuts do not. The rules change will make tightening the leaky tax code that much tougher by treating loophole closings as tax increases. Future tax cuts, even though deficit financed, will not have to be justified.

No one follows PAYGO—Congress finds loopholes and it exempts trade-off of expensive initiatives

The Daily News 11(2/22, Editorial, <http://tdn.com/news/opinion/article_034e181c-1da9-11df-b772-001cc4c002e0.html>, accessed 6-29-11, CH)

A couple of weeks ago, congressional leaders and the administration tried to calm those investors, along with an increasingly nervous American public, by signaling a new commitment to fiscal restraint. The principal vehicle they chose was the old "pay as you go" budget rule that supposedly requires lawmakers to offset any new spending or tax cut with spending cuts and/or tax increases in other areas. The rule, commonly referred to as PAYGO, can be an effective restraint when strictly applied. It was helpful during ‘90s in turning large budget deficits into significant budget surpluses. The rule was abandoned in 2002 to accommodate the previous administration's tax cuts and post-9/11 spending in Afghanistan and on homeland security. It's doubtful that the PAYGO rule enacted earlier this month will be nearly so effective as the ‘90s version. Unlike its predecessor, this Congress' budget exempts many costly spending initiatives. It will allow Congress to extend middle-class tax cuts enacted by the Bush administration without any corresponding spending cuts or tax increases. The rule allows Congress to restrain the growth of the alternative minimum tax, lower the estate tax and cancel scheduled payment cuts for Medicare physicians - all without corresponding cuts in spending of tax hikes. Maya MacGuineas, president of the bipartisan Committee for a Responsible Federal Budget, was dismissive of this porous budget rule during last year's debate. "This is like quitting drinking," she said, "but making an exception for beer and hard liquor." Advocates acknowledge the new PAYGO rule's flaws, but argue that it is preferable to no rule at all. It's true, we suppose, that the budget rule has value if it helps focus congressional attention on the need to restrain spending and convinces foreign investors that U.S. lawmakers are indeed committed to getting the nation's fiscal house in order. But this budget rule will do little restrain spending or reassure investors unless congressional leaders are willing to follow it to the letter. Unfortunately, that doesn't appear to be happening. About a week after enacting PAYGO, congressional Democrats were attempting to carve out a loophole large enough to slip a costly jobs bill through the rule.

No Link – PayGo/CutGo

Even House Republicans won’t abide by CutGO—finding loopholes for Health Care

Scher 11 (Bill, executive director of Campaign for America’s Future, Huffington Post, 1/3, <http://www.huffingtonpost.com/bill-scher/house-gop-will-obliterate_b_803805.html>, accessed 7-3-11, CH)

The House Republican leadership has announced it will enact two things immediately upon taking control of the House this week: a new "CutGo" rule to require revenue offsets for any increases in spending, and the repeal of the Affordable Care Act health reform law. The Republicans might want to pass health reform repeal first. Because if they install "CutGo" rules first, they won't be able to repeal health reform without also finding $1 trillion in spending cuts over the next two decades to make up for the taxpayer savings they'll be throwing away. At minimum, if the House GOP doesn't feel bound by the Congressional Budget Office's nontraditional long-range forecast -- which was provided because the bulk of the estimated deficit reduction would occur in the second decade of implementation -- it would at least need to offset the $143 billion that the traditional CBO estimates would be saved by health reform in this decade. As the conservative Daily Caller reported last month, "The rule will require that any legislation that seeks to increase mandatory spending (which is spending that once added to the federal budget recurs year after year and is thus permanent) cuts spending by a similar amount." Repealing health reform, according to the CBO, will "increase mandatory spending," and therefore would be subject to the proposed "CutGo" rule. Throughout the last year, Republicans who had previously equated CBO with "God" suddenly trashed the agency once it found that Democratic reforms for both health care and capping carbon emissions would save taxpayers money. But now that Republicans will be controlling one body of Congress, they are going to have the deal with the fact that the Congressional Budget Office estimates are the basis for congressional budget rules. I suppose that if this little wrinkle comes to their attention, House Republican could create an additional "CutGo" loophole (beyond the giant loophole that exempts all tax cuts from requiring offsets.) Maybe they'd say the scrapping of cost saving reforms also doesn't count. Maybe they'd say cost estimates must be based on Heritage Foundation projections instead of the CBO. I'm sure they can come up with something that would pass muster for the editors at Fox News.

GOP ignores CutGo—new spending and health care reform

Demas 11 (Susan, political analyst, Huffington Post, 1/8, <http://www.huffingtonpost.com/susan-j-demas/the-gops-fiscally-conserv_b_805877.html>, accessed 7-3-11, CH)

The GOP also has dumped the fiscally responsible policy of "paygo" under the Democratic House, whereby any new spending had to be paid for. The GOP has introduced "cutgo," requiring any new spending with budget cuts somewhere else. That sounds reasonable enough on the surface, but it's actually a recipe for deficit padding. That's because there's a mighty big loophole in that no tax cuts need to be paid for. That means that Republicans have conveniently exempted some of their top priorities, like proposals to permanently extend the Bush tax cuts and keep low estate tax rates. Now Republicans can make the argument that tax cuts spur economic activity. But they still take a big bite out of federal (and state) budgets and magnify the deficit. This isn't propaganda from Chairman Mao. Former John McCain financial adviser Douglas Holtz-Eakin and former Bush Treasury Secretary Henry Paulson have both stated that tax cuts don't pay for themselves. Adding insult to injury, the new GOP House majority went on a spending spree. Repealing the new national health care reform law will explode the national deficit by $230 billion by 2021, according to the nonpartisan Congressional Budget Office. (Republican whining about the CBO's analysis is the equivalent of yelling at the ump for your sucky pitching)

No Link – Spending Climate

Despite strong rhetoric, Republicans not committed to spending cuts

Khimm 11 (Suzy, staff, Washington Bureau of Mother Jones, 1/6, <http://motherjones.com/politics/2011/01/cutgo-deficit-boehner>, accessed 6-29-11, CH)

While Democrats scoff at this logic, Republicans insist that they'll be able to hold themselves back from exploding the budget with tax breaks, largely because of the spending cuts they'll deliver at the same time. When asked whether tax breaks would decrease government revenue, freshman Rep. Austin Scott (R-Ga.) responded: "I guess you could argue that philosophically, but from a practical standpoint in two years, we as Republicans will either have delivered spending cuts or we will not have." Another frosh—tea party firebrand Rep. Alan West (R-Fla.)—claimed the Republicans would be able to hold themselves back. "We should be able to police ourselves and be a lot more fiscally responsible the way we've seen previously." But the Republicans have already backed off their promises to slash spending to help cut the deficit. Having originally vowed to cut $100 billion in federal spending in the first year, the GOP leadership has since scaled back its proposed budget cuts. "I think there's going to be a national drinking game every time the GOP fails to live up to one of their promises...sooner or later, it comes into collision with reality," quipped Rep. Anthony Weiner (D-NY). West insisted that the Republicans could still find $100 billion to cut from government. "We could find it...If we really peel the onion back, we could find some place in this huge bureaucracy." But when pressed to provide a single expenditure that he would like to see cut, he demurred. West, a military veteran, also insisted that military spending should be sacrosanct. Tea party-backed freshmen are also racheting back their campaign promises to slash and burn government agencies to reduce spending. In a tea party questionnaire, freshman Rep. Steve Stivers (R-Ohio) proposed privatizing the entire Interior Department and claimed only four departments were constitutional. But when asked about his position on his first day of Congress, Stivers immediately backpedaled. "What I said in that questionnaire is that we need to take a look at everything. That's what we need to do, is to look at everything and see what works," he said. When asked for specifics, he responded: "We've got to look everywhere—we've got committees of jurisdiction to look at this." The tea party right could ramp up the pressure on the GOP to make good on its promises to slash spending. And there are a few areas—such as health care funding—that could prove especially vulnerable, with some chance of such cuts passing the Senate and becoming law. But the political reality is that cutting spending is always hard, while making tax cuts is easy—and Republicans have made it all the easier.

Public opposes cuts—they’re key to motivating Congress

Cohen & Balz 4/19 (Jon & Dan, staff, Washington Post, <http://www.washingtonpost.com/politics/poll-shows-americans-oppose-entitlement-cuts-to-deal-with-debt-problem/2011/04/19/AFoiAH9D_story.html>, accessed 6-29-11, CH)

Despite growing concerns about the country’s long-term fiscal problems and an intensifying debate in Washington about how to deal with them, Americans strongly oppose some of the major remedies under consideration, according to a new Washington Post-ABC News poll. The survey finds that Americans prefer to keep Medicare just the way it is. Most also oppose cuts in Medicaid and the defense budget. More than half say they are against small, across-the-board tax increases combined with modest reductions in Medicare and Social Security benefits. Only President Obama’s call to raise tax rates on the wealthiest Americans enjoys solid support. On Monday, Standard & Poor’s, for the first time, shifted its outlook on U.S. creditworthiness to “negative” because of the nation’s accumulating debt. The announcement rattled investors and could increase pressure on both sides in Washington to work out a broader deal as part of the upcoming vote over increasing the government’s borrowing authority. The president and congressional Republicans have set out sharply differing blueprints to deal with the looming problem. Obama has called for agreement on at least a framework by early summer, which roughly coincides with the deadline for raising the nation’s debt ceiling. Public resistance to many proposals in the competing plans could greatly complicate those discussions. Altering entitlement programs still involves political risk, the poll shows, and proponents of such changes face a substantial challenge in persuading the public that they are needed.

No Link – Spending Climate – AT: Public

Republicans are ignoring the public and elections—making deals with Biden now

Malpass 11(David, chief economist at Bear Stearns, New York Sun, 6/7, <http://www.growpac.com/2011/06/republicans-could-lose-the-house-if-they-get-boxed-in-on-debt-limit/>, accessed 6-30-11, CH)

Republicans may lose the House in 2012 because they are boxed in on the debt limit, which, as currently written, forces a choice between default and more debt. It’s a lose-lose proposition for fiscal conservatives. The current debt limit always goes up, doesn’t control spending or debt and yet has to pass the House to avoid a default. The Republican Plan to get out of the bind? Cut a deal with Vice President Biden for reductions in future spending growth. But that’s not a way to win elections. The road forward for Republicans is to work toward a permanent new debt-to-GDP cap with teeth that makes the president responsible for any over-spending and gives him the power to cut spending. The public would understand this type of deal and support it. Instead, Republicans are fighting with the Administration over what to cut even though they can’t force the issue or get broad public support. To avoid a default in August, the White House will threaten a rolling shutdown of government and brand Republicans as irresponsible extremists. High unemployment adds to the risk of being called hard-hearted as critical services are cut.

No Link – No Outer NASA T/Off

No inter-agency trade-offs – each agency is funded separately

Kenen 11 (Joanne, veteran journalist, senior writer @ New America Foundation, 2/25/11,

http://www.healthaffairs.org/healthpolicybriefs/brief.php?brief\_id=41) JPG

This year, of course, each party controls one chamber, and ideological differences run deep. As a result, many observers deem it likely that the two houses of Congress will fail to agree on a single budget resolution, which would mean that none will be adopted. **Appropriations:** With or without a final budget resolution, House and Senate appropriations committees will eventually have to draw up spending bills to fund specific federal departments, agencies, and programs. Critics of the Affordable Care Act are likely to use the appropriations process to slash funds needed to administer and implement the law. Again, any bills targeting health reform in the Republican-controlled House would have to overcome opposition from Senate Democrats.

**Plan is off the table spending – wont trade-off**

Riedl 5 (Brian, Grover M. Hermann fellow in federal budgetary affairs @ Heritage, 1/25/5, http://www.heritage.org/research/reports/2005/01/whats-wrong-with-the-federal-budget-process) JPG

The budget process fails to provide a clearinghouse for all spending. The federal budget is supposed to provide an opportunity for Congress and the President to step back and decide how much the federal government should tax and spend during the following year. In reality, only the one-third of spending that is classified as discretionary is subject to the appropriations process every year. Almost all other programs (classified as mandatory) are left without regular oversight to grow uncontrollably from year to year. Thus, the budget process denies the nation's policymakers an opportunity to set annual spending and tax priorities with all programs on the table. Furthermore, the mandatory programs that are "off the table" represent the largest long-term threat to the nation's fiscal health. In 2008, the first Baby Boomers will begin collecting Social Security and Medicare benefits, with costs expected to increase enough to raise federal spending by 5 percent of gross domestic product (GDP) by 2030 (the current equivalent of $5,200 per household annually) and 13 percent of GDP by 2050 (the current equivalent of $13,500 per household annually).[2]This would result in either substantial tax increases or elimination of most other federal programs. A rational budget process cannot simply ignore this issue by taking these problems off the table. Mandatory programs are not the only ones excluded from the budget process. Although natural disasters and other emergencies occur nearly every year, they are not anticipated in the budget process. Congress regularly allocates all available budgetary resources to non-emergency expenses. When the inevitable $5 billion to $15 billion disaster relief tab reaches Congress each year, it has no choice but to exceed the spending levels of the original cap. Although some catastrophic emergencies may be too large to budget for, there is no reason why Congress cannot set aside funds within each budget for non-catastrophic emergency expenses.

No Link—NASA T/Off

No intra-NASA trade-off—innovation creates new funding

McLane 10(James, Associate Fellow in the American Institute of Aeronautics and Astronautics , Space Review, 7/1, <http://www.thespacereview.com/article/1635/1>, accessed 7-1-11, CH)

Naysayers claim the country can’t afford to send a person to Mars, but they forget we’ve successfully funded expensive space programs before and in tough economic times. Our space agency has relatively few direct government employees and distributes most of its money into the private sector all over the country. Some incorrectly believe that spending on NASA might divert funds from other needy government programs. One thing that keeps wealth in the US from being a “zero sum game” (where for some to win, others must lose) are those scientific developments that enable us to produce more output with less input. NASA is on the tip of this technology spear. Spending on the scientific segment of America is what keeps our standard of living moving ahead in a world of ever-diminishing natural assets.

Politicians will defend NASA

Smith 11 (Josh, technology reporter, National Journal, 2/14, <http://www.nationaljournal.com/nationalsecurity/nasa-largely-spared-big-cuts-in-obama-budget-20110214>, accessed 7-1-11, CH)

Funding for NASA’s Exploration directorate got a bump, funneling dollars to the programs developing the next generation of space vehicles and technology. Last year, Obama scuttled a Bush-era plan to return to the moon and called for more privatization, as well as missions to an asteroid and Mars. To meet those goals, however, the president proposed a $6 billion surge in funding over the next five years. Without any of that money, analysts say the current plan amounts to a budget cut. The question now is how Obama’s NASA plan will fare in the budget-slashing frenzy in Congress, where House Republicans have called for a $379 million cut for the space agency’s budget. However, politicians traditionally have been loathe to cut the jobs the space program provides, a concern that crosses party lines.

No Link—NASA Budget

NASA’s funding is getting increases in Earth science and ISS

Morrissey 11 (Susan R., Staff @ Chemical Engineering News, 2/28, http://pubs.acs.org/cen/coverstory/89/8909cover7.html)

The President’s 2012 request holds the National Aeronautics & Space Administration’s budget flat at $18.7 billion. The agency is not reporting budget breakdowns for 2011. Instead, gains and losses are being measured against the 2010 budget. The request provides continued support for the International Space Station (ISS), setting its 2012 budget at $2.8 billion, a 22.8% increase from 2010. The support would allow expanded use of the station’s research capabilities. The request also outlines a plan for research oversight by a nonprofit organization. Earth science programs would also see growth—increasing 24.9% from 2010 to $1.8 billion in 2012. This boost would enable continued development of Earth-observing satellites such as the Orbiting Carbon Observatory-2, which would provide information about the planet’s carbon cycle, and the Ice, Cloud & Land Elevation Satellite-2, which is an orbiting laser altimeter.

NASA cutting the constellation program has freed up $577 million

Mathews 11 (Mark, Staff @ Orlando Sentinel, 4/12, http://blogs.orlandosentinel.com/news\_space\_thewritestuff/2011/04/budget-deal-finally-saves-nasa-from-wasting-money.html)

The budget compromise under consideration by Congress may finally spell relief for NASA, which — thanks an unfixed budget directive — has been forced to spend more than $250 million over the last six months on its canceled Constellation moon rocket program. According to draft language of the 2011 budget, NASA no longer will be prohibited from shutting down Constellation; a constraint inserted into the 2010 budget by U.S. Sen. Richard Shelby, R-Alabama, who authored the 70-word provision to help protect Constellation jobs in his home state. Normally, that type of provision would disappear once Congress passed another budget, which is due Oct. 1. But because Republicans and Democrats have been unable to agree for six months on a 2011 spending plan — and simply extended the 2010 budget — the Shelby language has stuck around. In January, NASA Inspector General Paul Martin estimated the language would cost NASA an estimated $577 million a year — or $1.4 million a day — on “potential inefficient use of funds” because the White House and Congress agreed to cancel Constellation in October.

NASA will still have funding for deep space research

Eaton 11 ( Sabrina, Staff @ Cleveland News, 2/14, http://www.cleveland.com/open/index.ssf/2011/02/president\_obama\_proposes\_flat.html)

The overall fiscal plan for NASA would trim money from its administrative budget and earth science programs, maintain the heavy lift vehicle and crew capsule at their 2011 authorization levels, and boost funding for aeronautics, an area where Glenn Research Center excels. Under Obama's plan, aeronautics funding would rise from $497 million in 2010 to $569 million in the 2012 fiscal year. Congress did not pass a 2011 budget, and is funding the government with a series of temporary spending measures. In 2011. President Obama recommended spending $501 million for aeronautics. A NASA authorization bill that became law last year suggested $580 million. NASA officials said their budget will invest in research and technology the agency needs for missions to deep space, and its aeronautics programs will increasingly focus on aviation safety and airspace efficiency.

No Link—NASA Budget

NASA’s cuts are based on Obama’s proposed budget-not what the budget was.

Harris 11 ( Scott, Reporter @ CFNews, 2/14, http://www.cfnews13.com/article/news/2011/february/206081/NASA-facing-new-budget-cuts)

But the House Appropriations Committee is developing the official budget to take them through October, and on Wednesday, the chairman released what he called "a partial list" of 70 spending cuts that will be included in the upcoming bill that has to be passed before early March. The cuts total $74 billion. NASA's cuts are not from current funding levels. It is a cut from the Obama administration's proposed budget for this year. But it still will be a cut.

NASA was given 3.8 billion to fund the Constellation Program

Edwards 11 (Julia, Staff @ National Journal, 4/22, http://www.govexec.com/dailyfed/0411/042211nasa-budget.htm)

Among the budget cuts that President Obama had to agree to in order to avert a government shutdown, Republicans re-gifted him one that he willingly made long ago: $3.8 billion to further NASA's space explorations. The money will fund NASA' s Constellation Program, which was cut entirely under the president's initial fiscal year 2011 budget proposal. The pride of the Constellation Program is the Orion capsule, NASA's most innovative spacecraft, for sending men to the moon. The Orion was a priority of former President George W. Bush's, but plans for construction were halted by the current administration in 2009.

Cuts don’t get kill programs – NASA will find a way to fund everything

Bodzash 4/7 (Dennis, writer @ Space News Examiner, http://www.examiner.com/space-news-in-national/last-ditch-effort-to-avoid-government-shutdown-involves-nasa-cuts) JPG

Ever since the space race ended with Apollo 11, NASA has found itself on the chopping block as only science, not national pride, has been at stake. Since NASA's budget (as a part of the total federal budget) peaked in the mid 1960s, NASA has been operating under less and less money relative to the government as a whole. However, even as its relative budget has shrank, NASA has always found ways to probe the mysteries of the cosmos. No doubt, regardless of what the next government spending bill offers, NASA will continue on its quest.

NASA is losing thousands of jobs due to budget cuts

Neale 10 ( Rick, Staff @ FloridaToday, http://www.floridatoday.com/article/20100226/NEWS0204/2260321/23-000-now-expected-to-lose-jobs-after-shuttle-retirement)

The local economic forecast tied to President Barack Obama's proposed NASA budget keeps growing bleaker. Revised projections now show that about 23,000 workers at and around Kennedy Space Center will lose their jobs because of the shuttles' retirement and the new proposal to cancel the development of new rockets and spacecraft. That sum includes 9,000 "direct" space jobs and -- conservatively speaking -- 14,000 "indirect" jobs at hotels, restaurants, retail stores and others that depend on activity at the space center, said Lisa Rice, Brevard Workforce president. The organization's earlier estimate of 7,000 direct jobs reflected just the retirement of the shuttle program. The updated numbers also include the cancellation of Project Constellation and other initiatives as outlined in the president's 2011 budget, Rice said.

No Link—NASA Budget

Job losses are happening in NASA and their contractors

Berger 10 ( Eric, Staff @ Houston Chronicle, 4/9, http://www.chron.com/disp/story.mpl/metropolitan/6950824.html)

As NASA released more details Thursday about its restructuring under President Barack Obama's space proposal, the director of Johnson Space Center expressed optimism and concern. Though he welcomed the proposed addition of a five-year, $6 billion technology development program at the Clear Lake-area space center, director Mike Coats said he is concerned about job losses and not having a space vehicle to fly. “We have some challenges to confront here,” Coats said. One of the big ones: Even contractors who will get jobs in the restructuring might find themselves out of work for up to a year as the new plans are being formulated. Since Obama released his proposed budget two months ago for the space agency, NASA Administrator Charles Bolden has been working to revamp the agency.

NASA has an increase in job losses because of cancellation of the constellation program

Romm 10 ( Tony, Tech Reporter @ Politico, 5/4, http://thehill.com/blogs/hillicon-valley/technology/95809-new-white-house-task-force-on-nasa-to-focus-on-job-loss)

Members of both parties, especially those who represent states and districts that are also home to key NASA bases, have primarily focused their criticism on Obama's plan to end the Constellation program -- a mission founded by former President George. W. Bush to send astronauts to the Moon and Mars. While Obama has long described an end to that program as inevitable, mostly because NASA lacks the technology to complete that mission in the near future, critics retort that it would ultimately leave the agency without a long-term mission -- and consequently would force many of its workers out of their jobs. One estimate even predicted as many as 10,000 jobs across the country could be eliminated as part of the president's first draft of the 2011 NASA budget. Those figures quickly prompted Bolden, who supports the White House's plan, to label the matter a "very serious and real concern" for his agency.

NASA job cuts are likely to continue

WFTV 9 (6/1, http://www.wftv.com/news/19626363/detail.html)

The job outlook on the space coast may be even worse than first thought. Originally, NASA predicted it would lay off 3,500 workers at Kennedy Space Center when the shuttle fleet retires. However, that prediction has gone up to at least 4,000 employees. KSC's new director raised eyebrows with his newest prediction that NASA would layoff 4,000 employees, 400 more than the number NASA gave in October of last year. "The job impact is likely to keep growing," said Dale Ketchum, UCF Spaceport Technology and Institute.

No Link – No Budget

Congress is operating under continuing resolutions – means no budget trade-offs

Ryan 11 (Paul, congressmen from Wisconsin, 2/3/11, http://budget.house.gov/News/DocumentSingle.aspx?DocumentID=223391`) JPG

The filing of this allocation is necessary because the previous Democratic Congress failed to produce, or even propose, a budget for this year. At present, Congress is operating without a budget. No budget, no priorities, no restraints. In addition, not one appropriations bill was enacted last year. As a result, the government is operating under a stopgap measure, known as a continuing resolution, through March 4, 2011. Because five months of the fiscal year will have passed by March 4, 2011, Congress has an increasingly shorter window of time to achieve savings in this fiscal year. House Democrats unfortunately rejected House Republicans’ repeated calls to cut spending last year.

Operating under continuing resolutions means no spending caps – programs wont trade off

Pollom 11 (Jennifer, Chief of Staff @ e21, previously the Appropriations and Budget Counsel for the Senate Republican Policy Committee, 2/4/11, http://economics21.org/blog/strong-fiscal-leadership-paul-ryan) JPG

The new limits (the 302(a) allocation in budget-speak) set the overall spending cap for all discretionary spending for the year and will go into effect after the current Continuing Resolution expires on March 4, 2011. This unusual step is necessary this year because the previous Congress failed to pass (or even produce) a budget for FY2011. As a result, Congress is currently operating without a budget, and without spending caps. Chairman Ryan set the 2011 allocation at $1,055 billion, a spending level that would reduce the non-security discretionary spending to 2008 pre-stimulus levels and would save $74 billion relative to the President’s 2011 budget request. Within the larger 302(a) allocation, non-security discretionary spending is assumed to be $420 billion (a savings of $58 billion) and security spending is assumed to be $635 billion (an increase over 2010 levels, but a decrease of $16 billion from the President’s request).

CRs guarantee increases where needed

Riedl 5 (Brian, Grover M. Hermann fellow in federal budgetary affairs @ Heritage, 1/25/5, http://www.heritage.org/research/reports/2005/01/whats-wrong-with-the-federal-budget-process) JPG

Even the best efforts to simplify the budget process and foster cooperation cannot guarantee that a budget will be completed by the annual October 1 deadline. Failure to complete the budget by this deadline risks paralysis in the federal government because it leaves many agencies unable to spend money. Congress has missed the October 1 deadline in 26 of the past 27 years, resulting in a series of continuing resolutions (CRs) to fund the federal government in the interim. Contentious debate regarding the composition of the CRs creates regular uncertainty among both providers and recipients of federal services.[28] This insecurity could be assuaged by a law that guaranteed continued funding at the prior year's rate to agencies without a budget for the new fiscal year. Some in Congress may oppose using the prior year's budget: Many fiscal liberals would support automatic increases, such as cost of living adjustments, and many fiscal conservatives would support automatic reductions for one-time expenses or even an entirely different budgetary formula. Simplicity, however, makes the prior year's funding level the most practical option. Budgeters who dislike that formula would have an added incentive to forge a new budget agreement more quickly.

No Link – Emergency Spending

Plan doesn’t trade-off – emergency spending isn’t restricted to budget caps

Struble and Kahn 99 (Wayne – congressional staff director and Thomas – Minority Congressional staff director, 5/20/99, http://bulk.resource.org/gpo.gov/hearings/106h/56869.txt) JPG

The other part of this that I wanted to just bring up before I turn it over to my colleagues is emergency spending. One of the biggest areas of heartburn over the last 4 or 5 years in particular has been emergencies and our supplemental appropriations. What we tried to do here is we tried to put more orderly process into that as well, starting with budgeting for emergencies. On a 5-year rolling average, according to recommendations by our FEMA Director, James Lee Witt, who has had an opportunity to research this and give us his impression, he suggested a 5-year rolling average for emergencies, except for, of course, situations, as we find ourselves in, where we are at war. But most of the other emergencies that we have been able to deal with, we could put in a 5-year rolling average and actually budget for that as part of the budget process. Then, as long as you stayed within that rainy day fund, if you will, the appropriators would have not much more to do with the Budget Committee except every time there was an emergency, it would have to meet the definition, which is a definition we took from the Senate definition of emergencies as well as one submitted by the administration for emergencies. We suggested that was a good definition and we worked out that as long as it stayed within that rainy day fund, there would be very little more discussion other than the bill would come to the floor for passage. If it goes over that, if the amount is more than the reserve total, then the Budget Committee would have to come in and amend or exempt the emergency from PAYGO and would have to exempt the emergency spending from the allocations and the aggregates under the caps. After that, of course, it would follow the same process. Let me just comment on a couple of things that Mr. Spratt said on his different concerns, because I think there are a couple of them that are--first of all, I appreciate the tenor of his remarks. We have been able to keep this out of any kind of partisan discussion, and I respect his concerns about the process. First, on the caps and what that would do to CBO projections, we purposefully in here decided not to set caps, again because that is a substantive decision: where the caps are, where they go; higher, lower. Wherever they might eventually arrive is something that Congress and the President need to work out prior to 2002 and arguably needs to be part of the first joint resolution as part of our new budget process. So as a result, what did we do as a result of not having those caps? We told CBO that one of the ways to apply pressure to the budget process is say that if there are no caps, we assume everything is just flat. What does that do? Of course, nobody is going to allow flat spending. As much as the Republicans like to talk about being the ones that like smaller government and smaller spending, we would probably rush in too and talk about the need for increasing spending. In my area, probably in agriculture, everybody has got an area that they are concerned about for increased spending or increased priority. So I have no doubt that this will help provide pressure as opposed to, as has been suggested, assuming that the amount of money left over would immediately go to either pay down the debt or go to tax cuts.

Plan is emergency spending – not limited to spending caps

Riedl 5 (Brian, Grover M. Hermann fellow in federal budgetary affairs @ Heritage, 1/25/5, http://www.heritage.org/research/reports/2005/01/whats-wrong-with-the-federal-budget-process) JPG

*Discretionary caps lacked real enforcement.* Caps become unrealistic when Congress decides that the spending reductions they require are too politically dangerous. Such situations expose a second weakness of past spending caps-how easily they can be ignored. These multi-year constraints are supposed to provide a check on the whim of the short-term congressional majority. Therefore, one would expect that they would be enforced with additional hurdles that Congress must clear before bypassing them. Yet, rather than raising the bar from a majority vote to a supermajority to bypass caps, the rules now only require Congress to designate additional spending as "emergency" spending before passing it with a simple majority. The emergency designation was intended for use only when unforeseen disasters and catastrophes required additional spending. However, the loophole invited abuse by making it easy for legislators to bypass spending caps without a supermajority vote.In the 2000 budget, Congress designated $44 billion of mostly ordinary spending as "emergency" to bypass the outdated cap levels.[8] Congress actually used the emergency designation properly in the 2001 and 2002 budgets by limiting it to the $20 billion appropriated each year for legitimate 9/11-related emergency spending. Legislators did not actually obey the caps those years: They simply used a different loophole-raising the spending caps by $96 billion in the 2001 budget and then by $135 billion in the 2002 budget-to accommodate all extra spending demands.[9]

No Link – Cuts From Inefficiency

The budget is tight – NASA has multiple unfunded missions

Mann 11 (Adam, writer @ Scientific American, 2/11/11, http://blogs.nature.com/news/2011/02/house\_hearing\_tackles\_spending.html) JPG

At a hearing in Washington DC on 10 February, members of the Appropriations Subcommittee on Commerce, Justice, Science asked the inspectors general of NASA and the National Science Foundation (NSF) how they could reduce federal spending at those agencies. The hearing is part of the effort by the Republican-controlled House of Representatives to specify how to slash $58 billion from the FY2011 budget. “We are looking at making cuts in programs that are inefficient and ineffective to meet our debt reduction needs,” said Rep. Frank Wolf (R-VA), chairman of the subcommittee. The most immediate challenge to NASA funding, which would decrease by $379 million under the Republicans’ plan, comes from two conflicting legislative directives, said Paul Martin, the agency’s Inspector General. Congress passed an Authorization Act last September ordering the agency to cancel the Constellation program, aimed a returning US astronauts to the Moon, while simultaneously funding the federal government under a continuing resolution, which prohibits NASA from terminating or initiating new programs, he said. “Without congressional intervention, by the end of February 2011, NASA anticipates spending up to $215 million on Constellation projects that it would have considered canceling or significantly scaling back,” he said, adding that the figure could grow to $575 million by the end of the fiscal year. Those estimated funds would be welcome at an agency that needs an additional infusion of $500 million over the next two years for the James Webb Space Telescope (JWST), the perennially troubled successor to Hubble. The money is required to cover cost overruns on the project, which have grown from an initial estimate of $1.6 billion to $6.5 billion and highlight a “systemic weakness” at the agency to properly gauge mission costs, said Martin. NASA must also deal with the Authorization Act’s provision to fly an additional space shuttle flight before the fleet retires, at a cost of $500 million. “It remains to be seen whether the agency will obtain additional funding for this final shuttle flight or whether it will need to pay for it using existing funds,” said Martin. Martin identified the aging infrastructure at NASA’s ten national facilities as another potential source of savings. With over 5,400 labs and building, 80 percent of which are more than 40 years old, the agency spends approximately $2.5 billion annually just “fixing roofs and plugging holes,” he said. Getting rid of elderly and unnecessary buildings could reduce this figure, he added. Some of the subcommittee members were interested in savings from overlap reductions between NASA and other agencies, such as the National Oceanic and Atmospheric Administration (NOAA), with Rep. Wolf specifically citing climate change data collection as a possible starting point. The idea may been in response to a letter earlier in the week from six Republican members of Congress urging appropriators to prioritize NASA’s manned spaceflight over climate change research. The issue is a policy directed one and, as such, Martin declined to comment. But others members urged swift action to get NASA out of the quagmire its in. “We need to provide some clarity if we want to save money,” said Rep. Chaka Fattah (D-PA), the subcommittee ranking member.

Link Turn – General – Riders

Congressmen will use the plan as a vehicle to fund other projects

ThinkProgress 3/30 (http://thinkprogress.org/politics/2011/03/30/154719/riders-gop/) JPG

The ongoing budget negotiations between the House Republican leadership and Senate Democrats has broken down, as Republicans continue to insist that their spending bill — H.R. 1 — "serve as a starting point for all negotiations." House Republicans "have demanded everything: not just some of their cuts but almost all of them, and not just a reduction in spending but a reduction only in the programs they don't like," the New York Times n otes today. In fact, many are "insisting Democrats also agree to nonbudgetary riders, like ending the financing of Planned Parenthood or health care reform." But a closer examination of the at least 81 riders from OMB Watch reveals that many would have the opposite of the GOP's intended effect and actually increase federal spending. For instance, a CBO analysis of Sec. 4017 of H.R. 1 — which would strip funding for any provisions in the Affordable Care Act — argues that partially defunding the law increases costs "by $3.1 billion in fiscal year 2012 and by smaller amounts in each of the fiscal years 2013 through 2021." The same may be true for the following riders:

Riders will be added to the plan – means congressmen will fund their pet projects

Hurt 10 (Charles, writer @ The Examiner, 3/27/7, http://www.nationalreview.com/corner/139734/war-pork-senate/kathryn-jean-lopez) JPG

Like their counterparts in the House, the Senate has larded its version of an “emergency” war spending bill with nearly $20 billion in pork-barrel outlays, including $100 million for the two major political parties’ 2008 presidential conventions. The $121 billion bill includes $102 billion for the troops fighting in Iraq and Afghanistan, as well as $14 billion for Hurricane Katrina aid and more than $4 billion for “emergency farm relief.” “Congress will have to make the choice between booze and balloons or bullets and body armor,” John Hart, a spokesman for Sen. Tom Coburn, R-Okla., told The Examiner on Monday. Coburn and a handful of other senators hope to shame their colleagues into stripping the pork out of the war spending bill. The Senate bill is $18 billion more than President Bush requested for military operations. The House bill, which passed last week, exceeded the administration’s request by $21 billion and included money for spinach growers, peanut storage and citrus farmers. If the Senate bill goes to conference committee as written, the two chambers may find themselves fighting over the best cuts of pork. Coburn and his fellow pork foes will offer a series of amendments this week aimed at eliminating fat domestic spending or redirecting it to crucial needs for soldiers, sailors and airmen. “Maybe this is what Democrats mean by ‘phased redeployment’,” Hart said. Senate Appropriations Chairman Robert Byrd, D-W.Va., Monday defended the extra spending, describing it as “common sense and good economics.” “Funding for the war is not the only critical need worthy of the supplemental spending,” he said. The war “must not obliterate every other concern.” The $100 million for the political party conventions — $50 million for the Democratic convention in Denver and $50 million for the Republican convention in St. Paul, Minn. — is included in a section described as “Katrina recovery, veterans’ care and for other purposes.”

Link Turn – General – Earmarks

Earmarks secure funding for other programs

Still 9 (Tom, president of the Wisconsin Technology Council ,3/18/9, http://www.wisconsintechnologycouncil.com/newsroom/inside-wi/?Id=720) JPG

Myth: Earmarks always represent additional spending. Fact: Earmarks are usually spending carved out of general-purpose money federal agencies receive through the normal budget process. They’re a small portion of the total amount lawmakers agree to spend during a given year. Instead of being part of the general “pot” available for agency priorities, earmarks are a slice set aside by congressional request. “If earmarks go, the amount of money stays the same,” said Charles Konigsberg, chief budget counsel at the independent Concord Coalition, in a CNNMoney.com interview. “It’s more about who decides how the money will be spent.” Myth: Earmarks are a new way for members of Congress to play mischief with the budget. Fact: Earmarks have been around almost as long as Congress itself. The Government Accountability Office found one example dating to 1791, when Treasury Secretary Alexander Hamilton requested that $50,756.53 be spent on “several objects.” But the use of earmarks has grown in the past 15 years – along with the federal budget itself. Myth: Earmarks are a way to defy the president’s budget priorities. Fact: Presidents use earmarks, too, to get what they want. But they’re mainly a tool used by members of Congress to advance ideas that don’t make it into a presidential budget. Some members of Congress view earmarks as a necessary check-and-balance against the powers of the executive branch. “The last time we looked at the Constitution, it gave Congress the power of the purse,” said U.S. Rep. David Obey, the Wisconsin Democrat who chairs the House Appropriations Committee. Obey, speaking last fall at the dedication of the Marshfield Clinic’s Laird Center for Medical Research, noted that no Congress has ever changed a president’s budget by more than 3 percent. “This is a democracy, not a monarchy, and we shouldn’t … throw out the baby with the bathwater because of the abuse of the process by a few people on Capitol Hill.” By the way, the core funding for the clinic’s research center came from an earmark. Now it is home to the Wisconsin Genomics Initiative, one of the most innovative projects of its kind in the world. Myth: Democrats use earmarks far more than Republicans. Fact: Earmarks are pretty much a bipartisan sport. It’s more about which party is in power. Watchdog groups say about 60 percent of earmarks come from the majority party and 40 percent from the minority party. Myth: Earmarks are always used to fund wasteful projects. Fact:  Sure, there’s the “Bridge to Nowhere” in Alaska and some other notable abuses, but most earmarks pay for projects deemed useful by someone. Most UW System campuses, for example, benefit from earmarks that help support research, training or other activities. While federal agencies don’t generally like earmarks because the money comes from their overall budgets, those agencies have the ability to strictly manage and audit projects they believe are truly wasteful. Earmarks are the well-publicized tip of a much bigger iceberg. Federal spending has grown because of problems imbedded in the other 99 percent of the budget, including major entitlement programs such as Medicare and Medicaid and the accumulation of service payments on the national debt. These days, earmarks are the public-opinion equivalent of an AIG bonus check. But if citizens are really worried about federal spending, as they should be, there are far bigger places to look for savings.

Link Turn – General – Christmas Tree

The plan is a legislative vehicle for funding projects – guarantees the plan can fund both projects

Dupree 10 (Jamie, writer @ WHIO, 3/28/10, http://www.newstalkradiowhio.com/weblogs/jamie-dupree/2010/mar/28/springtime-christmas-tree/) JPG

We will get an idea just how disciplined the Congress is in coming weeks on the budget, as lawmakers consider a new supplemental spending bill requested by the White House for earthquake relief in Haiti. The Obama Administration is asking for $2.8 billion to help with ongoing disaster efforts in that Caribbean nation, responding to the devastating earthquake that struck Haiti in January. "This request responds to urgent and essential needs," wrote President Obama in a letter sent to Congressional leaders last week.  "Therefore, I request these proposals be considered as emergency requirements." Let me translate that for you: "Therefore, I request that these amount of money needed for these proposals not be paid for, with the cost of the bill simply  added to the deficit." That's what "emergency" spending means in the Congress.  It doesn't go on the yearly deficit figure, but it does get added to the overall federal debt. Yes, you read that right.  If I declare $100 billion in spending as an "emergency" - the yearly deficit does not go up - but the $100 billion does get added to the overall debt. There will be two things to watch for on this legislation - how much more is added on by lawmakers for items that don't have any link to Haiti, and whether any of it gets paid for by offsetting budget cuts in other areas of the federal government. Military supplementals like these aren't usually paid for with other cuts, that's obvious from all the supplemental spending bills through the years dealing with disaster aid, Iraq, Afghanistan and much more.  Democrats and Republicans alike have voted for those with no offsetting budget reductions - the extra spending simply gets added to the federal debt. As for the issue of the ole Legislative Christmas Tree, that is another thing to keep an eye on, as lawmakers look for a legislative vehicle to add on projects near and dear to their hearts.

Plan is a vehicle for unrelated spending

Fraser 10 (Alison Acosta, Director of the Roe Inst. for Econ Policy Studies, 1/26/10, http://blog.heritage.org/2010/01/26/is-obamas-underwhelming-spending-freeze-a-fakeroo/) JPG

Fourth - what additional spending would be outside the “freeze” and considered “security”? Emergency spending?  Members of Congress are highly skilled at turning an emergency spending bill into a Christmas tree full of unrelated and outrageous spending.  A new stimulus bill all dressed up as a jobs bill? Capping repayments (e.g. free) of college loans?  New subsidies for child care? Fifth – what level of spending would this ”freeze” apply to? If it applies to last year’s supercharged spending on stimulus steroids baseline, it’s no freeze at all, but a locking in of spending that was supposed to be temporary.  Alternatively, it would be very easy to undo any of the savings. For instance, one small jobs stimulus bill could wipe out all savings. The simple fact is this: no matter how they spin it, the President must hold spending level with last year—minus all the temporary stimulus, TARP and other bailout spending—otherwise this freeze is a fakeroo.

Link Turn – General – Christmas Tree

Plan is supplemental spending – wont trade-off and allows congress to fund other projects

Fox 11 (http://politics.foxnews.mobi/quickPage.html?page=24841&content=52209500&pageNum=-1) JPG

There's a series of natural disasters. Or 9-11. Or war. And Congress decides it needs to approve an additional spending bill to fund a critical area of the federal government in mid-year. Lawmakers fillet the federal budget into 12 sections, each one receiving an annual spending measure. But over the past 11 years, Congress has approved 16 extra spending bills, known as "supplementals," totaling nearly $1 trillion. $20 billion just after September 11th. $79 billion in 2003 for the war in Iraq. $10.5 billion in 2005 to respond to Hurricane Katrina. And in each case, some lawmakers make a compelling case for tacking on additional spending. It's essential for the troops. The people of New Orleans are desperate. And on Tuesday afternoon, the process started again. Rep. Robert Aderholt (R-AL) chairs the House Homeland Security Appropriations Subcommittee. That panel controls the purse strings for the Federal Emergency Management Agency (FEMA). Twisters ravaged parts of Aderholt's district and other sections of Alabama just a few weeks ago. Then came floods, up and down the Mississippi River. The federal government even blew up a major levee in Missouri to alleviate upstream flooding. And then a monster tornado sacked Joplin, MO, Sunday night. "It's going to be close," said Aderholt, when asked if FEMA had enough money to make it through September 30, the end of the government's fiscal year. On Tuesday, the House Appropriations Committee "marked-up" or wrote the final version of a measure to fund Homeland Security programs and FEMA. No one has tallied the cost of the storms in Alabama. There's no price tag on the flooding. And it's way too early to ring up the damages in Missouri. But Aderholt and others wanted to make sure FEMA had enough money for now. So during the markup session, lawmakers from both sides of the aisle injected $1 billion into FEMA's budget. Aderholt and others believe that on top of the $1 billion, they'll also have to craft an entirely separate supplemental spending bill to pay for the natural disasters. And perhaps those yet to come. "Hurricane season is just days away," warned Aderholt ominously. Not a single lawmaker expressed reservation and the Appropriations Committee adopted Aderholt's request by voice vote. There's a reason why no one objected. This year, it's flooding and tornadoes in the South and Midwest. But come summertime, it could be hurricanes in Florida and North Carolina. Or earthquakes in California. Wildfires in the west. Fiscal hawks are loathe to vote against such emergency measures. First, they want to help those in need. And second, they know their district or state could be next. Now here's where it gets interesting. In tight budget times, lawmakers are intent to find "pay-fors" to cover the additional costs of the natural disasters. In the case of the $1 billion for FEMA, the Appropriations Committee transferred unused funds from an Energy Department "green vehicle" program. Still, this money is not for NEXT fiscal year. It's for THIS fiscal year. The fiscal year for which Congress and President Obama just finished doing battle. The fiscal year where Republicans successfully pared $61 billion out of the budget. An alternative interpretation, but inaccurate interpretation of Tuesday's $1 billion FEMA infusion means the budget deal dwindled to just $60 billion. That's they way it would appear on a balance sheet if you're scoring at home. But if you're scoring in Congress, it doesn't work that way. Congress considers FEMA's $1 billion as an emergency. By definition, all emergency money is "off-budget." It's real dollars and cents going out the door. But Congress doesn't count it against the bottom line. It's kind of like a pitcher's Earned Run Average (ERA) in baseball. If a pitcher yields a run, it counts on the scoreboard. However, if someone committed an error that allowed that run to score, it's not marked against the pitcher's ERA. Regardless, the run crossed the plate and shows up on the scoreboard. Spending is spending. And a budgetary gimmick like this is precisely what so incensed the electorate last fall. Now there's a question of forging a supplemental spending bill once all of the disasters are paid for. Aderholt has talked about the need for an additional spending bill to cover FEMA. And he's not the only one. "$1 billion isn't going to do it," conceded Rep. David Price (D-NC), the top Democrat on the House Homeland Security Appropriations Subcommittee. "We are going to need the administration to offer a supplemental request." House Majority Leader Eric Cantor (R-VA) knows how sensitive this is. "If there is support for a supplemental, it would be accompanied by support for having pay-fors to that supplemental," said Cantor on Monday.

Link Turn – Intra-NASA – Insulation

NASA funding is popular for major programs

Achenbach 10 (Joel, Washington Post writer, 2/2/10, http://www.washingtonpost.com/wp-dyn/content/article/2010/02/01/AR2010020102145.html) JPG

Change does not come easily in the complex and highly political enterprise that is space travel. The Obama plan triggered immediate protests on Capitol Hill. "The president's proposed NASA budget begins the death march for the future of U.S. human spaceflight," Sen. Richard C. Shelby (R-Ala.) said Monday. "If this budget is enacted, NASA will no longer be an agency of innovation and hard science. It will be the agency of pipe dreams and fairy tales." Rep. Pete Olson (R-Tex.) said, "This is a crippling blow to America's human spaceflight program."

Major programs are insulated from drastic cuts – if they don’t have enough funding they’ll be compensated

Berger 5 (Brian, writer @ space.com, 1/10/5, http://www.space.com/652-nasa-budgetary-authority-shift-funds-exploration-vision.html) JPG

If NASA plans to cancel any programs this year, it is not clear from the operating plan. In fact, most major programs in development were insulated from all but fairly minor cuts. But there were exceptions. NASA cut $24 million of the $163 million it had planned to spend on in-space power and propulsion projects. Similarly, the X-43 hypersonic demonstrator program that Congress hopes to keep flying with a $25 million cash infusion, is not funded in the operating plan. Some of NASA's small spacecraft programs also fare worse in the operating plan. The New Millennium program, which has struggled in recent years to find launch opportunities for the experimental payloads it develops, would have its $82 million request cut back to $66 million. Additionally, the $96 million requested for NASA's Explorer program for low-cost, competitively selected science missions, would be cut back to $71 million. Still, some NASA projects got additional money above what they asked for last February. In most cases the increases were to cover technical setbacks and schedule delays. For example, NASA plans to add $15.2 million to Deep Impact's budget to pay for technical problems that threatened the comet hunter's unforgiving one-month launch window. The spacecraft is slated to launch Jan. 12. NASA is also adding $3.1 million to the Swift gamma ray burst mission to pay bills still coming in from last year's launch delay.

Link Turn – Intra-NASA – Priorities

Plan creates a mission for NASA – prevents budget cuts, means we don’t have to pay Russia, and guarantees more funding for the overall budget

Space Coalition 11 (2/10/11, http://spacecoalition.com/legislative-activity/nasa-ig-briefs-house-appropriators-on-space-agency%E2%80%99s-top-concerns) JPG

NASA Inspector General Paul Martin underscored the urgency of addressing the uncertainty over the agency’s human spaceflight program in testimony presented Thursday to the House Appropriations Subcommittee on Commerce, Justice and Science. The Appropriations Committee is scheduling dozens of hearings with federal inspectors general, each sworn to eliminate waste, fraud and abuse within their respective agencies. “At the present time, NASA finds itself in a state of significant uncertainty, particularly with respect to its human space program,” Martin stated in prepared testimony presented to the subcommittee, which has jurisdiction over NASA spending. “The most immediate challenge facing NASA’s leadership is to manage the agency’s portfolio of space and science missions amid the continuing lack of clarity caused by conflicting legislative directives in the Authorization Act and a holdover provision in NASA’s fiscal year 2010 appropriations law.” The authorization measure directs NASA to develop a new heavy lift rocket and multi-purpose crew capsule to replace the shuttle, which is scheduled to retire later this year. It directs NASA to complete the development by the end of 2016, a deadline agency officials have said they cannot meet with the funding available. The new rocket and capsule would transport astronauts to the International Space Station as well as to deep space destinations. At the same time, most of the federal government, including NASA, is operating without a 2011 budget. Instead, most agencies are operating under an extension of the more restrictive 2010 budget. In NASA’s case, the 2010 appropriations measure prevents the agency from transitioning from the Constellation Program to the heavy lift rocket and multi-purpose capsule projects as well as a commercial space transportation initiative. The legislative snag will cost NASA $575 million by Oct. 1, the start of the 2012 fiscal year, if not corrected by Congress, Martin told the subcommittee. Martin raised related issues as well. High on that list of concerns is the disposition of $12 billion in facilities and property associated with the retiring shuttle program. Along side, is a gap of undetermined length between the shuttle’s retirement and the first flights of commercial U. S. spacecraft capable of transporting astronauts and cargo to the space station. Until commercial transportation providers are available, NASA is faced with paying Russia to carry astronauts to and from the station, Martin noted.

Link Turn – Immediate Returns

Savings from cancelled programs are allocated immediately

CBO 4 (Congressional Budget Office, Sept., pp. XVI, http://www.cq.com/graphics/hotdocs/cbonasareport.pdf) JPG

CBO’s assessments incorporated the assumptions, which are also part of NASA’s current projection, that the space shuttle would be retired in 2010 and the United States would terminate its participation in the International Space Station’s operations by 2017. Some people argue, however, that the space shuttle should be retired immediately to free up more funds in the near term for exploration and to avoid the potential safety risks identified since the loss of the shuttle Columbia. In CBO’s estimation, immediately retiring the shuttle and ending the United States’ involvement with the ISS offer potential savings of $39 billion to $43 billion from 2005 through 2020, de- pending on the costs of terminating the programs. If those savings were reallocated to exploration missions, the first human lunar return landing might be moved up by nearly four years, CBO estimates—that is, to 2016, compared with NASA’s projection of 2020. (That esti- mate is based on the assumptions that costs for the explo- ration vision do not increase relative to NASA’s projected amounts and that the maturation of technology and the missions’ overall design process can keep pace with such a schedule.

Climate research guarantees immediate returns

Mullen 6 (Shaun, award-winning editor and reporter, 4/1/6, http://kikoshouse.blogspot.com/2006/04/science-saturday-i-why-nasa-is-so.html) JPG

What would constitute rational budget priorities for NASA? The agency's first emphasis should be research about Earth and the sun. That's the sole area in which NASA spending is odds-on to produce immediate returns for taxpayers. Second, NASA should fund more automated probes and satellites to study this solar system and close-by star systems—the parts of space that might have some effect on us. Almost all NASA findings since the moon program have come from automated probes such as Cassini, which a few weeks ago discovered what appears to be a water vent on a moon of Saturn. Most probe projects cost less than a single launch of the space shuttle. Third, the agency should cancel the shuttle program and use the funds to research new propulsion systems that might fundamentally reduce the price of access to space. A fundamental propulsion breakthrough must come before grand visions like a Mars mission. . . .Fourth, NASA needs a serious program for searching nearby space for asteroids and comets that might strike Earth and figuring out how to deflect any big rock headed this way. Asteroids and comets large enough to cause devastation may strike Earth distressingly often . . . If NASA protected Earth against a strike from space, that might be, let's say, the most significant accomplishment in human history. Yet NASA has only a minor program to search for "near-Earth objects" and no program to figure out what to do about them. Preventing comet strikes would give taxpayers a return on their money, and we can't have that! The new budget request suggests that no one in the agency's hidebound, turf-obsessed upper management wants to think about what NASA can do to actually benefit the public.

Earth Science – NUQ – $ Down

Earth science budget cuts are inevitable

Kintisch 3/8 (Eli, writer @ ScienceInsider, http://news.sciencemag.org/scienceinsider/2011/03/nasa-satellite-crash-complicates.html) JPG

The desired launch dates presume that Congress will approve the president's request to grow the agency's budget for Earth science in the next 4 years—from $1.8 billion to $2.3 billion by 2015. That may be wrong. Given the budget pressure, the $1.9 billion that President Barack Obama requested for the 2012 fiscal year "is the high point," speculates NASA earth science budget expert Art Charo of the National Academies' National Research Council. In particular, the House of Representatives has already approved cutting NASA's budget for the rest of 2011 by $600 million. Senate Democrats have said they want to cut it by $200 million. Neither has yet specified how the cut should be distributed across the agency's $18.7 billion budget. But in recent years, the earth science budget has gotten its lunch eaten by the manned spaceflight program. Given the animosity in the House toward anything that has the word "climate" in its name, it's hard to see any change in that dynamic. The crash of OCO in 2009 has already led to some brutal triage. To set up OCO-II, NASA was forced to cut other missions. In the 2012 budget rollout last month, for example, NASA announced it wished to curtail plans to launch CLARREO—a four-satellite constellation to measure tiny fluctuations in reflected energy from Earth, and DESDynI, a $1.6 billion mission to scan ice.

Earth science is being underfunded already

Svitak 11 (Amy, writer @ SpaceNews.com, 2/14/11, http://www.spacenews.com/civil/nasa-budget-frozen-presidents-request.html) JPG

Obama's proposal includes $1.78 billion for Earth science programs in 2012, some $160 million less than called for in the authorization act but still about $360 million more than the agency's current Earth science budget. NASA's overall Science budget — which includes Earth science, astrophysics, heliophysics and planetary science —would top $5 billion in 2012, a roughly $500 million increase over the current budget but less than previously forecast.

Budgets have forced cuts to earth science – there’s no funds

Svitak 11 (Amy, writer @ SpaceNews.com, 1/25/11, http://www.spacenews.com/civil/budget-uncertainty-muddies-nasa-procurement-picture.html) JPG

NASA’s Earth Sciences Division is also feeling the procurement pinch for some projects. If the continuing resolution is extended for the full year, Earth science programs would receive $1.42 billion, which is some $380 million less than the agency requested. All flight and nonflight programs funded in 2010 are proceeding, and no launch dates have been slipped for missions that are in the formulation or implementation phase, according to NASA spokesman Stephen Cole. However, Cole said NASA has deferred plans to ramp up work on a pair of missions that were identified as top priorities by the science community: Deformation, Ecosystem Structure and Dynamics of Ice; and the Climate Absolute Radiance and Refractivity Observatory. “[W]e are endeavoring to keep the gate review milestones (transition to Formulation) but there is insufficient available funding to prepare fully for, or conduct, the planned ramp-up,” Cole said via e-mail Jan. 13.

Major earth science programs have got axed

Brinton 11 (Turner, staff @ Space News, 3/7/11, http://www.space.com/11050-white-house-nasa-earth-science-cuts.html) JPG

Even though NASA’s Earth science budget is slated to rise next year, the U.S. space agency has been ordered by the White House to shelve a pair of big-ticket climate change missions that just last year were planned for launch by 2017. With U.S. President Barack Obama under pressure to rein in federal spending, the White House eliminated funding for the Climate Absolute Radiance and Refractivity Observatory (CLARREO) and Deformation, Ecosystem Structure and Dynamics of Ice (DESDynI) missions, Steve Volz, associate director for flight programs at NASA’s Earth Science Division, said in a Feb. 24 interview. The cuts came before the failed launch of the Glory satellite Friday (March 4), NASA's latest Earth-observing mission to study Earth's atmosphere, due to a rocket malfunctions. So the White House orders are unrelated to NASA's loss of the Glory satellite.

Earth Science – NUQ – $ Down

**Major cuts to earth science already happened – its not on the chopping block**

Whittington 11 (Mark, author of The Last Moonwalker, contributes articles to major newspapers, 2/26/11, http://old.news.yahoo.com/s/ac/20110226/us\_ac/7949516\_nasa\_earth\_science\_missions\_eliminated\_by\_obama\_administration) JPG

Unarguably one of if not the highest priority missions the Obama administration has set for NASA is climate change research. So it is surprising news that two very high profile Earth observation missions have been scrapped for budget reasons. The missions are the Climate Absolute Radiance and Refractivity Observatory (CLARREO) and the Deformation, Ecosystem Structure and Dynamics of Ice (DESDynI) missions, saving $1.2 billion between 2012 and 2015. Overall, not doing CLARREO and DESDynI would save about $2.4 billion through the rest of the decade. The Climate Absolute Radiance and Refractivity Observatory (CLARREO) would have launched two satellites in 2018 followed by another two satellites two years later. CLARREO would have gathered data on emitted and reflected energy in order to study long-term changes in the Earth's climate. Deformation, Ecosystem Structure and Dynamics of Ice (DESDynI) was an Earth imaging radar and lidar mission to study formation of ice packs on the Earth's surface. NASA will not be forced to go back to the drawing board to figure out ways to do these missions more affordably. There may be, as one suspects, a political element to the decision to kill these programs in their infancy. Congress has been making noises about raiding the Earth science account at NASA to pay for the development of a space craft and a heavy lift rocket to send humans beyond Low Earth orbit. Eliminating the CLARREO and the DESDynI missions will make that maneuver all that much harder. The Obama administration has shrunk the amount of money that is available for raiding. Furthermore it has burnished its cost cutting bona fides by taking away missions that it really cares about.

Earth Science – No Link – No T/Off

**Human space flight is on the chopping block – earth science is being increased**

Darriau and Rowan 11 (Corina Cerovski and Linda, both members @ American Geological Inst., “Earth Sciences in the FY 2011 Budget”, http://www.aaas.org/spp/rd/rdreport2011/11pch16.pdf) JPG

NASA’s Science Mission Directorate, which includes Earth Science, Planetary Science, Astrophysics and Heliophysics, would receive $5 billion in the FY 2011 budget request. An increase of $381 million is requested for the Earth Science Division (ESD) (See Table 1). The increased funding is meant to help ESD meet the goals identified in the National Research Council's 2007 Decadal Survey report, “Earth Science and Applications from Space: National Imperatives for the Next Decade and Beyond.” ESD consists of six programs: Earth Systematic Missions ($809 million), Earth Science Pathfinder ($304 million), Research ($438 million), Applied Sciences ($37 million), Technology ($53 million), and Multi-Mission Operations ($161 million). ESD operates 15 Earth-observing spacecraft and will launch three satellites, Glory, NPOESS Preparatory Project and Aquarius, in 2011. The ESD request would allow NASA to develop and re-fly the Orbiting Carbon Observatory ($170 million), accelerate the development of new satellites for Earth science ($150 million), expand and accelerate Venture-class missions and enhance climate change modeling capabilities. Work will continue for completion and launch of the Landsat Data Continuity Mission (June 2013) and the Global Precipitation Measurement mission (July 2013). The Soil Moisture Active-Passive (SMAP) and Ice, Cloud and Land Elevation Satellite 2 (ICESat-2) will be accelerated, while NASA continues “IceBridge”, an airborne science campaign to study changes in Greenland and arctic ice in an attempt to bridge the gap between ICESat-1 and ICESat-2. Deformation, Ecosystem Structure, and Dynamics of Ice (DESDynI) and Climate Absolute Radiance and Refractivity Observatory (CLARREO) will be accelerated for possible launches in 2017. The President requested the termination of the Constellation program, which was developing the next generation crew vehicle and launch rocket. This leaves great uncertainty about NASA’s human spaceflight program and Congress is expected to weigh in with advice and funding direction that may lead to changes in NASA’s other divisions, including the Science Mission Directorate.

Climate research is the top priority – exploration is on the chopping block

Cooper 10 (Rory, Director of Strategic Comm @ Heritage, 1/27/10, http://blog.heritage.org/2010/01/27/obama-is-no-kennedy-redefines-nasas-mission-as-global-warming/) JPG

Today, the Orlando Sentinel reports that President Obama will introduce a budget next week which will cut future exploration funding from NASA, including the planned missions to the Moon and Mars set in motion following the Columbia disaster. On first glance, this may appear to be a budget cutting move to fall in line with the drop-in-a-bucket spending freeze Obama has proposed. But it isn’t. In fact, NASA’s budget is increasing. So if NASA’s budget is increasing, why are exploration plans being put on hold? Obama is halting America’s exploration of the unknown so we can explore…global warming. According the Sentinel: “…the White House will direct NASA to concentrate on Earth-science projects — principally, researching and monitoring climate change.” NASA will reportedly receive a budget increase of $200-$300 million over its current $18.7 billion budget.

More ev

Pasztor 10 (Andy, writer @ WSJ, 2/2/10, http://online.wsj.com/article/SB10001424052748704107204575039131083087028.html) JPG

Even as the National Aeronautics and Space Administration is set to receive billions of dollars in additional funding for technology in the latest White House budget, the agency has yet to chart a detailed course for future manned space flight once the space shuttle is retired in 2011. That could erode congressional and public support for NASA, according to some industry officials and lawmakers. NASA Administrator Charles Bolden predicted that the proposed $19 billion fiscal-2011 budget, an increase of 2% from the previous year, would be "good for NASA." He added that a plan to rely on private companies to ferry astronauts to the International Space Station would be "great for the American work force."

Earth Science – No Link – No T/Off

Earth science wont be cut – its Obama’s top priority

Hamilton 10 (Jon, writer @ NPR, 4/5/10, http://www.npr.org/templates/story/story.php?storyId=125507009) JPG

New Administration, New Priorities But things have changed dramatically since the arrival of the Obama administration, says Edward Weiler, associate administrator of NASA's Science Mission Directorate. "This administration has a clear priority for science in general and Earth science in specific," he says. And now the White House has unveiled plans to give NASA's Earth science programs $2.4 billion in new money over the next five years. That's an increase of more than 60 percent. Much of the new money will be spent trying to reinvigorate efforts to determine how fast the Earth's climate is changing, Weiler says. "We've got to measure how fast the ice is being depleted, how fast carbon dioxide is being added to the atmosphere as opposed to being taken out of it," he says.

No cuts to earth science – it’s a top priority and we don’t want to lose the space race

Williams 10 (Trevor, PhD Candidate in Mech Engineering @ Victoria U, 4/5/10,

http://www.greenmuze.com/blogs/eco-geek/2512-nasa-earth-observation-funding-.html) JPG

NASA is about to re-enter a space race, but not to the Moon, instead it seems it is going to go head-to-head with ESA in a race to obtain Earth observation data. According to NPR the Obama administration is providing NASA with an extra US$2.4 billion (€1.78 billion) over five years for Earth observation and climate change monitoring. This may go some way to repair the damage done by the Bush administration in not funding Earth observation programs. The Obama administration might want to free DSCOVR from its Bush (actually Cheney) imposed incarceration. According to Edward Weiler, associate administrator of NASA's Science Mission Directorate, "This administration has a clear priority for science in general and Earth science in specific. We've got to measure how fast the ice is being depleted, how fast carbon dioxide is being added to the atmosphere as opposed to being taken out of it." NASA has launched some great environmental spacecraft in the past such as GRACE that has measured Earth’s gravity field and ice loss in Antarctica and water loss. Upcoming launches include Glory (measuring atmospheric aerosols and solar irradiance to evaluate Earth's energy balance), Aquarius (Measuring Ocean Salinity) and National Polar-Orbiting Operational Environmental Satellite System (NPOESS). ESA has its GMES program (global monitoring for environment and security) and has been flying Envisat for over 8 years, collecting terabytes of earth observation data. Other ESA spacecraft include SMOS (Soil Moisture Ocean Salinity Spacecraft) and GOCE (GOCE Successful Launch). Some great information on carbon dioxide sources and sinks, global methane and nitrogen dioxide, two of the World’s most important greenhouse gases and a significant pollutant gas, is already available online at the ESA PROMOTE Climate Study Support Service and shown here in the various figures. The coming decade is going to see an enormous increase is space based Earth observation data that will verify beyond any doubt that climate change is happening, and will greatly assist in identifying where, and what, are the biggest contributors. It seems that global environmental information will be extremely important, not only for climate, but also for future economic and political decision making. Maybe that is the reason why NASA, ESA and other space agencies are suddenly so eager to invest in Earth observation.

Orion – NUQ – $ Down

Non-unique and no link – cuts are inevitable and Orion is protected

Cherry 6/25 (Mary Alys, writer @ yourhoustonnews.com, http://www.yourhoustonnews.com/bay\_area/news/article\_d452734f-ab6a-53a2-bd01-eafdedf9c050.html) JPG

Employees of aerospace companies aren’t the only ones headed for the unemployment line. Johnson Space Center Director Mike Coats thinks there probably will be a slight adjustment at JSC also. “Our center is already scheduled to receive about $1.5 billion less in Fiscal Year 2012 than in the current year, when we received about $6 billion. And, that’s a big impact to our valuable contractor team,” he said, going on to trace the repercussions from the retirement of the space shuttle and cancellation of the Constellation program. While he isn’t sure what kind of a budget NASA will receive in 2012, indicating that’s still up in the air, he is expecting significant reductions. “That’s almost guaranteed. It is true that 2011 and 2012 will be transition years for our center. “NASA is fortunate in that it has strong bi-partisan congressional support. However, this nation faces a huge deficit and Congress is facing some tough decisions. “As NASA continues to evolve, we can anticipate incremental adjustments of our agency’s structure. JSC will also re-adjust and align its workforce accordingly. I see our most important goal as maintaining and leveraging the critical skills of our employees,” he told the Bay Area Houston Transportation Partnership at its June 21 luncheon at Cullen’s. NEW EFFORTS With cancellation of the Constellation program, Coats said “NASA is now able to focus on transitioning to the new efforts for exploration – a Multi-Purpose Crew Vehicle, a Space Launch System and 21st Century Ground Operations.”

Orion—Impact—A2: Lunar/Mars !

Solar power fails for lunar and mars missions

Zaitsev 7 (Yuri, academic adviser at the Academy of Engineering Sciences, 8/15/7, RIANovosti, http://www.spacedaily.com/reports/Nuclear\_Power\_In\_Space\_999.html) JPG

Solar energy supplies most of power in spacecraft nowadays. Although the efficiency of solar cells has grown substantially recently, they have reached the limit of their development and can supply electricity only in near-Earth orbits and for satellite-borne equipment. Such large-scale projects as the exploration of the Moon or a manned mission to Mars require nuclear power plants.

Solar power limits lunar missions

Borenstein 9 (Seth, writer @ AP, 5/7/9, http://www.msnbc.msn.com/id/30621668/ns/technology\_and\_science-space/t/fuel-deep-space-exploration-running-low/) JPG

The last two missions to use plutonium were the New Horizons probe headed for Pluto and the Cassini space probe that is circling Saturn. Plutonium-powered probes last a long time. The twin Voyager spacecraft headed beyond our solar system and launched in 1977 are expected to keep working until about 2020, McNutt said. Solar power is preferable to plutonium because it is cheaper and has fewer safety concerns, McNutt and Allen said. But solar power just doesn't work in the darkest areas of space, including deep craters of the moon. Some have protested past nuclear-powered missions, such as Cassini, worrying about potential accidents.

Orion—Impact—Deep Space

Orion cant do deep space missions – limited operation times

Whittington 11 (Mark, author of The Last Moonwalker, contributes articles to major newspapers, 5/25/11, http://old.news.yahoo.com/s/ac/20110525/sc\_ac/8534339\_nasas\_mpcv\_inadequate\_for\_asteroid\_mars\_mission\_ideal\_for\_lunar\_missions) JPG

Officially the MPCV is envisioned for missions to Earth approaching asteroids and eventually Mars, in compliance with Obama administration space policy. However the 21-day mission limit would tend to foreclose such missions; asteroid missions would take upwards from 60 to 90 days. Clearly, modifications would be needed for an MPCV to be part of any deep space mission that the current NASA is officially envisioning, perhaps the addition of a habitation module. There are a variety of deep space missions that an MPCV, presumably launched on the heavy lift vehicle that is also envisioned. One could fly to one of the Lagrange points where the gravity of the Earth and the moon cancel one another out. One could use a MPCV to fly an Apollo 8 style mission in lunar orbit.

Solar power doesn’t work in deep space

AAPG 9 (American Association of Petroleum Geologists, Astrogeology Committee, 6/9/9, http://www.aapg.org/committees/astrogeology/EMDCampbell060909925AM.pdf.) JPG

It would be tempting to believe that all power after launch could be supplied by solar energy. However, in many cases, missions will take place in areas too far from sufficient sunlight, areas where large solar panels will not be appropriate. Limitations of solar power have logically lead to the development of alternative sources of power and heating. One alternative involves the use of nuclear power systems (NPSs). These rely on the use of radioisotopes and are generally referred to as radioisotope thermoelectric generators (RTGs), thermoelectric generators (TEGs), and radioisotope heater units (RHUs). These units have been employed on both U.S. and Soviet/Russian spacecrafts for more than 40 years. Space exploration would not have been possible without the use of RTGs to provide electrical power and to maintain the temperatures of various components within their operational ranges (Bennett, 2006).

Orion—Impact—A2: ISS

Alternatives guarantee ISS missions

Daily Galaxy 11 (5/25/11, http://www.dailygalaxy.com/my\_weblog/2011/05/nasa-unveils-new-spaceship-for-deep-space-exploration.html) JPG

The agency's space shuttle program, for example, will draw to a close this summer after three decades of service. The shuttle Atlantis' STS-135 mission in July will be the last for NASA's workhorse orbiter fleet, which will soon be put on display in museums around the country. In the short term, NASA astronauts will get rides to the space station aboard Russian Soyuz vehicles. But over the long haul, Obama's vision calls for commercial American spaceships to provide this taxi service. NASA is working with and funding several private companies, such as California-based SpaceX, to help them develop these new craft.

Orion wont be used for the ISS

Harwood 11 (William, space writer @ CBS, 5/24/11, http://news.cnet.com/8301-19514\_3-20065857-239/nasa-picks-orion-type-capsule-for-deep-space-missions/) JPG

As for serving as a lifeboat on the International Space Station, an idea that never gained traction in the space community, Cooke said the MPCV "will not function in that mode except as a backup." In the future, he said, "we will be adding to that capability with commercial crew spacecraft."

No set mission date means no timeframe – alternative crafts solve the impact

Physorg 11 (5/24/11, http://www.physorg.com/news/2011-05-deep-space-vehicle-based-orion.html) JPG

The capsule will weigh 23 tons and NASA has no date set for a potential launch, said Douglas Cooke, associate administrator for NASA's exploration systems mission directorate. There is also no final cost associated with the project. "We are still working on our integrated architecture, and that includes the space launch system along with ground systems and other supporting projects," said Cooke. "At this point we do not have a specific date," he said. "In terms of deep space exploration we hope to have test flights obviously in this decade. We are not exactly sure when but obviously as early as possible." With the space shuttle program ending this year, NASA is working with private companies on a separate effort to build a new spacecraft to replace the shuttle and transport astronauts and cargo to the orbiting International Space Station. When the shuttles become museum pieces, US astronauts will hitch rides on Russian spacecraft to orbiting station until a replacement is developed. SpaceX successfully tested its Dragon capsule last year on the first ever flight into orbit and back by an unmanned commercial spacecraft. Several companies are competing to be the first to have a new crew space vehicle ready for low Earth orbit by 2015.

Orion—Impact—Misc

Orion isn’t reusable – salt water corrodes the metal

AP 11 (5/25/11, http://www.newser.com/story/119417/nasa-to-use-moon-capsule-orion-for-deep-space-exploration.html) JPG

The Multi-Purpose Crew Vehicle is the same ship with almost no changes—except now the ship will be attached to a still-to-be-designed big rocket and go out of Earth's orbit, a NASA administrator said yesterday. The ship would not be reusable because it will land in the Pacific Ocean and salt water corrodes metal, which critics say is wasteful. But Sen. Bill Nelson pointed out that taxpayers have already spent billions on Orion. "It shows real progress towards the goal of exploring deep space and eventually getting to Mars," he said.

Cant solve colonization

ScienceRay 11 (6/16/11, http://scienceray.com/technology/nasa-announced-the-spaceship-mpcv-for-mars-missions/) JPG

Experts say that a new capsule was originally a project of flights beyond low Earth orbit, especially for flights on the same Mars. These flights will take several months. Despite the fact that the capsule rather cramped, four astronauts will be there quite comfortably, they promise to NASA. At the same time, the agency emphasizes that it is created MPCV for flights, rather than to live on other planets.

Satellites – NUQ – $ Down

Cuts to NASA are inevitable, both sides agree – they’ll come from satellites

Xinhua News 3/9 (http://news.xinhuanet.com/english2010/sci/2011-03/09/c\_13768759.htm) JPG

Glory's loss increased pressure from the Congress to cut the budget for Earth science. The House of Representatives has already approved cutting NASA's budget for the rest of 2011 by 600 million dollars while the Senate Democrats, 200 million. NASA originally expected the Congress to approve the president's request to grow the agency's budget for Earth science in the next four years from 1.8 billion dollars to 2.3 billion. However, given the budget pressure, NASA earth science budget expert Art Charothe speculates that 1.9 billion dollars that President Barack Obama requested for the 2012 fiscal year "is the high point." With the limited budget for Earth science, NASA has to think over the gloomy climate budget picture. NASA has already spent hundreds of millions of dollars on climate satellite missions that are still on the ground and need hundreds more to be able to fly. NASA's decision to build and launch a copy of the Orbiting Carbon Observatory craft, which crashed in 2009, has already taken money away from the budget for Earth science. The manned spaceflight program in recent years has also shrinked the budget specifically for climate satellite missions.

No internal link and impact – Obama empirically cuts earth observation satellites, its killed our forecasts

Baker 6/3 (Marcia Merry, Economics Intelligence director @ Executive Intelligence Review, http://www.larouchepub.com/other/2011/3822storms\_thrtn\_food.html) JPG

For more than a year, the Obama White House has waged war against the nation's leading Earth-observation and -exploration capabilities in space, including its potential collaboration with other spacefaring nations. Now, the Obama Administration has crippled some observation satellites already in space, and pushed off and cancelled others. By cuts in NASA's and the National Oceanic and Atmospheric Administration's (NOAA) budget in FY2011, and again for FY2012, three satellite arrays crucial for monitoring Sun, solar wind, and earthquake-precursor activity have been lost in the recent period: GOES 11 as of Feb. 28, when its data stopped being collected; DESDynI, which did not get launched; and the French-American Demeter, shut off in December 2010 after actually detecting precursor activity to the Haiti earthquake of February 2010. The White House Office of Management and Budget (OMB), in its FY2012 budget message, told NASA to indefinitely "defer" the Climate Absolute Radiance and Refractivity Observatory (CLARREO) constellation of four satellites. It was designed for extremely precise data collection on solar radiation's interaction with the Earth. Beyond this, the Joint Polar Satellite System (JPSS) funding was cut out of the FY 2012 budget entirely, with "very serious consequences to our ability to do severe storm warning, long-term weather forecasting, search and rescue, and good weather forecasts" for the polar regions, according to testimony of the Administrator of NOAA.

EOS cuts now

Softpedia. No Date (<http://news.softpedia.com/news/White-House-Cuts-Funds-for-Two-NASA-Climate-Satellites-188120.shtml>, accessed 7-1-11, CH)

In a bid to save more money for the federal budget, the White House has just ordered the American space agency to cancel two important satellites for climate science, that were only last year approved to launch in 2017. These missions could have produced reliable scientific data about the changes our planet is going through, that may have helped sway policymakers and the general public in favor of taking action. Interestingly, the budget for Earth sciences that NASA got for 2012 is on the rise from 2011 levels, but still the White House made the decision to ask for this cancellation, Space reports. According to the agency, the two satellites that will no longer be built are called the Climate Absolute Radiance and Refractivity Observatory (CLARREO) and the Deformation, Ecosystem Structure and Dynamics of Ice (DESDynI) missions.

Satellites – NUQ – $ Down

**Satellite budget has already been raided**

Clark 11 (Stephen, writer @ SpaceFlightNow.com, 2/7/11, http://spaceflightnow.com/news/n1102/07weathersat/) JPG

The federal government is operating on a continuing resolution, freezing the budget near last year's levels. The continuing resolution effectively cut funding for the JPSS program because it was considered a new initiative that didn't exist before 2010. "It has potentially a very profound effect on our launch date for JPSS 1," Burch said. The continuing resolution has so far cut this year's expected JPSS budget in half. The launch of NOAA's first next-generation weather satellite has already slipped nearly 24 months in the past year. "That's pushed us well into 2016," Burch said in an interview with Spaceflight Now. "It remains to be seen what happens in March. If, in March, we can get back to full funding, we'll be looking at ways to pull that launch date back, and hopefully we'll be able to launch in 2015."

Climate satellites will be cut – theyre perceived as accident prone

ABM 11 (About My Planet, writer holds B.A. in chem and bio, 3/6/11, http://www.aboutmyplanet.com/environment/nasa-climate-satellite-mission-fails-once-more/) JPG

At a time when NASA programs are being cut back and funding is being reduced, such a calamity will likely harm future missions. However, scientists working within and outside NASA are very concerned about the failure because it puts important climate tracking on hold once more. The current satellites in orbit are considered past their prime. Of the thirteen NASA satellites which observe the Earth, twelve of them are considered past due for replacement. Ruth DeFries, a professor at Columbia University, stated: “The nation’s weakening Earth-observing system is dimming the headlights needed to guide society in managing our planet in light of climate change and other myriad ways that humans are affecting the land, atmosphere and oceans.” Many are concerned that the recent mishap will trigger further program and funding cuts, putting NASA and the climate satellites in further danger of not succeeding. Satellites are considered a key resource in being able to properly assess and combat global warming and the loss of another satellite opportunity is yet another disappointment.

Satellites wont get the funding necessary to be effective

SpaceDaily 11 (4/12/11, http://www.spacedaily.com/reports/Joint\_Polar\_Satellite\_System\_Program\_And\_The\_US\_Budget\_999.html) JPG

Thanks to a series of stop-gap funding bills, JPSS continues to be funded at FY 2010 levels, well below NOAA's requested budget for this year. Program officials are expecting this situation to result in another delay of at least a year. Another roughly $2.6 billion in future spending is needed to produce the expected performance improvements for future weather forecasts. However, the House may well cut the funding significantly. If the funding is cut, there surely will be future gaps in weather forecasting capabilities and the government will wind up spending more money later, while increasing the dangers of not being able to forecast many severe weather situations. JPSS immediately needs $910 million to keep the program on track, but no word from congress as yet.

Satellites – NUQ – $ Down

**Satellites have been cut**

Whittington 11 (Mark, author of The Last Moonwalker, contributes articles to major newspapers, 2/26/11, http://old.news.yahoo.com/s/ac/20110226/us\_ac/7949516\_nasa\_earth\_science\_missions\_eliminated\_by\_obama\_administration) JPG

Unarguably one of if not the highest priority missions the Obama administration has set for NASA is climate change research. So it is surprising news that two very high profile Earth observation missions have been scrapped for budget reasons. The missions are the Climate Absolute Radiance and Refractivity Observatory (CLARREO) and the Deformation, Ecosystem Structure and Dynamics of Ice (DESDynI) missions, saving $1.2 billion between 2012 and 2015. Overall, not doing CLARREO and DESDynI would save about $2.4 billion through the rest of the decade. The Climate Absolute Radiance and Refractivity Observatory (CLARREO) would have launched two satellites in 2018 followed by another two satellites two years later. CLARREO would have gathered data on emitted and reflected energy in order to study long-term changes in the Earth's climate. Deformation, Ecosystem Structure and Dynamics of Ice (DESDynI) was an Earth imaging radar and lidar mission to study formation of ice packs on the Earth's surface. NASA will not be forced to go back to the drawing board to figure out ways to do these missions more affordably. There may be, as one suspects, a political element to the decision to kill these programs in their infancy. Congress has been making noises about raiding the Earth science account at NASA to pay for the development of a space craft and a heavy lift rocket to send humans beyond Low Earth orbit. Eliminating the CLARREO and the DESDynI missions will make that maneuver all that much harder. The Obama administration has shrunk the amount of money that is available for raiding. Furthermore it has burnished its cost cutting bona fides by taking away missions that it really cares about.

EOS faces cuts all the time—not solving anything

Borenstein 11 (Seth, staff, MSNBC, 3/4, <http://www.msnbc.msn.com/id/41895904/ns/technology_and_science-space/t/lost-satellite-deals-heavy-blow-climate-research/>, accessed 7-2-11, CH)

NASA's environmental division is getting used to failure, cuts and criticism. In 2007, a National Academy of Sciences panel said that research and purchasing for NASA Earth sciences had decreased 30 percent in six years and that the climate-monitoring system was at "risk of collapse." Just last month, the Obama administration canceled two major satellite proposals to save money. Also, the Republican-controlled House has sliced $600 million from NASA in its continuing spending bill, and some GOP members do not believe the evidence of manmade global warming. Thirteen NASA Earth-observing satellites remain up there, and nearly all of them are in their sunset years. "Many of the key observations for climate studies are simply not being made," Harvard Earth sciences professor James Anderson said. "This is the nadir of climate studies since I've been working in this area for 40 years."

Satellites – No Link—No T/Off

No trade-off, NASA focusing budget on EOS

SpaceRef 6/8 (<http://www.spaceref.com/news/viewpr.html?pid=33782>, accessed 7-1-11, CH)

With the shift in budget authority, NASA Centers focused on Earth observation, space technology, and aeronautics will see increases in funding, while those involved in human spaceflight will see major funding reductions. Indeed, the termination of the Space Shuttle program will lead to a budget cut over $1 billion for Space Operations, resulting in a 21% budget cut for the Johnson Space Center. Overall, the agency's budget for R&D will account for about 50% of all NASA spending. "Budget allocation across Centers will vary greatly," said Steve Bochinger, President of Euroconsult North America. "As NASA shifts priorities for human spaceflight from Shuttle operations to Human Exploration Capabilities and commercial spaceflight, the budget will be redirected to a range of technology development programs. Likewise, as NASA shifts its science mission focus away from space science to Earth science, the science budget will be redistributed among centers."

Satellites – No Impact – Fail

EOS satellites fail—crashes prove

Morello 11 (Lauren, staff@ClimateWire, Scientific American, 3/7, <http://www.scientificamerican.com/article.cfm?id=failure-climate-satellite-sets-back-earth-science>, accessed 7-1-11, CH)

The crash Friday of NASA's Glory satellite couldn't have come at a worse time. The incident is a blow for climate science and the space agency's efforts to rebuild an Earth observation program weakened by years of lean budgets. It also comes during a protracted spending fight on Capitol Hill in which science agencies have become prime targets for House Republicans' budget ax. According to NASA, problems with Glory's launch vehicle, a Taurus XL rocket, sent the climate probe crashing into the Pacific Ocean early Friday morning. The agency has begun an investigation, expected to take months, into what went wrong (Greenwire, March 4). Preliminary data suggest that the rocket's fairing, a nose cone designed to shield Glory during the journey through Earth's atmosphere, did not detach the way it was supposed to. A similar problem two years ago caused the crash of another NASA climate satellite, the Orbiting Carbon Observatory (OCO).

No impact to warming—even if satellites are accurate, scientists exaggerate collected statistics

Dunetz 11 (Jeff, writer for Washington Post, Big Government, 5/13, <http://biggovernment.com/jdunetz/2011/05/13/nasa-gets-caught-faking-climate-change-data-again/>, accessed 7-1-11, CH)

The climate change hoaxers use computer models to predict that sea levels would rise anywhere from 15 inches to 2o feet because of global warming in the 21st century (the consensus number is closer to 3 feet). But Mother Nature was never good at computer science. Satellite data proved that the first decade of the 21st century sea level grew by only 0.83 inches (a pace of just 8 inches for the entire century). What’s even worse (for the global warming hoaxers) there has been no rise since 2006. Now I know that some Democrats believe that Obama is a miracle worker, but even the the crazies at the Daily Kos would admit that controlling sea level is way above his pay grade. So the scientists at the University of Colorado’s NASA-funded Sea Level Research Group did what any other self-respecting cult members would do, they fudged the numbers. They simply added .3 millimeters per year to its Global Mean Sea Level Time Series. That way they could report that the sea level rise was accelerating, instead of what was actually happening–decelerating. The University of Colorado Sea Level Research Group is coming to their rescue. The NASA-funded group claims glacial melt is removing weight that had been pressing down on land masses, which in turn is causing land mass to rise. This welcome news mitigates sea-level rise from melting glacial ice, meaning sea level will rise less than previously thought. However, it is very inconvenient for alarmist sea level predictions. Therefore, instead of reporting the amount by which sea level is rising in the real world, the Sea Level Research Group has begun adding 0.3 millimeters per year of fictitious sea level rise to “compensate” for rising land mass. The extra 0.3 millimeters of fictitious sea level rise will add up to 1.2 inches over the course of the 21st century. While this is not monumental in and of itself, it will allow alarmists to paint a dramatically different picture of sea level rise than is occurring in the real world. For example, the current pace of 8 inches of sea level rise for the present century is essentially no different than the 7 inches of sea level rise that occurred last century. However, with an artificially enhanced 9.2 inches of sea level rise, alarmists can claim sea level is rising 31 percent faster than it did last century. This isn’t the first time NASA climate-change scientists have fudged data. James Hansen is famous for it. James Hansen of NASA is not just any global warming Moonbat, he is Al Gore’s global warming Moonbat. It was Hansen’s data that was used in Gore’s Oscar/Peace prize winning film. Hansen’s work is ruled by one motto: “If God gives you rotten apples, tell everyone it’s champagne. In October of 2008, Hansen made the announcement that it was warmest Oct. in history. A few days later after all the doom and gloom headlines passed he announced “Oops, never mind, I was wrong.” He only admitted the mistake after he was “outed” by other scientists. In reality, Oct. 08 was quite an average October. It Ranked 70th in the last 114 years.

Satellites – No Impact – Fail

**The crash of the Orbiting Carbon Observatory doomed effective information gathering**

Huettaman 6/25 (Emmarie, writer @ Washington Post, http://www.washingtonpost.com/wp-dyn/content/article/2011/01/24/AR2011012404892.html) JPG

Shortly after it lifted off in February 2009, NASA's Orbiting Carbon Observatory crashed into the Pacific Ocean near Antarctica. With that, a $250 million investment became scrap metal on the ocean floor and an effort to begin using satellites to measure atmospheric carbon dioxide and trace emission-reduction actions was dealt a huge setback. Scientists say the information the OCO was intended to collect is a crucial piece of the data needed not only by those monitoring the Earth's environment but also by federal officials struggling to understand possible national security implications of those climate changes. But the OCO's failure highlighted an even broader problem: Understanding climate change requires a breadth of information on variables from atmospheric carbon dioxide to the condition of Arctic ice, and scientists say that satellites are vital for this. Yet at a time where the massive Larsen B Ice Shelf in Antarctica seems intact one day and then collapses into the sea the next, the system of continuous, reliable satellite observation of Earth is at risk, with some aging satellites in dire need of replacement. The OCO was "the only satellite in the world that will do the kind of global collection we need," said James Lewis, a senior fellow at the Center for Strategic and International Studies and one of the authors of a 2010 report on satellite monitoring of climate change. "And we haven't thought about how to replace it."

EOS fails—not functional, multiple launch failure, no solution in the status quo

The Telegraph 11 (3/4, <http://www.telegraph.co.uk/science/space/8362163/Nasa-earth-observation-satellite-fails-to-reach-orbit.html>, accessed 7-2-11, CH)

The satellite, which cost $424 million (£261m) to produce, was too heavy to reach orbit with its clamshell-like nose cone cover clinging on and plunged into the South Pacific Ocean, leaving engineers puzzled as to why it failed. "We encountered no anomalies" leading up to the launch, Nasa launch director Omar Baez told reporters. But a few minutes into the flight, it became apparent that separation had not occurred. "We didn't see the indication of fairing separation," said Mr Baez. "We failed to make orbit and all indications are that the satellite and rocket are in the southern Pacific Ocean somewhere." The launch of the satellite – which was to measure aerosols in the Earth's atmosphere to help clarify their impact on climate – was delayed on February 23 after an unexpected ground control reading 15 minutes before lift-off. On Friday it rocketed away from Vandenberg Air Force Base in California aboard a four stage Taurus-XL rocket at 2:09am (10.09 GMT), but NASA soon reported that it was slowing down and would not reach orbit. A similar mishap took place in February 2009, when a satellite designed to monitor global carbon dioxide emissions plummeted into the ocean near Antarctica after failing to reach orbit, in a setback for climate science. There too, a fatal mission error occurred minutes after lift-off when the fairing, which protects the satellite during its ascent, failed to separate properly. But experts said it was too early to say if the Glory failed for the exact same reason, and that more analysis was needed. "Right now we are crunching the data but there is not enough data that has been processed to tell any more than the fairing did not deploy," said Rick Straka, deputy general manager at Orbital Sciences Corp., which made the Taurus rocket and satellite.

Satellites fail—have faced opposition since OCO crash

Huetteman 11 (Emmarie, staff, Washington Post, 1/24, <http://www.washingtonpost.com/wp-dyn/content/article/2011/01/24/AR2011012405139.html>, accessed 7-2-11, CH)

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Satellites – No Impact – Fail

EOS demand makes coordination impossible

Frank et al 1 (Jeremy, Ari J´onsson, Robert Morris, David E. Smith, researchers, “Planning and Scheduling for Fleets of Earth Observing Satellites”, NASA Ames Research Center, accessed 7-2-11, CH)

NASA’s growing ﬂeet of Earth Observing Satellites (EOSs) 1 employ advanced sensing technology to assist scientists in the ﬁelds of meteorology, oceanography, biology, geology, and atmospheric science to better understand the complex interactions among Earth’s lands, oceans, and atmosphere. Demand on these satellites is already high, and is expected to increase signiﬁcantly in the near future. Currently, science activities on different satellites (e.g. the AM Constellation) or even different instruments on the same satellite (e.g. the ASTER instrument on the Terra satellite [11]), are scheduled independently of one another, requiring the manual coordination of observations by communicating teams of mission planners. It is unlikely that this approach to daily mission planning and scheduling will be viable in the future. As the number of satellites and the number of observation requests grow large, manual coordination will no longer be possible. A more effective way to manage observation scheduling is by allowing customers of the data (viz. the scientists themselves) to request data products from a central authority instead of an individual satellite or mission. Customer preferences will constrain which satellite or satellites will be used to collect the data. Automated techniques can reason about all of the resources that are involved in collecting data, storing the data temporarily on board satellites, and transmitting the data back to Earth. This will enable more efﬁcient management of the ﬂeet of satellites as well as the communication resources that support them

EOS fails—limited scheduling and cloud coverage means unreliable data collection

Frank et al 1 (Jeremy, Ari J´onsson, Robert Morris, David E. Smith, researchers, “Planning and Scheduling for Fleets of Earth Observing Satellites”, NASA Ames Research Center, accessed 7-2-11, CH)

An observation request is typically speciﬁed in terms of the type of data and instrument desired, and a series of locations and times for the sensing event. A priority, corresponding to the scientiﬁc utility of the data, is also assigned to the request. A proposed observation sequence must satisfy a number of constraints. These constraints include requirements on the instruments used to collect the data, and duration and ordering constraints associated with the data collecting, recording, and downlinking tasks. In addition, SSR capacity, and constraints on communications equipment such as satellite antennae and ground stations must be satisﬁed. There may also be set-up steps associated with particular operations, like establishing a data link prior to downlink, or aiming an instrument prior to data acquisition. These steps generate further temporal and ordering constraints. A request can also involve coordinating activities among different satellites. For example, a stereo image will involve multiple sensing events of the same location at different viewing angles. In other cases, adequate spectral coverage may require the use of two or more instruments to sense the same land area, or to sense both land use and atmospheric conditions. Finally, scientists may want to image the same area at different times of day. Often there will be too many observations to schedule with available satellite resources. Solutions are preferred based on objectives such as maximizing the number of high priority requests serviced, maximizing the expected quality of the observations, and minimizing the cost of downlink operation In the EOS scheduling domain, requests can be submitted at any time, and high priority targets of opportunity (e.g., ﬁres, earthquakes, volcanos) may result in the need for revising a partially executed schedule. In addition, there are numerous sources of uncertainty. One of the most important, and difﬁcult, aspects of the EOS scheduling problem arises from the uncertainty of the weather, speciﬁcally, with respect to cloud cover. Image quality is determined by the amount of cloud cover and many parts of the world have long seasons where clouds are omnipresent. If a simple “no cloud” scheduling policy were followed, these parts of the world would virtually never be observed. Thus, it is important to enforce a sophisticated scheduling policy which balances a “no cloud” cover restriction with the need for coverage

Satellite remote sensing fails—data skewed by cloud cover

National Research Council 1 (<http://www.nap.edu/openbook.php?record_id=10257&page=24>, accessed 7-3-11, CH)

The disadvantages of satellite remote sensing include the inability of many sensors to obtain data and information through cloud cover3 (although microwave sensors can image Earth through clouds) and the relatively low spatial resolution achievable with many satellite-borne Earth remote sensing instruments. In addition, the need to correct for atmospheric absorption and scattering and for the absorption of radiation through water on the ground can make it difficult to obtain desired data and information on particular variables. Satellite remote sensing creates large quantities of data that typically require extensive processing as well as storage and analysis. Finally, data from satellite remote sensing are often costly if purchased from private vendors or value-adding resellers, and this initial cost, together with intellectual property restrictions, can limit the dissemination of products from such sources.

Satellites – No Impact - Unclear

Abstraction makes remote sensing images uncertain and useless

Max Locke Center 3 (U of Westminster, Sept., “An Introduction to Remote Sensing”, accessed 7-3-11, CH)

The problem with the digital representation of reality in this way is that there will always be some kind of abstraction. Reality is immensely complex and maps are generally very simple models of it. A whole sub-discipline of GIS has arisen to discuss the nature of and potential solutions to the uncertainty that arises from this fact and the uncertainty associated with the data upon which GIS maps are based. The problem is that uncertainty is the only really certain thing in cartography / GIS. And the only true strategy for dealing with it is to acknowledge its existence and make some attempt to quantify the level of error or uncertainty in an image. The best way of doing this is through metadata – roughly speaking, data about data. The idea is that when you create a map or an annotated image, you create a file that goes with it – the metadata file – which explains, for example, where the image / map came from, what was done to it and when. This allows anyone who uses the image after you to quantify the error or uncertainty associated with the image. Figure 3.4 shows a metadata file for a Landsat image from ESDI.

The only effective remote sensing is too expensive to use anyway

Center for Transportation Research and Education 1 (May, <http://www.intrans.iastate.edu/reports/RemoteSenseInvent.pdf>, accessed 7-3-11, CH)

The main disadvantage of remote sensing is cost. A source at the Iowa Department of Transportation estimates that with their in-house capability to orthorectify aerial or satellite images, “raw” digital images can be practically obtained from a commercial vendor for approximately $100 per linear mile. Costs for ortho-rectification were not estimated since they are done in-house and no numbers were available for comparison. As shown in Table III-9, costs for collection of points using GPS exceed the costs of imagery, while collection of features using a 3-camera panoramic videologging van with GPS is similar per mile to the costs of acquiring imagery. Even so, collection of a significant amount of roadway would quickly become prohibitive for any of the methods shown. Videologging is much cheaper if a minimum of information, such as number of signs per segment, rather than location of signs or condition of sign is desired. A source at the Iowa DOT estimated that this type of videologging is approximately $11 per mile not including the initial cost to purchase the van and equipment. A description of the advantages and disadvantages of other data collection methods is provided in Appendix I.

Remote satellite resolution undermines efficiency

European Communities 6 (EU commission, 1/8, <http://ec.europa.eu/eurostat/ramon/statmanuals/files/KS-34-00-407-__-I-EN.pdf>, accessed 7-3-11, CH)

However, the use of satellite data and the ability for detection and identification of e.g. land cover classes depends on the spectral and spatial resolution of satellite sensors. The spatial resolution determines the scale of work. Common satellite imagery enables mapping at a scale of 1:50.000 or 1:100.000. In a highly structured landscape the spatial resolution of e.g. 20m\*20m does not enable a sufficient discrimination of objects composing such an area. Consequences of the relatively broad spatial resolution are that maps derived from satellite imagery are at scales, which are not always appropriate. With new high resolution satellite systems, like IKONOS, this limit can drastically be reduced, enabling map production up to scales of 1:5.000.

Satellites – No Impact - Environment

Satellites can’t solve ocean monitoring

USF 8 (Making Waves Program, 7/3, <http://waves.marine.usf.edu/oceans_menu/scope/sidebars.htm>, accessed 7-3-11, CH)

\* Satellite sensors can only "see" the surface of the water. We can only surmise what is going on below. \* Only a small percentage of the original light remains after the long journey from the sun, through the atmosphere, into the ocean, and back up to the sensor. This means our satellite instruments and the equations we use to understand sensor information must be precise so we don't misinterpret the information. \* To correctly interpret data from satellite sensors, we must compare these data to "ground-truth" data. For instance, before phytoplankton pigment concentration can be derived from SeaWiFS data, we first have to measure how EM radiation changes as it interacts with bodies of water with known quantities of phytoplankton pigment. Then we can develop models that tell us how to interpret the signals we get from satellite sensors.

Satellites can’t solve climate prediction—inaccurate data measurement

Frossard et al 8 (A., A. Gomez, J. Dwyer, P. Shaw, R. Schwartz, 12/9, <http://aerosols.ucsd.edu/classes/sio217a/GroupAv3paper.pdf>, accessed 7-3-11, CH)

The 1960 Television Infrared Observation Satellite (TRIOGS-1) was the ﬁrst successful meteorological satellite and lead to the long running Nimbus program. Numerous satellites have made cloud optical and physical property measurements since NASA’s 1964 launch of the ﬁrst Nimbus satellite (Grayzeck 2003). Remote sensing data is not exclusive to satellites and has, to some extent, been around for decades. Despite the relatively new availability of high quality satellite data, large uncertainties in the measurements make validation of global climate models problematic. Parameterization of micron-sized particles and drops onto planetary scales makes clouds and aerosols the source of largest uncertainty in predicted climate change (Solomon et al. 2007). A series of advanced satellites are now measuring properties of these two critical atmospheric constituents to constrain models. These newer satellites employ more sophisticated technologies, including LIDAR, RADAR, and highly sensitive radiometers. Satellite measurements provide global, consistent, and reliable observations that are unparalleled by ground-based instruments. The most recent and important satellite advances in the measurements of cloud albedo are reviewed, covering algorithms, cloud proﬁlers, radiometers, and their limitations

Satellites can’t monitor—remote sensing can’t overcome cloud coverage or track glaciers

Liang & Lv 11 (Lu-Yi & Qin, Profs Comp Science, U of Colorado, 2/15, <http://www.cs.colorado.edu/department/publications/reports/docs/CU-CS-1078-11.pdf>, accessed 7-3-11, CH)

Supra-glacial lakes (i.e., ponds of melting water on ice sheet) in Greenland have attracted extensive global attention during the recent years. To understand the important role they play in glacier movement, sea level rise, and climate change, scientists need to learn where these lakes are, when they form, and how they change in each melting season and across multiple years. This requires detecting and tracking supra-glacial lakes both spatially and temporally. This problem is challenging due to the diverse qualities of massive amount of remote sensing images, frequent cloud coverage, as well as the diversity and dynamics of the large number of supra-glacial lakes on the Greenland ice sheet. Previous works that use supervised methods to detect supra-glacial lakes in individual cloud-free satellite images are limited in scale, quality, and functionality.

Satellites – No Impact – Weather

Remote satellite sensing fails—oil spill sensing failures prove dependence on weather conditions

Brown 8 (Carl, Merv Fingas, Mathias Fruhwirth, R. Lloyd Gamble, researchers, Environment Canada, 5/1, <http://www.boemre.gov/tarprojects/161/161aq.pdf>, accessed 7-3-11, CH)

There are several problems associated with a reliance on satellites for oil spill remote sensing. The first is the frequency with which overpasses occur (Clark, 1989). The second is the absolute reliance on clear skies to perform optical work. These two factors combined can give a very low probability of seeing a spill on a satellite image. This point is well illustrated in the case of the EXXON VALDEZ spill (Nocragcr and Goodman, 1991). Although vast amounts of ocean were covered by the oil spill for over a month, there was only one clear day that coincided with a satellite overpass, that on April 7, 1989. The third disadvantage of satellite remote sensing is the difficulty in developing algorithms to highlight the oil slicks and the long time required to do so. It took over two months in the case of the EXXON VALDEZ spill before the first group managed to "sec" the oil slick in the satellite imagery, although its location was unknown.

Satellite remote sensing can’t solve data collection—cloud coverage

Drescher 10 (Armin, researcher, Institute for Methods of Remote Sensing, 5/2, <http://www.mssl.ucl.ac.uk/imaging/cloudmap/cloudmap/papers/DLR-IMF/essclom.pdf>, accessed 7-3-11, CH)

Cloud monitoring from space is not only a routine task for every day's weather forecast, but also for climate analysis and modeling since clouds play a major role for the Earth's energy balance, as a result of their large area extent and their variability on all scales. Current climate models are severely limited by the poor knowledge of the feedback processes associated with changes of cloud amount and cloud properties (WCRP-Report 86, 1994). Even optically thin Cirrus layers must be considered, as was demonstrated first for the 1987 El Nino ocean warming (RAMANATHAN and COLLINS, 1991). It is important to estimate the impact of anthropogenic activities on cloudiness at all height levels, including contributions by air traffic, directly by the associated contrails and indirectly by the additional amount of water vapour injected into the upper troposphere. It is believed that rising temperatures will increase atmospheric humidity and global cloud amount. Cloud screening and tracking by geostationary satellites is presently the main information source for deriving 3D-cloud coverage and wind estimates on a global base. The horizontal and especially the vertical resolution of present space-borne imagers for meteorology is hardly sufficient for an accurate estimation of cloud cover due to the broken and scattered nature of most cloud fields (WIELICKI and PARKER, 1992) and it is insufficient to reveal the complex structural and statistical properties of cloud fields, that dominate their interaction with the radiation field (WISCOMBE et al., 1995). An accurate assignment of absolute height to cloud layers and their drift vectors is an important issue in all this cases. Presently height is derived only for optically thick clouds based on their infrared radiation temperatures, requiring simultaneous vertical sounding profiles of atmospheric temperature. The estimation of optically transparent clouds over land and coastal waters is completely based on models of spectral signatures and suffers from a lack of independent validation

Satellites—Impact Turn—Debris

Massive size of EOS means there’s a huge risk of space debris—ESA proves

De Selding 10 (Peter, Space Staff News Writer, Space.com, 7/26, <http://www.space.com/8829-huge-satellite-poses-150-year-threat-space-debris.html>, accessed 7-2-11, CH)

Space debris experts attending the 38th Congress of the Committee on Space Research (Cospar) here July 18-25 said an event last January brought home just how much of a threat to the low-Earth orbit environment Envisat will be. That was when the U.S. Space Surveillance Network warned ESA that a 3,306-pound (1,500-kg) upper stage from a Chinese rocket was bearing down on Envisat and that the "conjunction assessment" pointed to a likely impact. With Envisat still operational, ESA's European Space Operations Centre (ESOC) control facility in Darmstadt, Germany, fired Envisat's on-board thrusters to perform a collision avoidance maneuver. Heiner Klinkrad, head of ESA's space debris office at ESOC, said here July 21 that a post-event analysis showed that the Chinese stage probably would have collided with Envisat if the avoidance maneuver had not been done. Such maneuvers will not be possible once Envisat is retired. ESA officials, more accustomed to speaking of Chinese, Russian or American debris issues, are uncomfortable discussing the danger that Envisat represents, especially since the agency has showcased the satellite as a major success. Klinkrad is no exception. But he did say that if the collision with the spent Chinese upper stage had occurred, it likely would have polluted a highly used portion of low Earth orbit with 10 times as much junk as what was caused by the 2009 collision of an operational Iridium communications satellite with a retired Russian Cosmos spacecraft. That event occurred at about the same altitude where Envisat flies. Huge satellite debris risks Envisat's 17,636-pound (8,000-kg) mass alone would be enough to put it onto the top tier of space debris threats, even though there are nearly a dozen spent Russian rocket upper stages that weigh as much as or more than Envisat. But Envisat's configuration in orbit makes it a unique concern, even beyond its weight. The satellite's in-orbit size is 26 meters by 10 meters by five meters. Its suite of observing instruments uses a small farm of antennas that likely have become more fragile after a decade in orbit. That means that even a small piece of debris pieces too small to be cataloged by the Space Surveillance Network could cause what debris specialists refer to as a "fragmentation event" that would produce its own population of space garbage. An analysis of the space debris environment at Envisat's orbit suggests that there is a 15 percent to 30 percent chance of the satellite colliding with another piece of junk during the 150 years it remains in orbit. But that likelihood is based on the current population of space debris in low Earth orbit remaining constant during the period a scenario no one believes is remotely possible.

Satellites most prone to creating space debris

Williamson 9 (Ray, editor, Secure World Foundation, <http://www.imagingnotes.com/go/article_free.php?mp_id=170>, accessed 7-2-11, CH)

In the past, imaging satellite operators have generally not needed to worry much about the risk their satellites might face from collisions with other satellites or with orbital debris. More recently, however, they have begun to take notice of environmental conditions in Earth orbit. One immediate reason for increased interest in orbital safety is the February 10, 2009, collision of the Iridium-33 satellite with the defunct Russian Cosmos 2251 satellite. That collision created more than 800 pieces of debris 10 cm in length or above, in two clouds. Over time, these two clouds will slowly expand outward, threatening other working satellites that move in nearby orbits. Because the destroyed Iridium satellite flew in a near polar orbit, debris from this collision now poses an additional hazard to some remote sensing satellites. The Canadian RADARSATS 1 and 2 have been cited as threatened by this debris.(1) Other Earth observing satellites are likely to be affected in the future. Normal space operations unavoidably add debris to the space environment. In addition, fragmentations of spent rocket bodies in orbit and occasional explosions of old satellites add to the threat. Finally, anti-satellite tests by the Soviet Union and the United States in the 1970-80s and by China in January 2007 resulted in thousands of pieces of space debris. U.S. Air Force officials estimate that some 18,000 pieces of debris greater than 10 cm now circle Earth.

Satellites—Impact Turn—Debris

Turns case—Kessler Syndrome ends all space travel

O’Neill 8 (Ian, staff, Universe Today, 2/24, <http://www.universetoday.com/12933/space-debris-may-be-catastrophic-to-future-missions-and-google-earth-is-watching/>, accessed 7-2-11, CH)

Kessler Syndrome could be a frightening situation for space travel. No, it’s not a health risk to the human body in zero-G and it’s not a psychological disorder for astronauts spending too much time from home. Kessler Syndrome is the point at which space travel becomes impossible without hitting into a piece of space junk, jeopardizing missions and risking lives. In extreme predictions, space debris from our constant littering of low Earth orbit, collisions between bits of rubbish may become more and more frequent, causing a catastrophic cascade of debris multiplying exponentially, falling through the atmosphere and making space impassable. In the meanwhile, space mission controllers must be acutely aware that there could be an odd bolt or piece of old satellite flying toward their spaceship at velocities faster than the fastest rifle shot. Spare a thought for the space debris trackers as they try to keep a record of the 9,000+ pieces of junk currently orbiting our planet… but wait a minute, Google Earth can give us a ringside seat! Strict international civil aviation-style laws may need to be imposed on the worlds space agencies if future generations of the human race are going to make it in space. This stark warning comes from Tommaso Sgobba, Director of the International Association for the Advancement of Space Safety, who will be presenting his case to the United Nations in April. Sgobba’s main argument comes from the danger associated with the escalating accumulation of space debris in Earth orbit, should these high speed bits of junk hit a spaceship, satellite or an astronaut, death and disaster may ensue. It may get worse than this, possibly paralysing the Earth from having access to space at all. “Failure to act now to regulate space to protect property and human life would be pure folly.” – Tommaso Sgobba.

Debris threatens communication and military efficiency

Murray 11 (Erin, writer, Green Answers, 5/12, <http://greenanswers.com/blog/238095/cleaning-space-trash>, accessed 7-2-11, CH)

Then, just 30 years after his paper was published, the Kessler Syndrome came into fruition when a defunct Russian communication satellite, the Cosmos 2251, collided with another satellite, Iridium 22, smashing both crafts into an estimated 2,100 pieces that went zipping off into space, each one essentially a bullet waiting for something to come into its path. These kinds of space debris pose a particularly serious threat to active space projects, such as the International Space Station, which could be destroyed by a flying piece of metal as small as 10 centimeters across. Global communication systems are particularly vulnerable to this debris—humans depends quite a bit on satellite activity to make phone calls, use GPS systems, receive television and radio signals, track the weather, and conduct military surveillance. If a satellite carrying any one of these systems were to be hit and damaged or destroyed, it would have pretty serious implications for communications on Earth.

Space debris threatens the environment

Zhang 7 (Hui, Senior Research Associate@ Harvard, American Academy of Arts & Sciences, 1/19, <http://www.amacad.org/hui3.pdf>, accessed 7-2-11, CH)

Space debris. Development and use of space for military and civilian purposes over four decades has resulted in a large amount of man-made space debris. Man-made space debris includes dead spacecraft, discarded rocket bodies, launch- and mission-related castoffs, remnants of satellite breakups, solid-rocket exhaust, and frayed surface materials. 65 These artificial objects, along with natural objects (i.e., meteoroids), contribute to the particulate environment of Earth. A collision with even a tiny piece of space debris can damage or destroy a spacecraft, because its approach velocity is very high. The increasing amount of space debris poses a considerable hazard to all kinds of spacecraft, which concerns many Chinese scientists.

Satellites—Impact Turn—Slotting

EOS crowds out sun-synchronous orbits

Williamson 9 (Ray, editor, Secure World Foundation, <http://www.imagingnotes.com/go/article_free.php?mp_id=170>, accessed 7-2-11, CH)

Collisions with debris are not the only concern, however. As more and more countries launch Earth imaging satellites into orbit, the sun-synchronous orbits that are valued for Earth observations will become ever more crowded, adding another concern to the safety question. As noted in an earlier column (Spring 2008), in July 2007, the orbit of NASA's Cloudsat satellite was shifted slightly to avoid the possibility of colliding with Iran's Singha remote sensing satellite.

Sun-synchronous orbits limited

ERSDAC 10 (Earth Remote Sensing Data Analysis Center, 5/18, <http://www.gds.aster.ersdac.or.jp/gds_www2002/seminer_e/e.o.s_e/e.o.s_e.html>, accessed 7-3-11, CH)

Satellites are delivered up to the space by a rocket or the space shuttle and placed in flight routes called "orbits". In general, a satellite orbit is an elliptical orbit, which has the earth as one of its focal points. A circular orbit, which is a special case of elliptical orbits, is usually used for earth observation satellites. In this case, the orbit is determined by six orbital parameters: altitude from the ground (altitude), angle of the plane of the orbit against the equator (inclination), time at which the orbit crosses the equator from south to north (ascending node) and so on. Although an infinite number of theoretical orbits exist, geostationary orbits, polar orbits, and sun-synchronous orbits are three major types of orbits most often used for earth observation missions. Selection of an orbit affects the observation area, the recurrence cycle, and the spatial resolution of the earth observation satellite. The maximum latitude of observation areas is determined by the orbit inclination. The recurrence cycle is determined by the orbit altitude. Spatial resolution decreases as the orbit altitude increases because the satellite is farther away from observation targets on the earth.

Sun-synchronous orbits key to spy satellite testing

Clark 11 (Stephen, writer, Spaceflight Now, 2/6, <http://www.space.com/10773-secret-spy-satellite-rocket-launches.html>, accessed 7-3-11, CH)

The U.S. spy satellite agency hasn't revealed what techniques or sensors the craft will test in space. Its cost, contractor and size are also secret. But the lightweight payload launched on a Minotaur 1 rocket, the smallest booster used by the NRO since the agency's existence was declassified in 1992. The Minotaur's nose cone can fit a spacecraft as large as a kitchen refrigerator, and the four-stage rocket can haul nearly 1,000 pounds into low-altitude polar orbits. "It is an NRO mission using a small rocket, which would denote a lighter payload," Oborn told Spaceflight Now. [Related: U.S. Worried About Outer Space Security] The Minotaur launcher blasted off at 4:26 a.m. local time (7:26 a.m. EST; 1226 GMT) from Vandenberg Air Force Base, Calif. The launch was delayed from Saturday by a transmitter glitch in the Air Force's network of tracking and communications equipment. The six-story rocket swiftly climbed into the predawn sky, breaking the sound barrier seconds later and shedding its powerful first stage a minute after liftoff. Its second stage burned for another minute to propel the rocket nearly 400,000 feet high. Two more Minotaur stages were supposed to accelerate the vehicle to more than 17,000 mph before deploying the satellite. An NRO press release Sunday said the launch was successful. Based on safety information released to mariners and pilots, analysts believe the Minotaur rocket flew south from Vandenberg, dropping its spent rocket motors in the Pacific Ocean and achieving an orbit circling the planet's poles. The Minotaur 1's first and second stages were pulled from stockpiles of decommissioned Minuteman 2 intercontinental ballistic missiles. The smaller Orion 50XL and Orion 38 third and fourth stage motors come from air-launched Pegasus rocket program. Cobbling together unused government-furnished missile stages and commercially-available upper stage motors make the Minotaur rocket family an inexpensive launch solution for defense satellites. The dimensions of the payload's orbit were unknown Sunday morning. The spacecraft could be circling in a polar orbit with a ground track nearly perpendicular to the equator, or the Minotaur could have been aiming for a sun-synchronous orbit commonly used by Earth observation satellites. Other types of north-south orbits were also feasible.

Satellites—Impact Turn—Slotting

Sun-synchronous orbit key to US spy satellites—best imaging

Korody 6 (Patrick, JD candidate, Ohio School of Law, 11/26, <http://moritzlaw.osu.edu/lawjournal/issues/volume65/number6/korody.pdf>, accessed 7-3-11, CH)

Although spy satellites continue to become more technologically advanced, the quantity, quality, and availability of their images are constrained by two physical principles—orbit and inclination. 24 The orbit and inclination of a spy satellite play an important role in determining where and when a satellite will be over a target and the quality of the image captured. The orbit is the distance a satellite maintains from the Earth as it circles, and it affects the coverage area and resolution quality of spy satellite imagery. 25 Based on the inclination of a satellite, “planners can predict when an area of interest will appear under the sensors of their satellite . . . . With altitude control rockets, . . . [ground controllers] can also alter the altitude of their space assets, dropping in for ‘close look’ purposes.” 26 For example, some of the United States’ spy satellites are in sun-synchronous orbits, 27 a type of polar orbit. 28 A spy satellite in a sun-synchronous orbit will predictably pass over a target at the same time daily, but will have the benefit of lighting from the sun to capture images with the optical sensor. 29 Some spy satellites are in an equatorial orbit. 30 A satellite in equatorial orbit flies along the line of the Earth’s equator. 31 This disadvantage can mean less than optimal performance in areas that are distant from the equator. If a satellite is 35,850 km above the Earth, it is in a geosynchronous orbit and hovers over one spot on the equator. 32 Weather satellites are often placed in geosynchronous orbits so as to provide around-the-clock coverage of a specific region. Thus, when discussing the capabilities of spy satellites, it is important to remember that the satellites are constrained by physical principles. The orbit and inclination of a satellite determine its ground tract, footprint, overflight time, and influence the quality of images the satellite’s sensors can capture.

Spy satellites key to peace—maintains US dominance without triggering a space race

Windrem 7(Robert, Senior Investigative Producer, NBC News, 4/11, <http://www.msnbc.msn.com/id/18023834/print/1/displaymode/1098/>, accessed 7-3-11, CH)

Rather than a kinetic approach, say officials and experts, the United States has adopted a method that relies on spy satellites’ most vulnerable aspect: the need for constant housekeeping from the ground. To maintain satellite orbits, particularly low Earth orbits, controllers on the ground must send their satellites a constant barrage of signals from ground stations around the world. For example, the United States maintains the Satellite Control Network, a string of eight tracking stations in places as remote as Thule Air Base on Greenland, and Diego Garcia in the Indian Ocean. By interfering with those signals — called telemetry, tracking and control signals — the United States can put satellites out of commission for critical periods of time or send them spiraling out of control. Intelligence experts call the strategy “electronic negation” or “intrusion.” "The best ASAT [anti-satellite device] is not a weapon that detonates next to an enemy satellite," said William E. Burrows, a journalism professor at New York University who is also the author of "Deep Black," a book on spy satellites. "Instead, it would be a signal that would tell the satellite to take the rest of the afternoon off." Such a device is best for a number of reasons, experts say. Sending up a flurry of ASATS —missiles or space mines — would be obvious and could start an arms race in space or trigger a war in a crisis. Blinding an adversary has had that effect for eons. Using signals intelligence and intrusion is far subtler, and thus more difficult for the victim to detect.

Defense—NUQ – Cuts Up

Waning public support makes defense cuts inevitable

Barrett 11(Rick, reporter, Journal Sentinal, 1/28, <http://www.jsonline.com/business/114830464.html>, accessed 6-30-11, CH)

Yet some people worry that the good times could come to an end as the war in Iraq winds down and public support for the war in Afghanistan has waned. Military programs are at risk of spending cuts by Congress and the Pentagon. "Annual federal borrowing considerably exceeds the entire defense budget, the government's credit rating is waning, inflation is perking up, and no one is in the mood for massive tax increases," said James Hasik, a defense industry consultant from Austin, Texas. "Thus, it's inconceivable that military spending won't be cut sharply, regardless of whatever hopes the industry might harbor," Hasik said.

Defense—NUQ—Cuts Up—F-35

F-35 has already gotten budget cuts

Shalal-Esa 11 ( Andrea, Staff @ Reuters, 2/16, http://www.forexyard.com/en/news/House-scraps-FY11-funding-for-F-35-engine-2011-02-16T194339Z-UPDATE-2-US)

The U.S. House of Representatives on Wednesday voted to eliminate funding for a second engine for the F-35 Joint Strike Fighter that the Pentagon has called an "unnecessary and extravagant expense." The House voted 233 to 198 to approve an amendment that will halt $450 million in fiscal 2011 funding for the engine being developed by General Electric and Britain's Rolls-Royce as an alternate to an engine built by United Technologies Corp unit Pratt & Whitney. The vote must still be approved by the Senate but it was clearly an important victory by newly elected Republican lawmakers who are concerned about spiraling U.S. deficits. "This was an important vote to demonstrate that nothing should be off limits when it comes to cutting wasteful spending," said Steve Ellis, vice president of the watchdog group Taxpayers for Common Sense. "If we're going to deal with the enormous deficits, everything has to be on the table and that certainly includes defense spending." The vote came just hours after Defense Secretary Robert Gates told the House Armed Services Committee that he would look for all available legal options to kill the program if lawmakers insisting on funding it again.

F-35 cuts are inevitable – new technology

Solon 11 (Daniel, writer @ Intl Tribune, “A pinched world of weapons; Hugely expensive planes fall victim to increasingly tight defense budgets”, 6/21/11, lexis/nexis) JPG

The U.S. F-35 Joint Strike Fighter, also a Lockheed Martin product, is an exception, but its development remains well behind schedule and its costs are rising. A recent Pentagon projection of total ownership costs over 50 years of development, testing, manufacturing and operational service arrived at the staggering figure of one trillion dollars, causing serious apprehension even among hardened veterans of military budget wars. As the late U.S. senator Everett Dirksen said: A billion here, a billion there, and pretty soon you're talking about real money. The same goes for trillions. The F-35 is a multinational project with a number of NATO and U.S.-friendly countries among its intended customers and co-producers, including Australia, Britain, Canada, Denmark, Italy, the Netherlands, Norway, Turkey, Israel and Singapore. The U.S. plans to buy 2,443 of the aircraft, and purchases by the other nations will bring the total to more than 3,100. The alarm among all parties about costs continues to mount and is becoming increasingly vocal, raising concerns about the number of aircraft that will actually be produced. Alexandra Ashbourne, a military consultant based in London, has suggested that the combined effects of delays, rising costs and the rapid increase in capabilities of drones and more sophisticated unmanned aerial vehicles may lead to the termination of F-35 purchases earlier than planned. Her view is supported by recent discussions of a possible U.S. strategic strike system - still in the early planning stage - including an ''optionally manned'' nonnuclear delivery platform, capable of staying airborne, on-station, for up to 100 hours.

Defense—No Link—Congress

No trade-off—Democrats against spending reductions and Republicans support defense spending

Kaiser Family Foundation 11(Harvard School of Public Health, Jan, <http://www.kff.org/kaiserpolls/upload/8134-F.pdf>, accessed 6-30-11, CH)

Not surprisingly, Republicans are more likely than Democrats to support spending reductions in most areas, with independents somewhere in between. Still, majorities of Republicans say they would not support any reductions in Social Security (59 percent) and public education (53 percent), and nearly half (48 percent) say the same about Medicare. More than half of Republicans want no reductions in national defense, compared with about a third of Democrats and independents.

Republicans won’t cut defense

King and Greenberg 11(Neil & Greenberg, WSJ, 3/3, <http://online.wsj.com/article/SB10001424052748704728004576176741120691736.html>, accessed 6-30-11, CH)

The poll comes as Republican lawmakers, many elected on promises to slash federal spending, have focused mostly so far on cuts to non-defense, discretionary programs. But many political leaders say meaningful deficit reduction cannot be accomplished without making changes to entitlement programs.

Panetta wont let the budget gut defense

AFP 6/30 (http://www.google.com/hostednews/afp/article/ALeqM5hs8Lfy1Dw7aTrriOywex9U6CAlLA?docId=CNG.d86ceec20706af0a574a3d87e2ba3a1c.e41) JPG

Incoming US Defense Secretary Leon Panetta is determined to avoid gutting the American military despite the prospect of difficult budget decisions looming, a Pentagon spokesman said Thursday. "He (Panetta) believes that it is a false choice between fiscal responsibility and national security," spokesman Douglas Wilson told reporters. Amid mounting fiscal pressure, the defense budget "will be an important item on his agenda," Wilson said. "He will take that very seriously. He knows there are difficult decisions to be made," he said. Panetta "has said publicly, and he will say again, that he intends that there will be no hollow force on his watch."

Republicans wont cut defense – they control the budget

Heuvel 6/28 (Katrina, writer @ Washington Post, http://www.washingtonpost.com/opinions/those-reckless-republicans/2011/06/27/AG1AFHpH\_story.html) JPG

So the entire $2 trillion must come from spending cuts. But Republicans also won’t agree to mandated cuts in defense spending, despite the fact that the defense budget has soared since Sept. 11, two unfunded wars contributed trillions to the debt, and the Pentagon is one of the nation’s leading sources of waste, fraud and abuse. Some Tea Party members suggest that defense spending is on the table, but the negotiators oppose any separate cap for defense spending, leaving the issue in the hands of the very appropriators who have regularly insisted on spending more than the Pentagon asks for.

Defense—No Link—Congress

Defense spending is INCREASING despite promised cuts – both sides want pork spending

Wheeler 6/30 (Winslow, writer @ Washington Times, http://www.washingtontimes.com/news/2011/jun/30/defense-appropriations-pork-and-gimmicks-as-usual/) JPG

The House of Representatives will soon be debating the new Department of Defense (DoD) appropriations bill. It’s expensive - $649 billion, close to another post-World War II high. The bill covers almost all of DoD’s expenses for fiscal year 2012 - both routine expenses, such as basic payroll, training and weapons acquisition (known as the “base” budget), and war spending - for Afghanistan, Iraq and elsewhere. Pretending reform and frugality, members of the House Appropriations Committee - Democrats and Republicans alike - packed the bill with pork and gimmicks. The bill would spend $17 billion more than last year. But House appropriators are calling this increase a cut because it’s less than the original defense budget request President Obama sent to Congress in February. That request was made irrelevant by the president’s subsequent decision to reduce long-term security spending by $400 billion. In addition to pretending frugality, the committee apes reform. It explicitly denies the existence of earmarks in the bill, saying in its own committee report, “Neither the bill nor the report contains any congressional earmarks, limited tax benefits, or limited tariff benefits as defined in clause 9 of rule XXI.” I found many earmarks.

Modest defense cuts don’t prove a trend toward vulnerability

Altman 11 (George, staff, Washington Bureau, 3/6, <http://blog.al.com/huntsville-times-business/2011/03/post_35.html>, accessed 7-1-11, CH)

While some may question the importance of NASA, Brooks noted that the Constitution itself establishes the military as a top priority. Even as funding for other federal programs has been slashed in recent years, defense spending continued to grow. The consensus is that those easy-spending days are drawing to a close. "In light of our fiscal difficulties, all departments and programs are subject to reductions in funding," Sen. Richard Shelby, R-Tuscaloosa, said in a written statement. Benjamin Friedman, a research fellow at the conservative Cato Institute, said that for all the Republican rhetoric about cutting budgets, he doesn't foresee large cuts in defense. "It seems likely that we're entering a period where the defense budget will at least go down a little," he said. "It doesn't seem at the moment that there will be big cuts.”

Defense is off the chopping block

Diatribe Media 11 (1/25/11, http://www.diatribemedia.com/2011/01/25/republican-budget-cuts-show-real-deficit/) JPG

The Republican Study Committee released a breakdown of spending reductions and cuts, which they argue can save $2.5 trillion over the next ten years. Nearly all of the cuts come from the “discretionary spending” portion of the budget, which makes up just 16% of the total federal budget. The Republican plan is to simply push back spending levels to what they were in 2006 and hope for the best. Predictably, the pentagon’s budget is off the chopping block. John Boener spokesman Michael Steele said “our immediate goal is to cut spending to pre-bailout, pre-stimulus levels.” Pre-bailout and stimulus levels for everyone but the defense department.

Defense—No Link – F-35s

F-35s are secure, already in the budget

Dimascio 6/20 (Jen, writer @ Aviation Week, http://www.aviationweek.com/aw/generic/story\_generic.jsp?channel=aerospacedaily&id=news/asd/2011/06/20/01.xml&headline=Lockheed%20To%20Pick%20Up%20F-35%20Overruns:%20SASC%20Bill) JPG

Fresh off a hearing about continued cost increases on Lockheed Martin’s F-35 Joint Strike Fighter program, the Senate Armed Services Committee (SASC) on June 16 approved a bill that would require the government to buy the next batch of aircraft on a fixed-price contract, requiring the Pentagon’s largest contractor to absorb any additional costs. “That’s really an overhaul of how we acquire large items such as the Joint Strike Fighter,” Sen. Carl Levin (D-Mich.), committee chairman, told reporters June 17 in unveiling the markup.

**F-35s aren’t on the chopping block**

Reuters 11 (2/11/11, http://www.reuters.com/article/2011/02/11/us-usa-congress-engine-idUSTRE71A69C20110211) JPG

House Republicans will not eliminate the alternate engine for the F-35 Joint Strike Fighter in a $515 billion Pentagon budget for the current fiscal year that is due to be unveiled later Friday, a lawmaker who oversees Pentagon funding said. "The bill that we're going to deal with next week has the money in it," Republican Representative C.W. Bill Young, who chairs the House Appropriations defense subcommittee, said of the engine being developed by General Electric and Britain's Rolls-Royce. The Pentagon has tried for five years to cancel the alternate engine, but lawmakers have refused to kill the program. Young's comments indicated that it will not fall victim to a Republican effort to slash roughly $60 billion from the budget in the current fiscal year, which began last October.

F-35 wont be cut – seen as key to jobs and protected in congress

Burnett 6/27 (Richard, writer @ Orlando Sentinel,   
http://articles.orlandosentinel.com/2011-06-27/business/os-cfb-technology-0627-20110626\_1\_f-35-stealth-fighter-cost-overruns) JPG

The Lockheed Martin Corp. F-35 road show, which stopped in Orlando earlier this month, may have helped the advanced stealth fighter avoid the budget ax in Congress. The country's largest defense contractor, which has a major presence in Orlando, sent a team of executives to some of its big operations across the U.S. in early June. Their mission was to demonstrate to government officials and others the military capabilities of the F-35 Lightning II and the program's multibillion-dollar effect on local economies. Bethesda, Md.-based Lockheed noted that F-35 work in Florida involves 8,700 jobs — including 525 in Orlando — and $800 million annually in economic activity statewide. The company's emphasis on jobs during the country's ongoing economic woes and high unemployment may have been heard on Capitol Hill, where many legislators have balked at the F-35's projected lifetime price tag of $1 trillion. Despite cutting more than $6 billion from President Barack Obama's proposed military budget, both the Senate's and the House of Representatives' defense-spending bills include full funding — nearly $4 billion — for production of the first 32 next-generation fighter jets. Overrun risk shifts If Lockheed beats certain cost targets, the saving will be split between it and the Pentagon. If it runs over budget, by as much as 120 percent, the cost overruns will also be shared with the Pentagon. (Anything over that must be shouldered by Lockheed alone.)

F-35 wont be cut even if defense is cut

Arizona Republic 11 (1/7/11, http://www.azcentral.com/news/articles/2011/01/07/20110107pentagon-budget-cuts-f35-glendale-luke.html) JPG

U.S. Secretary of Defense Robert Gates' cost-cutting plan announced Thursday was not expected to affect the F-35 Joint Strike Fighter from possibly coming to Luke Air Force Base. The Air Force in July picked Luke as its preferred site to train pilots on the next generation of war jets. Under Gate's Efficiencies Initiative that includes eliminating excess or troubled programs, the Air Force is expected to cut $34 billion in spending over five years. "We have not heard from our sources back in D.C. where (the Air Force's F-35 program) is in jeopardy of being eliminated or is delayed at this point," said Steven Methvin, Glendale's point person for Luke issues.

F-35 isnt on the chopping block – Cantor

Lynch 10 (Judi M., writer @ Roanoke News, 6/22/10, http://www.roanoke.com/editorials/letters/wb/251116) JPG

It seems rare when we can strengthen our national defense at the same time we're saving taxpayer dollars, but that is exactly what Rep. Eric Cantor has done, and the Times chooses to criticize him. By supporting a second F-35 engine, Cantor is promoting marketplace competition that will drive down production costs and increase the reliability of these jets by providing for a maintenance alternative. That doesn't even take into account the dangerous possibility of what could happen if these jets were grounded because there were problems with its only available engine. I'm all for cutting spending. It has to be done before we become another country on the verge of bankruptcy. But, we must maintain the readiness of all of our Armed Forces. There's plenty that Congress can cut. This alternative engine shouldn't be the place to start.

Defense—No Link – A2: “Ryan Wants Cuts”

Their ev is lip service – Ryan wont actually cut defense

Yang 6/28 (Clement, epoch times staff writer, http://www.theepochtimes.com/n2/united-states/congressional-republicans-open-to-defense-cuts-58382.html) JPG

Rep. Paul Ryan (R-Wis.), chairman of the House Budget Committee, also paid lip service to the idea that defense cuts should be on the table; his final budget proposal, however, failed to deal substantially with the defense budget and instead targeted entitlements, including Medicare.

Defense—No Link—Public

Public support for Defense so strong the DoD would have to go out of its way to cut itself

Newport & Saad 11 (Frank and Lydia, Gallup, editors, 1/26, <http://www.gallup.com/poll/145790/americans-oppose-cuts-education-social-security-defense.aspx>, accessed 6-30-11, CH)

It has become a maxim of U.S. politics that Americans approve of cutting spending in concept but disapprove of cutting specific programs. The Defense Department long ago realized that closing specific military bases is difficult because local politicians always push to keep their area's bases open. This realization led to the creation of a special commission that recommends base closures without directly involving Congress -- an idea that may need to be replicated to achieve broader government spending cuts.

Public opposes new spending cuts—little support for defense cuts

Mataconis 11 (Doug, attorney, Outside the Beltway, 4/19, <http://www.outsidethebeltway.com/americans-oppose-entitlement-cuts-support-raising-taxes-on-the-rich/>, accessed 6-30-11, CH)

When it comes to spending cuts, though, the public is far less enthusiastic: Voters oppose cuts to [Medicare and Medicaid] by 80-18 percent. Even among conservatives, only 29 percent supported cuts, and 68 percent opposed them. Public views are more mixed on cutting defense spending, with 44 percent supporting cuts and 54 percent opposed. (…) No matter how the government tackles its deficits and debt, Americans don’t want it to borrow any more. By 69-24 percent, voters oppose raising the legal ceiling for debt. That includes Democrats, who oppose it by 53-36 percent, independents, who oppose it by 74-22 percent, and Republicans, who oppose it by 79-16 percent.

No support for spending cuts—public easily swayed

Mataconis 11(Doug, attorney, Outside the Beltway, 4/20, <http://www.outsidethebeltway.com/there-is-no-public-support-for-spending-cuts/>, accessed 6-30-11, CH)

This isn’t really surprising, of course. We’ve seen numerous polls over the past several months that essentially say this exact same thing, including one just yesterday. Nobody should really be surprised that people are nervous about the idea of giving up a program that they kind of like, especially when nobody has really made the case to them for why the changes need to be made. And that’s where the Republicans have failed so far. They have assumed, without any real evidence, that last November’s election results gave them some kind of mandate for massive spending cuts, when it was clear from the exit polls that the chief concern on the mind of most voters on Election Day was the economy and jobs. There’s no question that entitlement reform is necessary, but it’s going to be up to somebody to explain why it’s necessary, and to do so in a rational manner without resorting to the same idiotic partisan games that we’ve all become accustomed to.

Defense—No Link—Public

Polls lie—the public won’t push cuts, especially on defense

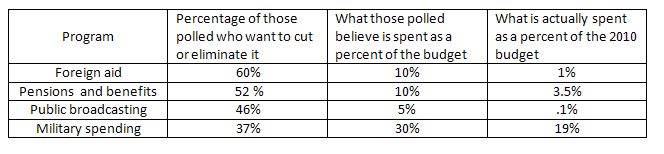
Benen 11 (Steve, contributor, Washington Monthly, 5/1, <http://www.washingtonmonthly.com/political-animal/2011_05/the_limits_of_public_opinion029349.php>, accessed 6-30-11, CH)

Matt Yglesias noted in response, “Of course this raises the question of whether people really mean this, which I doubt.” So do I. In fact, it’s pretty safe to assume folks don’t mean this at all, and the evidence is overwhelming that asking the question this way — i.e., asking whether Americans want to reduce the deficit through “spending cuts” — is almost certain to generate results that tell us nothing. It’s one of the most consistent truths in all of politics: Americans, when asked, love the idea of spending cuts in the abstract. Those same Americans, when pressed, hate the idea of spending cuts in specific. We know this in part because Gallup has told us. Just a few months ago, the pollster found most of the country balked at the notion of cuts to education, Social Security, Medicare, programs for the poor, national defense, homeland security, aid to farmers, and funding for the arts and sciences. A month later, a Bloomberg poll found that most Americans don’t want to see budget cuts to education, community renewal programs, medical and scientific research, or public television and public radio. A month ago today, a CNN poll showed most Americans want to see spending go up, not down, in many key areas of the budget.

Public opposes new cuts—majority support big spending like the DoD

PollWatch Daily 11 (4/2, <http://www.pollwatchdaily.com/2011/04/02/spending-cuts-that-get-most-public-support-would-have-the-least-impact/>, accessed 6-30-11, CH)

Many polls have shown that the dilemma and challenge in making deep cuts to the federal budget is that most Americans oppose reductions in the programs that would count most towards reducing the deficit, particularly the big entitlement programs like Social Security and Medicare. The spending cuts that get the most support are ones that would make the least difference. A CNN/Opinion Research poll, conducted March 11-13, takes that a step further. It asked those surveyed which programs they wanted to see increased, or kept the same, as well as which programs they thought should be decreased a little or a lot, or outright eliminated. Then it matched those numbers against what percentage of the federal budget respondents thought was spent on each program. (Story; Poll data)

[](http://www.pollwatchdaily.com/wp-content/uploads/2011/04/cnn-budget-2.jpg)

Defense – Link Turn – Pork

Plan guarantees pork barrel spending – goes to the defense budget

Levy 10 (Jacob T., Tomlinson Prof of Political Theory @ McGill U, http://jacobtlevy.blogspot.com/2010/11/earmarks-idea-is-rapidly-spreading-that.html) JPG

The idea is rapidly spreading that a ban on earmarks doesn't affect spending, since earmarks are a way of distributing what's already been appropriated. This is just true enough to be clever, and marks the speaker as being more sophisticated than those Tea Party rubes. But it's basically false, for three reasons. First, it is more expensive to do things inefficiently than to do things efficiently. Building the Ted Stevens Bridge To Nowhere or the Robert Byrd Gold-Plated NORAD Auxiliary High Command Of West Virginia means that money has simply been wasted, and that all the needs that weren't met this year will arise again next year. If the real needs exert at least some pull on appropriations levels, then wasting money rather than spending it wisely at time 1 does affect appropriations at time 2. The U.S. gets very bad value per dollar of federal infrastructure spending, in part because earmarks screw up the ability to prioritize projects. That doesn't increase the appropriations at time 1; but it does tend to drive them up in every later year. Similarly, when earmarks keep alive weapons systems that the Pentagon wants to cancel, because the defense appropriators in Congress view the defense budget as a jobs program, the Pentagon shrugs its shoulders and increase its request the following year; it's not going to let the wasteful jobs-program part of the budget displace its own military priorities. Second, bills often emerge out of House-Senate committees with higher appropriations levels that have the express aim of smoothing passage with earmarks. But third, and most important: the earmarking members of Congress are the same people who set the appropriations level*.* And by this I don't only mean that they're members of the House and Senate; I mean that they're powerful members of the relevant committees. Ted Stevens and Robert Byrd took turns chairing the Senate Appropriations Committee. The knowledge that they were going to have a chance to start shoveling pork a little bit later in the process affected how much they appropriated at the beginning. The idea that earmarks don't affect spending levels rests on a crazy image of how appropriations levels are set. We don't have one set of legislators who are dispassionate, disinterested judges of how much money needs to be allocated, who are then later on replaced by a bunch of grubby politicos deciding how to divvy up the spoils. Neither do we have legislators who, during their initial appropriations deliberations, somehow forget that earmarking comes later. Instead, we have normal human legislators throughout, responding to their incentives and environment. It would take a kind of saintly self-denial for them not to increase the initial size of the pool knowing that they were going to get a chance to give themselves a share later on.

Defense – Link Turn – Consolidation

Plan causes NASA-DoD consolidation – saves money

RAND 4 (National Defense Research Inst., http://www.rand.org/pubs/research\_briefs/RB9066/index1.html) JPG

While generally not redundant within NASA, a few of the NASA facilities’ capabilities are redundant with those of facilities maintained by the Department of Defense (DoD). Whether these redundancies amount to the “unnecessary duplication” of facilities prohibited by the National Aeronautics and Space Act of 1958 was beyond the study’s scope. Further analysis of technical, cost, and availability issues is required to determine if consolidation and right-sizing across NASA and DoD would provide a net government savings. NASA should work with DoD to analyze the viability of such a national reliance plan because it could affect the determination of the future minimum set of facilities NASA must continue to support.

**Defense—Impact T/O—F-35—Fails**

The F-35 hasn’t been through enough test flights and has an increased risk of crashing.

Gertler 11( Jermiah, Specialist in Military aviation, 4/26, F-35 Joint Strike Fighter (JSF) Program:

Background and Issues for Congress, pg 25)

In its annual report to Congress on DOD programs, the Office of Operational Testing & Evaluation (DOT&E) stated that due to late deliveries of 10 of 13 test aircraft, F-35 flight testing “accomplished only 16 of 168 flight test sorties planned for FY09,” and characterized the test plan as having substantial schedule risk. While giving credit for “a comprehensive, robust, and fully funded Live Fire test plan,” DOT&E also noted “the removal of shutoff fuses for engine fueldraulics lines, coupled with the prior removal of dry bay fire extinguishers [to save weight], has increased the likelihood of aircraft combat losses from ballistic threat induced fires.”94

F-35 have been dealing with tech setbacks

Mcglaun 11 (Shane, Staff @ Daily Tech, 3/14, http://www.dailytech.com/F35+Fleet+Grounded+After+InFlight+Generator+Failure+Oil+Leaks/article21123.htm)

The problem-plagued F-35 JSF program has been dealt another setback with an in-flight failure of the power generator and an oil leak on the same aircraft during the flight. The pilot of the aircraft dubbed AF-4 was able to safely land the aircraft. Reuters reports that the entire fleet of ten F-35 aircraft has been grounded pending an investigation into what caused the leak and power generator failure during the test flight. The aircraft was flying out of Edwards Air Force Base in southern California at the time of the incident according to Lockheed spokesman John Kent.

Multiple tech failures for the F-35

Trimble 11( Stephen, Staff @ FlightGlobal, 11/3, http://www.flightglobal.com/articles/2011/03/11/354281/in-flight-failure-leads-to-f-35-grounding.html)

This is the second grounding order for the F-35 in six months. On 1 October, a software problem discovered in simulations caused the programme to park the test fleet for several days. If not fixed, that glitch could have allowed a fuel pump to shut down at altitudes over 10,000ft. At the same time as fuel pump problem was discovered, a weakness was also found in the hinge of the lift-fan auxiliary air inlet for the F-35B short take-off and vertical landing (STOVL) variant. That problem forced Lockheed to halt all vertical landing tests for more than two months. But the generator failure and oil leak on AF-4 marks the first in-flight issue for a conventional take-off and landing (CTOL) variant since the 19 test flight in May 2007 by the AA-1 test aircraft. That issue also involved a power system failure. An electrical short disabled the flight controls in the horizontal stabilizer, but former chief test pilot Jon Beesley landed the aircraft without incident. Lockheed also has had problems before with the generator on the carrier-based version of the F-35. In 2007, Lockheed acknowledged the generator was sized to support only 65% of the power requirement for the F-35C.

The F-35 continues to have delays, an d will for the next few years

Bennett 11 (John T, Staff @ The Hill, 4/10, http://thehill.com/news-by-subject/defense-homeland-security/155107-pentagon-examining-delay-of-nuclear-capable-f-35-variant)

To bridge the gap to the date when the nuclear-armed F-35s arrive in the service's fleet, officials plan to keep more of existing F-15 and F-16 fighters flying longer than initially planned, Chambers said. The additional maintenance and parts to keep those jets in the air will bring new costs. In recent years, software problems, design flaws and testing delays have hamstrung F-35 development and delayed its fielding, according to a late 2010 report from the Pentagon’s director of operational testing and evaluation. Senior DoD brass in January, spurred by a new batch of technical problems, announced the program would be delayed yet again. They added $4 billion to the entire F-35 program’s design and development phase, and altered the tri-service program’s purchasing schedule.

Defense—Impact T/O—F-35’s—A2: Heg

F-35’s don’t produce superiority – Easily matched

Duff 10 (Gordon, Senior editor @ VeteransToday, http://www.veteranstoday.com/2010/11/02/national-security-alert-f-35-stealth-fighter-spy-cover-up/)

What did America lose? 15 years of research and development? That doesn’t come close. Key components of the F-35, from stealth materials, flight and weapons systems, to tens of thousands of man-hours of systems programming are now “out there,” available to any potential rival, military or commercial. At best, it could be considered a $300 billion dollar bank robbery, by American standards, nothing new in today’s financial world. Another spy disaster like Pollard, shoved under the rug too long due to pressure from the powerful Israeli lobby. At worst, nations whose defense capabilities were decades behind the US can now be at par, as the F-35 was estimated to be “air superiority capable” until at least 2040. Data stolen could make production of a comparable aircraft possible in as little as 36 months, particularly with several projects in the offing, Russia/India and in China, each of which are capable of quickly adapting upgraded systems. The JSF (Joint Strike Fighter) in its three variants, conventional takeoff/landing (CTOL, carrier variant (CV) and short takeoff/vertical landing (STOLV), are scheduled for production through 2026 with estimates of service life until 2060 and beyond. Export versions of the F-35, “detuned” are available for American allies, NATO and Israel. The F-35 delivers more “punch” per dollar than any current “legacy” fighter by a margin of as much as 8 to 1.

Their evidence is biased from defense hacks

Palmer 10 (Eric, ELP Defense, blog, http://ericpalmer.wordpress.com/2010/12/27/a-look-at-some-of-the-enablers-of-f-35-misinformation-in-australia-auspol/)

It becomes worse when other organisations cheerlead for the troubled F-35 program. As you will see with a majority of these organisations, the motivation is advert space dollars for their publications. The rest who claim to be “independent”, take money from the maker of the F-35 in the form of contributions. Unfortunately, the news media will quote some of these organisations as experts when in fact their opinions on the F-35 show an indifference to what is real. Some of these publications are on the news stand. All have websites. Anyone reading the views of these organisations who wants to be informed about the F-35 will not get impartial reporting. They will get F-35 advocacy. If these organisations aren’t F-35 advocates, they don’t get the the F-35 money. Most of these organisations are good when pointing out the basic structure of Defence programs and most should be read.

Libya proves

Ottawa Citizen 11 (http://communities.canada.com/ottawacitizen/blogs/defencewatch/archive/2011/05/08/does-the-libyan-air-war-prove-the-case-for-a-canadian-purchase-of-the-f-35.aspx)

U.S. defence specialist Winslow Wheeler not a big fan of the F-35 said, if anything, the Libyan war shows that sophisticated high-tech stealth fighters like the F-35 are not required. He noted the U.S. did not use its F-22 new generation fighter, a counterpart to the F-35, in the conflict. Instead, the majority of the attacks were carried out by nonstealth aircraft such as the existing F-18s used by Canada, he added. (Stealth bombers flew several sorties at the beginning of the war but it was mainly cruise missiles that were used to knock out command and control sites and air defences…and there hasn’t been a lot of information highlighting the role of stealth strike aircraft in the campaign so far).

Defense – Impact T/O – Long TF

The F-35 is years from development

Air Force Magazine 10 (http://www.airforce-magazine.com/MagazineArchive/Pages/2010/August%202010/0810endgame.aspx)

On Feb. 24, Schwartz told Congress the Air Force would likely not have its first combat-ready F-35A unit available until the end of calendar 2015—a full two years later than the 2013 target date prior to the program restructuring. Air Combat Command chief Gen. William M. Fraser III said in February at AFA’s Air Warfare Symposium that ACC was actively re-examining the target date to field USAF’s initial combat-ready unit of F-35As, in light of restructuring and extension of development by 13 months. "It has got to be about combat capability—and that is crews trained, spares, supportability, all of that together," Fraser said. Pentagon acquisition chief Ashton B. Carter, meanwhile, estimated that the Navy and Air Force would actually have their aircraft operational in 2016.

**Defense—Impact Turn—F-35—TNW Module**

Foreign countries will have to use F-35 to maintain nuclear roles

Snyder & Zeijden 11 (Susi, Director Nuclear Disarmament Program, Wilbert Van Der, Pol Sci. MA in Intl Rel., March, http://www.tni.org/sites/www.tni.org/files/download/Withdrawal%20Issues.pdf)

Redundancy of TNW is by far the most mentioned reason why more and more NATO countries are leaning towards or even openly calling for a change or an end to the nuclear sharing policy. Some diplomats also point to the coming increase in financial burdens for the countries involved in nuclear sharing. In the near future, four of five host countries face the replacement of the fighter aircraft assigned to nuclear tasks. The future of TNW influences, to a certain extent, the choice for replacement aircraft, and vice-versa. Only the U.S. produced F-35 (Joint Strike Fighter) plans include a modification that allows for carrying and dropping TNW. Modification costs for this so-called ‘dual capability’ come on top of the many recent cost overruns, delays and technological problems the F-35 development program is facing. If countries need to maintain their nuclear roles, they are pretty much tied to the uncertain future of the F-35.

TNW’s cause miscalc which escalates to a hot war between U.S. and Russia that culminates in extinction.

Engdahl 7 (William F., Journalist and geopolitics specialist, *Global Research. cahttp://www.globalresearch.ca/index.php?context=va&aid=4873*) MKB

With NATO troops creeping up to Russia’s borders on all sides, US nuclear B-52s and SSBN submarines being deployed to strategic sites on Russia’s perimeter, Washington extending its new missile shield from Greenland to the UK, to Australia, Japan and now even Poland and the Czech Republic, it should be no surprise that the Russian Government is responding. While Washington planners may have assumed that because the once-mighty Red Army was a shell of its former glory, that the state of Russian military preparedness since the end of the Cold War was laughable. But Russia never let go of its one trump card—its strategic nuclear force. During the entire economic chaos of the Yeltsin years, Russia never stopped producing state-of-the art military technology. In May 2003, some months after George Bush unilaterally ripped up the bilateral Anti-Missile Defense Treaty with Moscow, invaded Afghanistan and bombed Baghdad into subjugation, Russia’s President delivered a new message in his annual State of the Union Address to the Russian nation. Putin spoke for the first time publicly of the need to modernize Russia’s nuclear deterrent by creating new types of weapons, ‘which will ensure the defense capability of Russia and its allies in the long term.’ In response to the abrogation by the Bush Administration of the ABM Treaty, and with it Start II, Russia predictably stopped withdrawing and destroying its SS-18 MIRVed missiles. Start II had called for full phase out of multiple warhead or MIRVed missiles, by both sides by 2007. At that point Russia began to reconfigure its SS-18 MIRV missiles to extend their service life to 2016. Fully loaded SS-18 missiles had a range of 11,000 kilometers. In addition, it redeployed mobile rail-based SS-24 M1 nuclear missiles. In its 2003 Budget, the Russian government made funding of its SS-27 or Topol-M single-warhead missiles a ‘priority.’ And the Defense Ministry resumed test launches of both SS-27 and Topol-M. In December 2006, Putin told Russian journalists that deployment of the new Russian mobile Topol-M intercontinental ballistic missile system was crucial for Russia’s national security. Without naming the obvious US threat, he declared, ‘Maintaining a strategic balance will mean that our strategic deterrent forces should be able to guarantee the neutralization of any potential aggressor, no matter what modern weapons systems he possesses.’  It was unmistakable whom he had in mind, and it wasn’t the Al Qaeda cave-dwellers of Tora Bora. Russian Defense Minister, Sergei Ivanov, announced at the same time that the military would deploy another 69 silo-based and mobile Topol-M missile systems over the following decade. Just after his Munich speech Putin announced he had named his old KGB/FSB friend, Ivanov to be his First Deputy Prime Minister overseeing the entire military industry. The Russian Defense Ministry reported that as of January 2006, Russia possessed 927 nuclear delivery vehicles and 4,279 nuclear warheads against 1,255 and 5,966 respectively for the United States. No two other powers on the face of the earth even came close to these massive overkill capacities. This was the ultimate reason all US foreign policy, military and economic, since the end of the Cold War had covertly had as endgame the complete deconstruction of Russia as a functioning state. In April 2006, the Russian military tested the K65M-R missile, a new missile designed to penetrate US missile defense systems. It was part of testing and deploying a uniform warhead for both land and sea-based ballistic missiles. The new missile was hypersonic and capable of changing flight path. Four months earlier, Russia successfully tested its Bulava ICBM, a naval version of the Topol-M. It was launched from one of its Typhoon-class ballistic missile submarines in the White Sea, travelling a thousand miles before hitting a dummy target successfully on the Kamchatka Peninsula. The Bulava missiles were to be installed on Russian Borey-class nuclear submarines beginning 2008. During a personal inspection of the first regiment of Russian mobile Topol-M intercontinental ballistic missiles in December 2006, Putin told reporters the deployment of mobile Topol-M ICBMs were crucial for Russia’s national security, stating, ‘This is a significant step forward in improving our defense capabilities.’ ‘Maintaining a strategic balance,’ he continued, ’will mean that our strategic deterrent forces should be able to guarantee the neutralization of any potential aggressor, no matter what modern weapons systems he possesses.’  Putin clearly did not have France in mind when he referred to the unnamed ‘he.’ President Putin had personally given French President Chirac a tour of one of Russia’s missile facilities that January, where Putin explained the latest Russian missile advances. ‘He knows what I am talking about,’ Putin told reporters afterwards, referring to Chirac’s grasp of the weapon’s significance.  Putin also did not have North Korea, China, Pakistan or India in mind, nor Great Britain with its ageing nuclear capacity, not even Israel. The only power surrounding Russia with weapons of mass

<Continued…>

**Defense—Impact Turn—F-35—TNW Module**

<Continues…>

destruction was its old Cold War foe--the United States. The Commander of Russia’s Strategic Rocket Forces, General Nikolai Solovtsov, was more explicit. Commenting on the successful test of the K65M-R at Russia’s Kapustin Yar missile test site last April, he declared that US plans for a missile defense system, ‘could upset strategic stability. The planned scale of the United States’ deployment of a…missile defense system is so considerable that the fear that it could have a negative effect on the parameters of Russia’s nuclear deterrence potential is quite justified.’ Put simply, he referred to the now open US quest for Full Spectrum Dominance—Nuclear Primacy. A new Armageddon is in the making. The unilateral military agenda of Washington has predictably provoked a major effort by Russia to defend herself. The prospects of a global nuclear conflagration, by miscalculation, increase by the day. At what point might an American President, God forbid, decide to order a pre-emptive full-scale nuclear attack on Russia to prevent Russia from rebuilding a state of mutual deterrence?  The new Armageddon is not exactly the Armageddon which George Bush’s Christian fanatics pray for as they dream of their Rapture. It is an Armageddon in which Russia and the United States would irradiate the planet and, perhaps, end human civilization in the process.  Ironically, oil, in the context of Washington’s bungled Iraq war and soaring world oil prices after 2003, has enabled Russia to begin the arduous job of rebuilding its collapsed economy and its military capacities. Putin’s Russia is no longer a begger-thy-neighbor former Superpower. It’s using its oil weapon and rebuilding its nuclear ones. Bush’s America is a hollowed-out debt-ridden economy engaged on using its last card, its vast military power to prop up the dollar and its role as world sole Superpower.

Defense—Impact T/O—F-35—NATO—No Link

No link to NATO – Countries are cutting back purchases

CBC News 11 (http://www.cbc.ca/news/world/story/2011/03/23/f-vp-stewart.html)

And are there cheaper alternatives that can satisfy national security and foreign commitments? We still have time to reconsider. There's some wriggle room in Canada's arrangement with Lockheed Martin and delays with early production may now push delivery of the F-35s back to 2018. What's more, most NATO countries now appear to be cutting back on aircraft orders as well, so we'd be no exception. In the meantime, shouldn't we be asking ourselves whether a more modest procurement might, for example, free up more funds for our undersized navy, which every year is called out on some international or humanitarian deployment?

Defense – Impact T/O – NATO

NATO is outdated and dangerous – U.S. support prevents more effective European solutions which solve all of their impacts and leave open the option of cooperation in the future.

Barbara Conry (foreign policy analyst at the Cato Institute) 10/23/1996 “Let Europeans Defend Themselves,” CATO INSTITUTE http://www.cato.org/dailys/10-23-96.html

So strong is the determination to maintain NATO that the alliance no longer seems to be viewed as a tool to protect American vital interests; in the eyes of many of its proponents, NATO itself has risen to the level of a vital interest. That approach is wrong and potentially dangerous. NATO functioned effectively during the Cold War, but it is out of place in the new environment. The conditions that led to its creation - the Soviet threat and the extraordinary coincidence of American and European interests in containing that threat - no longer exist. The Soviet Union is gone, and the concurrence in American and European interests has diminished dramatically. Conflict, not cooperation, has been the hallmark of U.S.-European relations in the post-Cold War era. Former British diplomat Jonathan Clarke makes the provocative observation, "If NATO did not already exist, it is doubtful that Washington would now invent it." Yet Washington not only refuses to "disinvent" NATO, it seems determined to reinvent it. Much of the foreign policy community is obsessed with proposals for new NATO missions and expanded NATO membership. Many of the proposals conflict with one another, and others are inherently unworkable. But their authors remain engaged in an earnest discussion of how to ensure that NATO remains relevant in the post-Cold War world. To most of NATO's champions, no suggestion is too radical for serious consideration - except the suggestion that the alliance has outlived its usefulness and should be eliminated so that an alternative arrangement for European security, one that is appropriate to the post-Cold War era, can be made. What should be done? The Western European Union, the security arm of the European Union, should replace NATO as the primary guarantor of European security. A robust WEU would have a number of advantages over NATO. WEU member states have many common security interests, in contrast to the increasingly divergent U.S. and European perspectives that already have produced serious disarray in NATO. The West European nations have ample economic resources and are capable of providing for their own defense without a U.S. subsidy. Finally, Moscow is likely to view the WEU as less provocative than a U.S.-dominated NATO - especially an enlarged version that expands to Russia's borders. Maintaining NATO as the primary European security institution is expensive and risks drawing the United States into military entanglements even when no vital American interests are at stake.Replacing NATO with the WEU would emphasize that most disputes in Central and Eastern Europe are more relevant to the European nations than to America, and that dealing with such problems is properly a European responsibility. Moreover, once the West Europeans develop a full independent military capability, the WEU would be a strong partner for the United States in the event of a future threat to mutual U.S.-European security interests.

Their claims are alarmist – collapse of NATO would not cause arms races, hurt hegemony or lead to war – Western European Union would solve their scenarios better.

Barbara Conry (foreign policy analyst at the Cato Institute) 9/18/1995 "The Western European Union as NATO's Successor" CATO INSTITUTE http://www.cato.org/pub\_display.php?pub\_id=1098&full=1

It is inaccurate to suggest, as NATO partisans often do, that the only alternative to Atlanticism is a return to the dark ages of the interwar era: nationalized European defenses, American isolationism, xenophobia, demagoguery, and the other evils associated with the rise of Hitler and World War II. Former U.S. senator Malcolm Wallop (R-Wyo.) warns that weakening NATO will have dire consequences. "As we have thrice before in this dreadful century, [we will] set in motion an instability that can only lead to war, shed blood, and lost treasure. Pray that we are wiser."[4] Lawrence di Rita of the Heritage Foundation similarly defends NATO as an "insurance policy" against a future world war. "If keeping 65,000 young Americans in Europe will prevent 10 times that many new headstones in Arlington cemetery once the Europeans turn on themselves again--as they have twice this century--then it's a small price to pay."[5] Such alarmism underestimates the significance of 50 years of economic and political cooperation among the West European powers and the role of pan-European institutions such as the Organization for Security and Cooperation in Europe. It also ignores the fact that a viable institutional alternative to NATO--the Western European Union--already exists. With the proper resources and recognition on the part of Washington and the Europeans that an independent European defense is essential in the post-Cold War era, the WEU is a promising alternative to Atlanticism. Far from being a lame second choice to NATO or defense on the cheap, a robust WEU would be superior to NATO in many ways, better suited in the long run to protecting European and, indirectly, American interests.

Defense – Impact T/O – NATO

Transatlantic alliance just ensures U.S. involvement in overseas wars.

Barbara Conry (foreign policy analyst at the Cato Institute) 9/18/1995 "The Western European Union as NATO's Successor" CATO INSTITUTE http://www.cato.org/pub\_display.php?pub\_id=1098&full=1

The financial benefits to the American people of disentangling U.S.-European security are significant. More important than the economic benefits, however, are the security implications. It should not be forgotten that NATO is a military alliance--which by definition entails a risk of sending American troops to war. During the Cold War, that may have been a risk worth taking, as an attack (presumably from the Soviet Union) on Western Europe would havebeen likely to threaten America's own security. NATO's probable missions in the post-Cold War era, however, are far less likely to have an immediate and substantial impact on American interests. Any scenario involving NATO action in the foreseeable future would almost certainly inject the United States into a parochial European conflict--which would be neither necessary nor wise.

NATO is resilient

Beth Jones, Assistant Sec. of State, 3-13-2003, “US Official says ties to Europe,” http://www.useu.be/TransAtlantic/Mar1303JonesUSEU.html

For over fifty years, the United States and its European Allies have been joined in a common cause through NATO. We have been working hard since the September 11th attacks to transform the Alliance to address these new security threats. The Summit meeting of heads of state and government in Prague last November represented an historic milestone in this process. Mr. Chairman, I would like to take this opportunity to congratulate you on your chairmanship of the NATO Parliamentary Assembly and to thank you for your advocacy of U.S. interests in that organization. I also want to applaud your deep engagement at Prague and your continuing support for NATO's transformation. At the Prague Summit, NATO members agreed on an ambitious program proposed by the U.S. to develop "New Capabilities, New Members and New Relationships" to transform the Alliance. Our European Allies agreed to improve their military capabilities, through resource pooling and specialization, helping NATO to undertake collective action against the new threats that we face around the globe. The Allies also endorsed a U.S. proposal to establish a NATO Response Force, which will give the Alliance a cutting-edge land, air and sea capability. We agreed to streamline the NATO command structure to make it more lean, efficient and responsive to today's threats. Work on implementing our new capabilities initiative is well underway. Our decision to invite seven new members to join the Alliance will extend the zone of NATO security and stability from the Baltic to the Black Sea, helping to further secure a Europe that is whole, free and at peace. We are pleased that each of the seven invitees has already made significant military contributions to the war on terrorism and we will look to them to provide specialized niche capabilities to the Alliance in the future. Prague also celebrated the establishment of a new relationship between NATO and Russia. NATO states and Russia are working together in the NATO-Russia Council as equal partners on selected projects aimed at expanding and deepening our mutual cooperation. Current projects are focused on peacekeeping, civil emergency planning, non-proliferation and missile defense. I am pleased to report that so far the NATO-Russia Council has been relatively successful. Russian participation has been constructive and cooperative. As this process continues, we will seek ways to broaden and deepen the NATO-Russia relationship. The NATO-Ukraine Action Plan agreed at Prague provides a roadmap which, if implemented by Ukraine, will draw Ukraine closer to the Alliance and bolster internal reforms. It is a source of some regret that last month some Allies chose, at least initially, to confuse the obligation of the Alliance to provide purely defensive assistance to Turkey with the broader debate over the question of what we should be doing about Iraq in the UN and elsewhere. This is not the first time NATO has experienced disagreement on a difficult and important issue. One only has to think back to the debate over the INF deployment in the 1980s. The fact is that NATO remains the fundamental means by which the Allies guarantee their common security and the indispensable defense link that binds North America to Europe.

NATO is politically and strategically useless and will soon be replaced

Jonathan Strong, editor of the Family Security Foundation Inc., 7-30-2007, EXCLUSIVE: BEYOND NATO: A NEW ALLIANCE FOR A NEW THREAT

A new alliance may not need a formal command structure, but it would not hurt to have one to proclaim a body of collective defense for freedom and democracy to the world. It would also put other “fair weather” allies, who are less than cooperative, on notice that their voice will not be heard, or can at least be ignored, if obstruction is chosen over cooperation. Think Germany and France at the moment. Beyond this, Europe seems to be dying demographically and culturally as Islamic immigration and falling birth rates continue to change the face of Europe. The time to act is now. It is always better to act sooner than later in the face of terrorism because of its invisible nature, which does not heed national boundaries, treaties, or conventions. A new threat has resulted in the need for a new security structure. The threat of terrorists with WMDs forces us to ignore fair-weather friends and allies of convenience. We require allies who are willing to act preemptively and swiftly to confront this threat. While NATO had its place in the past and can continue to be a useful structure in Europe, it is not an adequate organization for dealing with the threat of terrorism and the states that sponsor it.

Defense—Impact Turn – F-35s Bad – Heg

F-35 kill airforce readiness – trades off with alternatives that are better

Goozner 2/10 (Merrill, independent author, former journalism prof @ NYU, http://gooznews.com/?p=2474) JPG

“The F-35 is a terrible idea,” said Winslow Wheeler, a long-time Hill staffer who worked for both Republican and Democratic senators on defense issues and now heads the Straus Military Reform Project at the Center for Defense Information. “It will quite literally set our Air Force backwards, not forwards. “Even if it lived up to its performance promises, and it’s not, it would be a huge disappointment as an air-to-air fighter; it is an insignificant bomb truck to replace F-16s; and it is a giant leap backwards in replacing the A-10 for close air support.”