# Comprehensive Politics Link File

## Generic

### Plan unpopular- space exploration plans face universal unpopularity

Pasztor – 7/22, Andy Pasztor, senior special writer at the Los Angeles bureau of The Wall Street Journal, 7/22/11 “NASA’s Post-Shuttle Exploration Plans Generate Little Excitement” http://online.wsj.com/article/SB10001424053111903554904576460203278610600.html?mod=googlenews\_wsj

Despite the fanfare surrounding Thursday's final shuttle landing, plans for future U.S. manned space exploration have failed to spark broad public excitement or congressional backing.

Starting in the late 1980s, three presidents prior to Barack Obama proposed plans for rockets and spacecraft intended to replace the shuttle fleet operated by the National Aeronautics and Space Administration, only to discover the projects were either unaffordable or lacked political support.

So far, the Obama administration doesn't appear to be faring much better. The administration wants to rely on commercial space-taxis for the next decade or two to reach the orbiting International Space Station. But the planned commercial projects are years late, and critics worry there may be fewer of them than initially envisioned, which could hurt the program's reliability.

Plans for vehicles built and operated by NASA to take astronauts deeper into space also face major delays. The agency is having trouble coming up with cost effective new propulsion systems, and is facing bipartisan pressure in Congress to use variants of shuttle technology to reduce layoffs in states and districts where it is manufactured. Lawmakers in both parties complain that arguments over such matters have damaged NASA's credibility on Capitol Hill.

### NASA flip-flopping has tainted congressional support for any space programs

Pasztor – 7/22, Andy Pasztor, senior special writer at the Los Angeles bureau of The Wall Street Journal, 7/22/11 “NASA’s Post-Shuttle Exploration Plans Generate Little Excitement” http://online.wsj.com/article/SB10001424053111903554904576460203278610600.html?mod=googlenews\_wsj

NASA also has abruptly shifted course in other areas. Agency officials have angered lawmakers by repeatedly changing their minds about using a [Lockheed Martin](http://online.wsj.com/public/quotes/main.html?type=djn&symbol=LMT) Corp. space capsule, dubbed Orion. In early 2010, NASA proposed canceling Orion as too big and expensive. Facing congressional pressure, the agency resurrected the program about a year later, but only as a stripped-down emergency escape vehicle for the space station. Last month, Mr. Bolden amended his position once more by designating Orion as NASA's premier manned-exploration capsule for the foreseeable future.

### Missions to asteroids and new space programs in general can’t weather economic dips, and have little political clout

Honan – 7/27, Daniel Honan, political analyst, 7/27/11, “THE FUTURE OF SPACE EXPLORATION: A HITCHHIKER'S GUIDE” http://bigthink.com/ideas/39440

Space exploration has always been a political football. As the Space Science Institute's [Heidi Hammel](http://bigthink.com/ideas/235) tells Big Think, the motivation for funding the human exploration of space was never about science, "and don’t let scientists tell you otherwise. That just means they haven’t read history." Hammel continues:

We were not doing moon landings to do a geological exploration of the surface. In fact, when we got to that point, the program was canceled. The only way that the U.S. human spaceflight program will ever be revitalized is if some other country, perhaps China...landed on the moon...and brought back our American flag and put it in Tiananmen Square.

As [Paul Halpern](http://www.usciences.edu/academics/collegesDepts/mps/Faculty/Halpern.aspx), professor of physics at the University of Science in Philadelphia [put it plainly in an opinion piece for the Philadelphia Inquirer](http://articles.philly.com/2011-07-21/news/29798097_1_manned-spaceflight-shuttle-program-particle-physics), major scientific endeavors like space exploration and the development of the [James Webb Space Telescope](http://www.jwst.nasa.gov/webcam.html) (which was recently defunded by Congress) take many years of planning and require "dedicated funding sources that can weather economic downturns." The problem with this model, of course, is our political system, in which Congressmen are elected every two years, and certain pet projects often gain and lose favor depending on which party may be in power.

At this moment in time, as the federal government prepares to tighten its fiscal belt, our ability to make advances in space is very much in question. For instance, the NASA leadership appointed by President Obama has indicated it will focus on deep space exploration--manned missions to an asteroid and Mars--but there is no clear plan yet. After all, there seems to be very little political will to drum up the [Apollo-like enthusiasm](http://www.scientificamerican.com/article.cfm?id=apollo-8-space-history) that would be required for such a mission.

## Colonization

### Plan Popular- congress wants us back on the moon, and massive influence from major contractors

Politico – 4/20/11, “NASA, Moonshot Wins Billions” http://powerfromspace.blogspot.com/2011/04/pwsp2-congress-to-nasa-we-want-american.html

For all the rhetoric about cutting government spending, NASA's space mission remains sacred in Congress.

A handful of powerful lawmakers are so eager to see an American on the moon - or even Mars - that they effectively mandated NASA to spend "not less than" $3 billion for a new rocket project and space capsule in the 2011 budget bill signed by the president last week.

NASA has repeatedly raised concerns about the timeframe for building a smaller rocket - but the new law expresses Congress' will for the space agency to make a massive "heavy lift" rocket that can haul 130-metric tons, like the ones from the days of the Apollo.

Congressional approval of the plan - all while $38 billion is being cut elsewhere in the federal government - reflects not only the power of key lawmakers from NASA-friendly states, but the enduring influence of major contractors like Lockheed Martin and Boeing in those states.

### Colonization has been abandoned as a political priority- not even NASA supports it

Vastag – 7/6, Brian Vastag, science reporter at The Washington Post, 7/06/11, “A last chance to live the space dream” http://www.washingtonpost.com/blogs/achenblog/post/a-last-chance-to-live-the-space-dream/2011/07/06/gIQAxYBp0H\_blog.html

And now the clock runs down on the space shuttle. The dreamers are left to wonder what's next. During the moon landings that inspired so many shuttle astronauts, including Jones, the dream stretched beyond winning the space race and besting the Soviets. It was a dream of adventure, and a better future, a day when nations joined together to colonize space, to set up shop on the moon and Mars, to stretch out and become a multi-planet species.

Today no one at NASA will even articulate such a grand vision. And Jones, for one, is angry. "It's embarrassing to have to hitch rides on a Russian spaceship," he told me.

President Obama says NASA will fly a crew to an asteroid by 2025, but that kind of talk feels more like a wish than a plan. Congress passes budgets eight months late, leaving NASA managers with no idea of how much they’ll have on hand to spend. And now the nation tightropes perilously close to defaulting on trillions of dollars of debt. America isn't flying so high these days.

### A space colony has never gained support and the majority oppose it

Sylvia Engdahl, “Achieving Human Commitment to Space Colonization: Is Fear the Answer?”

Furthermore — and in my view mostly importantly — it advocates the building of a self-sufficient orbiting colony in which at least a portion of the human race can survive if the worst should ever happen. In the past, I have said a great deal about my belief that the colonization of space is essential to the long-term survival of our species. (See [Space and Human Survival](http://sylviaengdahl.com/space/survival.htm).) […] Recently, however, I have come to believe that people are never going to support a sufficient space effort for positive reasons, or even to prevent a distant prospect of extinction. We wouldn't have gotten to the moon without the immediate fear of the Soviets, and we haven't gotten far since without fear as a motive. Over the past thirty-five years I have watched one space advocacy organization after another fail to gain significant public support despite great enthusiasm on the part of its founders and activists. There have been dozens of them, and for the most part their efforts, like my own, have proved to be mere "preaching to the converted." They have won few if any new converts from among the apathetic majority.

### NASA’s ambiguity when it comes to terrestrial colonization has turned congress off

Sanz – 7/7, Alex Sanz, CBS reporter, 7/7/11, “Spacesuit developer speculates NASA’s future” http://www.khou.com/home/Spacesuit-developer-speculates-NASAs-future--125188244.html

HOUSTON -- As thunderstorms gathered over Florida and put the launch of the final space shuttle flight in question, attention in Houston turned to the future of manned spaceflight.  
"At the end of the Apollo program, we were kind of in the same quandary we are in now," said Joe Kosmo, a senior project engineer at Johnson Space Center who has helped develop every single American spacesuit flown in space. "What are we going to do for the future?"  
Kosmo said the future was blurry.  
Last year, the president directed NASA to reach asteroids and Mars with new heavy lift rockets, but came under fire by some in Congress for not putting forth a clear mission.  
"If you have just an ambiguous, 'we're going to go there at some point in time,' I think people start losing interest," Kosmo said. "Are we going to the moon? If we are then we need to have a deadline."  
Kosmo, who will celebrate his 50th anniversary at NASA this year, said Johnson Space Center was prepared to help NASA take the next big step.  
"We move to the next chapter," he said. "The book doesn't end. The book goes on."

### Missions to asteroids and new space programs in general can’t weather economic dips, and have little political clout

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At this moment in time, as the federal government prepares to tighten its fiscal belt, our ability to make advances in space is very much in question. For instance, the NASA leadership appointed by President Obama has indicated it will focus on deep space exploration--manned missions to an asteroid and Mars--but there is no clear plan yet. After all, there seems to be very little political will to drum up the [Apollo-like enthusiasm](http://www.scientificamerican.com/article.cfm?id=apollo-8-space-history) that would be required for such a mission.

## Asteroids

### Congress doesn’t want anything to do with asteroids

Pasztor – 7/22, Andy Pasztor, senior special writer at the Los Angeles bureau of The Wall Street Journal, 7/22/11 “NASA’s Post-Shuttle Exploration Plans Generate Little Excitement” http://online.wsj.com/article/SB10001424053111903554904576460203278610600.html?mod=googlenews\_wsj

In an interview earlier this week, Mr. Bolden said the Obama administration's vision of putting humans "in the vicinity of an asteroid" by 2025 and having astronauts orbit Mars "with the intent of landing" sometime after 2035 are comparable to the pivotal U.S. decision to put a man on the moon. Countering critics who say NASA isn't focused enough on a precise destinations, the NASA chief said "those are pretty specific goals," challenging enough to elicit widespread public support.

The legislative tug-of-war over NASA's direction—and how much its current $18.7 billion budget will shrink—is bound to continue well past the shuttle's return. The House Appropriations Committee wants to lop off around $2 billion for next year. Mr. Bolden seeks to ramp up spending on commercial alternatives, but his foes on Capitol Hill want to shift more dollars to offshoots of traditional NASA-run programs—sometimes without opening the contracts to competitive bidding. If lawmakers succeed in mandating certain technologies, some champions of private space ventures say that would amount to the largest congressional earmark in history.

### Congress isn’t interested in NEOs and is unwilling to expand the program further

Atkinson – 10, Nancy Atkinson, senior analyst at Aite Group and prominent science journalist, 1/22/10, “Asteroid Detection, Deflection Needs More Money, Report Says” http://www.universetoday.com/51811/asteroid-detection-deflection-needs-more-money-report-says/

Are we ready to act if an asteroid or comet were to pose a threat to our planet? No, says [a new report](http://www.nap.edu/catalog.php?record_id=12842)from the National Research Council. Plus, we don’t have the resources in place to detect all the possible dangerous objects out there. The report lays out options NASA could follow to detect more near-Earth objects (NEOs) that could potentially cross Earth’s orbit, and says the $4 million the U.S. spends annually to search for NEOs is insufficient to meet a congressionally mandated requirement to detect NEOs that could threaten Earth. “To do what Congress mandated NASA to do is going to take new technology, bigger telescopes with wider fields,” said Don Yeomans, Manager of NASA’s Near Earth Object Program Office, speaking at the American Geophysical Union conference last month. […]

Congress mandated in 2005 that NASA discover 90 percent of NEOs whose diameter is 140 meters or greater by 2020, and asked the National Research Council in 2008 to form a committee to determine the optimum approach to doing so. In an interim report released last year, the committee concluded that it was impossible for NASA to meet that goal, since Congress has not appropriated new funds for the survey nor has the administration asked for them.

### Nobody in congress is willing to put their political future on the line for the plan

**Dearing – 11**, Matthew T. Dearing, MA in physics and science writer, 4/12/11, “Protecting the Planet Requires Heroes, Money, and Citizen Scientists” http://research.dynamicpatterns.com/2011/04/12/protecting-the-planet-requires-heroes-money-and-citizen-scientists/

There are many issues that NASA must juggle with here, including political, financial, and scientific. Who is willing to risk one’s political capital to champion the destruction of once-in-an-epoch giant fireballs in the sky, albeit one that can destroy our civilization as we know it? How much of taxpayer dollars can be appropriated to a once-in-an-epoch event, albeit one that can destroy our civilization as we know it? And, with deflection technology really already at hand, how professionally interesting is it to track and monitor orbiting rocks, since a Nobel Prize doesn’t target too many rocks these days?

The bottom line is that the political will and the money are not available from the United States federal government, so the financing of advancing technology–well in advance of pending doom–is not really an option right now, and will likely continue to not be an option for some time. Methods of averting potentially impacting objects have already been proposed, and should be reasonable to implement without too much of a technological leap, if any, although the funding factor will always be an application killer. In fact, according the the task force’s minutes, NASA should stay out of the direct defensive activities, and leave that to those who know how to defend, like the Air Force. Of course, the United States is already over-criticized for being the police force of the world, so why should it now have to be the defender of the planet and of all civilization?

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## SPS

### Plan popular- Lawmakers like space based solar power for possible because of possible energy concerns

McCue – 7/12, Dan McCue, A contributor to Renewable Energy Magazine since 2010, US-based journalist Dan McCue has been writing on renewable energy, science, law, environmental policy and business for several years. A multi- award winner for his work in daily and weekly newspapers in the US, 7/12/11 “Japan continues to pursue dream of solar power harvested from space” http://www.renewableenergymagazine.com/energias/renovables/index/pag/pv\_solar/colleft/colright/pv\_solar/tip/articulo/pagid/16323/botid/71/

Between 1978 and 1981, the US Congress authorized the Dept. of Energy and NASA to jointly investigate the concept, a study that became known as the Satellite Power System Concept Development and Evaluation Program.

Although that project was discontinued, interest in the space-based harvesting of solar power revived in the late 1990s, and in 1997 NASA was directed to take a fresh look at the concept.

Two years later, NASA began its Space Solar Power Exploratory Research and Technology program (SERT). The group concluded that space solar power concepts were no longer the stuff of science fiction as the price of sending such a system, while still enormous, had come down considerably, and knowledge of solar power had advanced considerably since the 1960s.

“Space solar power may well emerge as a serious candidate among the options for meeting the energy demands of the 21st century,” the study committee said.

### Space based solar panels are too politically charged because of its effect on multiple international space treaties

Caltech – 6/02/11, “Space Based Solar Power: Industry and Technology Assessments” http://www.pickar.caltech.edu/e103/Final%20Exams/Space%20Based%20Solar%20Power.pdf

Due to the high energy transmitter that it will utilize, space based solar power could potentially be in violation of international space treaties. In 1967, the Outer Space Treaty was signed by the United States and other world powers. One of the key issues addressed by this treaty is space based weapons. The Outer Space Treaty bans the placement of nuclear weapons and other weapons of mass destruction in space or on any celestial body. This could become a serious issue for space based solar power because of the potential for the transmitter to become a dual use weapon. Additionally, the newly proposed Space Preservation Treaty could severely hinder the implementation of space based solar power, as it would ban the any kind of weapon from being placed in space. In addition to political issues, there may be social disapproval of having a potential weapons system in space

### Plan unpopular- congress isn’t responding well to SBSP proposals- prefer short term returns

Jenkins – 8, Lyle M. Jenkins, former NASA executive, 10/13/08, “Issues in Development of Space-Based Solar Power” http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=04839313

Space solar power has been advocated on the basis of its value as a solution to the World’s energy problems. This approach does not appear to be effective. Fossil fuels are sufficient to meet most of the needs in the immediate future, hence the lack of support from policy makers for an expensive and complex program. SBSP development as a sustainable energy source with benefit to the environment provides a basis for the initial investment and a transition to a profit making commercial enterprise. The potential for clean renewable energy may induce the policy makers to 2 assign resources to the technology development and demonstration. Then, when investment risk is reduced, the burden of funding by the government may be replaced by private sources. The definition of space solar power concepts that can be implemented with less initial investment also aids in the transition from government to private industry funding. […] There will continue to be an element of the political community that is committed to the short-term view because of the immediate economic impact. This reality is a factor that will have to be dealt with through facts and risk assessment for the long-term view. The anticipated benefit to the Earth's environment is the overarching objective that may provide support for technology development and demonstration toward space-based solar power for use on Earth.

### Washington hates SBSP

Polizeros – 11/9/10, “NASA could do Space Based solar Power Now. D.C. Keeps Blocking It” http://polizeros.com/2010/11/09/nasa-could-do-space-based-solar-power-now-d-c-keeps-blocking-it/

Why is Washington blocking a proven technology that could deliver huge amounts of power? Space-based solar is alive and well at NASA. According to senior scientists who don’t care to have their 30-year careers at NASA come to an end for spilling the beans, pilot programs could be up an running within one year. That’s right, just one year. Compare this to the four to five years it takes for a single new nuclear plant to become operational. America: stop chasing the market. Get busy getting ahead of it.

### Legislation to address climate politically unpopular- conservative climate change denial and vested special interest groups

Salmon – 11, Felix Salmon, financial journalist, formerly of Portfolio Magazine and Euromoney, and a blogging editor for Reuters,

5/03/11, “The depressing politics of climate change” http://blogs.reuters.com/felix-salmon/2011/05/03/the-depressing-politics-of-climate-change/

Why has the Obama administration failed utterly to get anything at all done with respect to climate change? The issue was a major part of Obama’s 2008 platform, but it seemed to disappear as soon as he got elected, and the consensus on the [climate change panel](http://www.milkeninstitute.org/events/gcprogram.taf?function=detail&EvID=2571&eventid=GC11) today was that there’s essentially zero chance that a cap-and-trade bill will become law in the foreseeable future.

One of the reasons is party-political: “Republicans chose to equate climate change with taxation,” said Milken’s Peter Passell, “and a well-financed campaign made climate change denial almost a litmus test for conservative orthodoxy”. Obviously, if you don’t believe in climate change, or if you say you don’t believe in climate change, then you’re never going to be remotely helpful with respect to crafting any kind of bill designed to address it.

But more profoundly — and the reason that the Democrats don’t seem particularly eager to get anything done on this front either — there’s the fact that climate-related legislation is one of those things which will create a large mass of winners with relatively little present-day political clout (us, our children, and our children’s children), alongside a small number of losers with extremely deep pockets and extensive lobbying arms.

One of the best aspects of the great [HuffPo investigation](http://www.huffingtonpost.com/2011/04/28/swipe-fees-interchange-banks-merchants_n_853574.html?view=print) of the politics of swipe-fee reform was the way in which it detailed how the issue came to dominate Washington politics precisely because both sides are so well funded. (Essentially, it’s big retailers vs big banks, with the public in the middle.)

As a general rule, it simply isn’t possible to pass legislation where the many benefit but a few entrenched special interests lose out. There are exceptions, of course, but they tend to be extremely hard-fought (think the healthcare and Wall Street reform bills) and unique in many ways. What you really need, when it comes to climate change, is a powerful constituency which would benefit from a bill. And since the largest beneficiaries haven’t even been born yet, let alone started making campaign donations, we’re not about to find one.

### SPS has no political support – empirics

Eakman – 11, Beverly Eakman, former Editor-in-Chief of NASA’s official newspaper, author, and expert panelist, 3/17/11, “Left-wing Tsunami Puts U.S. Energy Infrastructure at Risk” http://www.americandailyherald.com/20110318328/top-stories/left-wing-tsunami-puts-us-energy-infrastructure-at-risk

The solar-array concept went from NASA to the Office of Technology Assessment (OTA) in Washington, DC, but was quickly deep-sixed for political reasons, mainly because of the environmentalists’ concerns over stray birds flying through the microwave beams—technically called “passive relay microwave energy”—(unlikely to harm wildlife in places like the Mojave Desert). Oil companies contributed to scuttling of the project out of expectations that resurgence in a U.S.-based oil economy eventually would push the Organization of Petroleum Exporting Countries (OPEC) out of the picture, which never happened. Instead of giving the green light to American oil-drilling, Congress learned nothing from Carter-era gas lines, and imported even more oil from overseas, because environmentalists deemed drilling at home messy, smelly and toxic.

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### Environmentalists have a hold on congress- prevent energy legislation

Eakman – 11, Beverly Eakman, former Editor-in-Chief of NASA’s official newspaper, author, and expert panelist, 3/17/11, “Left-wing Tsunami Puts U.S. Energy Infrastructure at Risk” http://www.americandailyherald.com/20110318328/top-stories/left-wing-tsunami-puts-us-energy-infrastructure-at-risk

His response? There is no political will or money for that sort of large-scale project, even though Dr. Griffin did not appear to be opposed to the idea himself. His point was that the political climate simply wasn’t there. He was correct, of course.

What the political climate was right for was caving to global-warming dogma. I couldn’t believe it!  At NASA’s 2010 annual gala, held in the Air & Space Museum, the old zero-mistakes NASA agency of decades past pulled a classic “bait-and-switch” maneuver, promoting global warming over a pre-publicized keynote address that was supposed to be on the evolution of satellites. The presenter was funny and the slide-show was slick. Never mind that e-mails had surfaced earlier that year from dissenting NASA scientists. The message of the gala presentation was clear: GET ONBOARD OR LOSE YOUR FUNDING.

So, here’s the deal: No matter what Sen. Alexander says, or even scientific experts for that matter, enviro-extremists are going to call for (and succeed in placing) a moratorium on any construction of nuclear power plants, which we desperately need. Senator Joseph Lieberman of Connecticut already has. Offshore drilling will see further moratoriums since the BP spill (even if enviro-nuts have to wreck oil rigs themselves)—and we won’t even discuss continental drilling. Never mind that we have hundreds of years’ worth of resources in the ground that would enable us to cut off our relationship with OPEC. Look for a future of rolling brownouts, blackouts and $6 (or higher)-per-gallon gas, not to mention rising prices, because our corn and a few other crops are being used to “create” lesser-grade fuels like ethanol.

## SMD

### No link- congress doesn’t care about the plan

UCS -11, Union of concerned Scientists, citizens and scientists for environmental solutions, May 2011, “Space Based Missile Defense” http://www.ucsusa.org/assets/documents/nwgs/space-based-md-factsheet-5-6-11.pdf

Moreover, by putting dedicated space-based weapons in orbit for the first time, a program like the Testbed— under the guise of research and development—would effectively preempt broader Congressional decisionmaking about space weapons. Congress has not had a thorough debate of the wisdom of deploying spacebased weapons, nor has it considered the desirability, feasibility, or costs of attempting to build a space-based anti-missile system or space-based ASAT weapon.

### Lawmakers oppose SMD- already slashing funding

Spring - 5/03, Baker Spring, master’s degree in national security studies from Georgetown University, 5/03/11, “Sixteen Steps to Comprehensive Missile Defense: What the FY 2012 Budget Should Fund” http://www.heritage.org/Research/Reports/2011/05/Sixteen-Steps-to-Comprehensive-Missile-Defense-What-the-FY-2012-Budget-Should-Fund

No clear commitment to a robust layered missile defense architecture. The Obama Administration policies toward the development and deployment of missile defense systems appear to deemphasize the U.S. commitment to a layered missile defense concept, which is designed to counter ballistic missiles in the boost and ascent, midcourse, and terminal phases of flight. A commitment to boost-phase capabilities is particularly lacking. The Administration backed away from boost-phase defenses by downgrading the Airborne Laser program and terminating the Kinetic Energy Interceptor (KEI) program in FY 2010. It has yet to propose a program for pursuing space-based interceptors, the most effective option for a boost-phase missile defense.

### Politicians don’t support expensive space initiatives

Goldstein – 01, Sid Goldstein, 1/12/01, “The Politics of Space Colonization” http://astronomy.nmsu.edu/cwc/Teaching/SpaceCol/sts497i/minutes/Sid12jan01.txt

We went to the moon in less than 10 years - a decision that was made when we had neither the infrastructure nor technology to go there. We did it. Then we stopped. Why? Politics. The popular support was not there and much that support was eroded away by the media. The media remained critical of the costs of manned space flights. \* Challenger 1986. Why did it explode? Not because of engineering but due to politics. First, the decision to launch was political. But most of all, the design of the launch vehicle is flawed. Solid rockets are not safe; they cannot be turned off nor their thrust regulated. Liquid fuel, which is more expensive, was decided against because of its high cost. This was a political decision.

## Space Debris

### No one in government wants to address debris removal

Kaplan – 10, Marshall H. Kaplan, Ph.D, 3/25/10, “Space Debris Realities and Removal” https://info.aiaa.org/tac/SMG/SOSTC/Workshop%20Documents/2010/Space%20Debris%20Removal%20-%20Kaplan.pdf

The most difficult challenges will be political, legal, economic and cultural. No one in government wants to address debris removal, even though recent events clearly indicate this is an imperative. Human nature and political interests will likely try to put off a solution until catastrophic events increase in frequency. Even then, action may be slow in coming. • Only a few options and ideas have been included here. There is a myriad of innovations and potentially disruptive technologies just waiting for the moment that incentives are created to excite the many talented individuals and groups around the space world. Hopefully, this opportunity will not be delayed until corrective action becomes a great deal more expensive.

### Space debris removal is prohibitively expensive

WSJ – 3/11/10, “A Cosmic Question: How to Get Rid Of All That Orbiting Space Junk?” http://online.wsj.com/article/SB123672891900989069.html

Multibillion-dollar budgets have parked people in space, allowed global telecommunications and brought Star Wars military systems within reach. But cleanup missions to pick up all the trash cast off by a launch are prohibitively expensive. "The problem with removing space debris is you don't have any financial benefit from doing it," says Dr. Klinkrad.

### Expensive new programs cause GOP backlash

Salon - 6/02/11, “Obama’s Economic Nightmare” http://www.salon.com/news/2012\_elections/?story=/tech/ htww/2011/06/02/obama\_economic\_nightmare

The tragedy of tomorrow's numbers, however, lies the fact that whether they come in high or low -- and the consensus view fears the latter -- the policy status quo in Washington is more likely to change for the worse than for the better. The Federal Reserve is unwilling to do anything more to stimulate the economy, and House Republicans are determined to prevent the White House from engaging in any kind of aggressive fiscal policy. Again, the Times: House Republicans told the president that they would not support new spending to spur growth during a meeting at the White House on Wednesday. "The discussion really focused on the philosophical difference on whether Washington should continue to pump money into the economy or should we provide an incentive for entrepreneurs and small businesses to grow," said Eric Cantor, the majority leader. "The president talked about a need for us to continue to quote-unquote invest from Washington's standpoint, and for a lot of us that's code for more Washington spending, something that we can't afford right now."

### Combatting pace debris is perceived as politically divisive, too expensive, and futile

David – 3/09, Leonard David, reporter on the space industry for more than five decades, winner of this year’s National Space Club Press Award and a past editor-in-chief of the National Space Society's Ad Astra and Space World magazines, 3/9/11, “Ugly Truth of Space Junk: Orbital Debris Problem to Triple by 2030”

"The buildup of debris is not a naturally reversible process. If we are to clean up space, it will certainly be complex and very expensive. If we continue, as we have, to use these very popular orbits in near-Earth space, the density of debris and collision events will surely increase," Kaplan told SPACE.com.

The good news is that no immediate action is necessary in terms of removing debris objects, Kaplan advised, as experts estimate that the situation will not go unstable anytime soon.

"But, when it does, operational satellites will be destroyed at an alarming rate, and they cannot be replaced. We must prepare for this seemingly inevitable event," Kaplan said. While there are many options for debris removal that have been proposed, he feels that none are sensible.

"Barring the discovery of a disruptive [technology](http://www.space.com/11607-space-junk-rising-orbital-debris-levels-2030.html) within the next decade or so, there will be no practical removal solution," Kaplan added. "We simply lack the technology to economically clean up space." [[Lasers Could Zap Space Junk Clear From Satellites](http://www.space.com/11157-nasa-lasers-shooting-space-junk.html)]

For Kaplan, the issue of dealing with orbital debris will become dire.

"The proliferation is irreversible. Any cleanup would be too expensive. Given this insight, it is unlikely spacefaring nations are going to do anything significant about cleaning up space," Kaplan said. "The fact is that we really can't do anything. We can't afford it. We don't have the technology. We don't have the cooperation. Nobody wants to pay for it. Space debris cleanup is a 'growth industry,' but there are no customers. In addition, it is politically untenable."

## ET

### Congress gave up on ET years ago, and the current program is on its death bed

EAU Claire – 7/16/11, “Astronomy Update 07/16/11” http://www.leadertelegram.com/local\_news/briefs/article\_adc8c142-7f2f-57ca-84b6-4911d512c40a.html

Recently I was shocked to see that the search for extraterrestrial intelligence, or SETI, program was shutting down its operations because of a lack of funding.

Many years ago we spent a year in debate class focusing on the topic of space exploration and if it still was worth the cost.

The SETI Institute often was seen as a low-cost, high-reward program with its radio telescopes scanning the universe for any life communication signals.

In catching up with the current program, I discovered the past several years have not been kind to the search for extraterrestrial life.

In 1994, Sen. Richard Bryan of Nevada convinced Congress it wasn't worth the cost, calling it the "Great Martian Chase," and complaining that not a single flying saucer had applied for approval from the Federal Aviation Administration.

The huge cost the senator was complaining about amounted to around 3 cents a year for each U.S. resident.

Since that time, SETI has been dependent on private donations to keep the telescopes scanning.

Contributions came, such as a $50 million donation from Microsoft co-founder Paul Allen, but the latest economic crisis has tightened the purses of many donors.

The final nail in the coffin for SETI was the inability to pay its $2.5 million annual operating costs.

The question needs to be asked: Is SETI really worth saving?

### Every ounce of public and private support for Extra Terrestrial searches has dried up

Waldrop – 7/27, M. Mitchell Waldrop, PhD in elementary particle physics; worked as a staff reporter for Chemical & Engineering News andScience magazines, 7/27/11 “The search for alien intelligence: SETI is dead — long live SETI” http://www.nature.com/news/2011/110727/full/475442a.html?s=news\_rss

The grass growing around their mounts — its neatness once a point of pride for observatory staff — is getting shaggy. The two caretakers still on site at the Hat Creek Radio Observatory don't have the resources to keep it trimmed. For nearly four years, these dishes listened for radio signals from an alien civilization. But since April, when the state's budget crisis forced the University of California, Berkeley, to suspend operations at the observatory, the world's largest instrument dedicated to the search for extraterrestrial intelligence (SETI) has been left in limbo. If the money cannot be found to reopen the array, the 6-metre antennas will have to be dismantled and removed.

The melancholy vista at Hat Creek makes it easy to entertain equally melancholy thoughts about the SETI enterprise itself. It's the ultimate in high-risk, high-payoff science, pursued by only a handful of passionate researchers. In 50 years of searching, they have turned up nothing — and they can't quite shake an association in the public mind with flying-saucer sightings and Hollywood science fiction, all of which is so easy for cost-cutting politicians to ridicule that any substantial federal funding for SETI is impossible. Private support for the search is getting tighter because of the global recession. And many of the pioneers who have championed the search are now well into their 60s, 70s or 80s.

### The US has abandoned the search for ET

NPR – 4/29/11, “The Search for Extraterrestrial Intelligence Is Put On Hold” http://www.npr.org/2011/04/29/135841009/the-search-for-extraterrestrial-intelligence-is-put-on-hold

Funding cutbacks have forced the hibernation of the Allen Telescope Array—that's the series of dishes used to search for radio signals from alien life. The SETI (Search for Extra Terrestrial Intelligence) Institute's Jill Tarter explains what the loss means for the search. IRA FLATOW, host:

Up next, the search for intelligent life. Well, it's sort of been put on a respirator. Funding cutbacks have forced the University of California at Berkeley to halt operations at the Allen Telescope Array. You know, you've seen pictures of that. That's the cluster of radio telescope dishes out in the desert and used by researchers to search for radio signals from distant places, signals that might tell us that we are not alone in the universe. So what happens now?

Joining us to talk about it is Jill Tarter. She's the director of the Center for SETI Research at the SETI Institute in Mountain View, California. Welcome back to SCIENCE FRIDAY, Dr. Tarter.

Dr. JILL TARTER (SETI Institute): Hello, Ira. How are you?

FLATOW: So tell us exactly what happened because there seems to be a lot of confusion about just what was shut down and turned off and what wasn't.

Dr. TARTER: Well, the Allen Telescope Array, in fact, is in need of a transfusion of cash actually, in this case, not blood. And we have had to take the telescopes and put them into safe mode, but we are no longer able to collect data from the sky because we and our partners, the University of California at Berkeley, have run out of funds to operate the telescope.

Now, the rest of the SETI Institute and all my astrobiology colleagues and their fantastic projects, those are not impacted, but it is actually the search for evidence of someone else's technology that's on hold right now.

### SETI unpopular – nobody wants to fund it

NPR - 4/26/11, “[Budget Cuts Shutdown SETI's Alien-Seeking Telescopes](http://www.npr.org/blogs/thetwo-way/2011/04/27/135746059/budget-cuts-shutdown-setis-alien-seeking-telescopes)” http://www.npr.org/blogs/thetwo-way/2011/04/27/135746059/budget-cuts-shutdown-setis-alien-seeking-telescopes?ps=rs

If aliens come calling, we might not hear them.

The San Jose Mercury News reports that the SETI Institute — the one made famous by the movie Contact — has put its program to find alien life on hold. In an April 22 letter SETI sent to significant supporters, Tom Pierson, SETI's CEO announced that beginning this week, the Allen Telescope Array "has been placed into hibernation due to funding shortfalls for operations of the Hat Creek Radio Observatory (HCRO) where the ATA is located."

### Government views SETI as wasteful and unnecessary spending

Watters – 11, Audrey Watters, writer for RWW, 4/26/11, “SETI Suspends Its Search For Alien Life” http://www.readwriteweb.com/archives/seti\_suspends\_its\_search\_for\_alien\_life.php

Sad news for astronomy and for alien research, and even worse news if there is in fact intelligent life out there wanting to contact Earth. The SETI Institute, which operates the Allen Telescope Array in northern Californa (made famous in the Jodie Foster film [Contact](http://www.imdb.com/title/tt0118884/)), says that due to government budget cutbacks, it no longer has the funds to maintain its search for extraterrestrial intelligence.

The giant field of radio dishes has scanned for signals that might possibly emanate from alien civilizations for almost four years now. But last week, SETI Institute CEO Tom Pierson sent a letter to donors saying that the array was going into "hibernation" because of inadequate government support.

The timing couldn't be worse, SETI scientists tell the [San Jose Mercury News](http://www.mercurynews.com/science/ci_17926565?nclick_check=1). Earlier this year, astronomers said that the Kepler space telescope had found over 1200 possible planets, dozens of which could be suitable in terms of size and temperature to sustain life.

"There is a huge irony," says SETI Director Jill Tartar," that at a time when we discover so many planets to look at, we don't have the operating funds to listen."

Funding has never been assured for the program as the search for aliens has often been derided as wasteful. Some private donations have helped support the effort, including money from Microsoft co-founder Paul Allen, who helped raise the funds necessary to build the satellite array. Currently the project is run with support from the National Science Foundation as well as from UC Berkeley, but SETI has found its budget cut at both these federal and state levels.

### SETI will always be on the budgetary chopping block

New Zeeland Herald, 4/27/11, “Shrinking budgets force shutdown of alien search” http://www.lexisnexis.com.turing.library.northwestern.edu/hottopics/lnacademic/

It looks like ET might not call after all. Or if he does, there'll be no-one able to hear him. In the mountains of Northern California, a field of radio dishes that look like giant dinner plates have been waiting for years for the first call from intelligent life among the stars. Hollywood once brought the huge dishes to the big screen in the sci-fi film Contact, in which Jodie Foster played a SETI scientist. But they're not listening anymore. Cash-strapped governments, it seems, can no longer pay the interstellar phone bill. Astronomers at the SETI (Search for Extra Terrestrial Intelligence) Institute said a steep drop in state and federal funds has forced the shutdown of the Allen Telescope Array, a powerful tool in the search for life in deep space. The 42 radio dishes had scanned deep space since 2007 for signals from alien civilisations while also conducting hard scientific research into the structure and origin of the universe. SETI chief executive Tom Pierson said in an email to donors last week that the University of California, Berkeley, has run out of money for day-to-day operation of the dishes. "Unfortunately, today's government budgetary environment is very difficult, and new solutions must be found," Pierson wrote.

## BMD

### **No Republican support for missile defense**

Korb, 08.- Lawrence J. Korb- a Senior Fellow at the Center for American Progress. He is also a senior advisor to the Center for Defense Information and an adjunct professor at Georgetown University, April 25, 08. Bulletin of the Atomic Scientists. *Republicans, Missile Defense, and the Reagan Leagacy.* http://www.thebulletin.org/web-edition/op-eds/republicans-missile-defense-and-the-reagan-legacy

When developing a weapons program for the Defense Department, there is normally an orderly and somewhat rational process to be followed: First, a threat is identified; research is then conducted on how best to deal with said threat; and finally, a weapon system is developed and eventually produced.

If at any time in this process the threat changes or the research demonstrates that no available technology exists to deal with the threat, or a weapon system cannot be developed in a cost-effective manner, the research is stopped, slowed down, or canceled.

There is no doubt that sometimes bias, organizational culture, or ideology becomes a part of the process. Threats can be hyped, research and development skewed, and the capabilities of a new weapons system exaggerated. But rarely does this process become completely irrational. It is possible to have a reasonable, rational debate about whether the United States should purchase the F-22 fighter aircraft, the

DDG-1000 destroyer, or V-22 helicopter.

But this is not the case with national missile defense, which owes its origin to President Ronald Reagan's 1983 Strategic Defense Initiative speech challenging the country to develop a defense system that would provide the United States with the ability to destroy any and all nuclear-equipped intercontinental ballistic missiles (ICBM) launched against Washington by the former Soviet Union. Reagan believed that a successful missile defense could both end the nuclear arms race and make nuclear weapons obsolete. He even went so far as to promise to share the technology with the Soviets. In what would be a harbinger of things to come, Reagan did not consult with either the military or Defense's civilian leadership before unveiling his proposal.

In the 25 years since Reagan's speech, the United States has spent hundreds of billions of dollars on missile defense, the Soviet Union has collapsed, and the national missile defense system has not undergone a realistic test. Yet, ground-based national missile defense systems have been deployed, most Republicans argue that it should be the Pentagon's top priority, and the Bush administration continues to pour tens of billions of dollars into missile defense each year. National missile defense is the only weapons system mentioned in the last three Republican presidential platforms and the Contract with America, the Republican manifesto that led to the party assuming control of Congress in 1994. Why?

For starters, it has become a litmus test of loyalty to the Reagan legacy. President Reagan has assumed the same iconic place for Republicans that Franklin Delano Roosevelt had for so many years for Democrats. For example, John McCain, the presumptive Republican presidential nominee, often refers to himself as a foot soldier in the Reagan Revolution, as did his former opponents Mitt Romney and Rudolph Giuliani. This revolution was based on three pillars--pro-life as opposed to pro-choice; government as the cause of society's problems as opposed to the solution; and a robust national missile defense as opposed to arms control negotiations or disarmament

Some Republicans have difficulty completely supporting the first two pillars: The majority of Americans want to place only a few restrictions on a woman's right to choose and view government as a solution to many of our economic and social problems. But there is no political downside for a Republican to embrace missile defense. Most Americans either believe we already have a missile defense capability or really do not care much about it now that the Cold War has ended. National missile defense may be mentioned in the Contract with America or the Republican platform, but nobody reads these documents, let alone votes based on their contents.

### No support for missile defense, congress cut its funding

Heritage Foundation, 10- Baker Spring, Research Fellow in National Security Policy at The Heritage Foundation. May 14, 2010. *Is Congress Turning the Corner on Missile Defense*? Heritage Foundation. <http://blog.heritage.org/2010/05/14/is-congress-turning-the-corner-on-missile-defense/>.

Congress may be turning the corner on missile defense. It is reported that the House Subcommittee on Strategic Forces added $361.6 million to [the Obama Administration’s inadequate $9.9 billion request for the overall missile defense program](http://www.heritage.org/Research/Reports/2010/04/The-Obama-Administrations-Ballistic-Missile-Defense-Program-Treading-Water-in-Shark-Infested-Seas) in fiscal year 2011. This is a significant departure from last year, where Congress, with the notable exception of the valiant effort by House Republicans to oppose it, acquiesced in the Obama Administration’s $1.6 billion reduction in the broader program.

The increase in funding is to go to the following components of the broader missile defense program: 1) the Patriot PAC-3 interceptor; 2) the AN/TPY-2 missile defense radar; 4) the Standard Missile-3 interceptors; 5) the Airborne Laser; and 6) the U.S.-Israeli missile defense cooperation program. The increases, in large measure, were paid for by reductions in funding for a number of satellite programs.

While the increase in funding for missile defense in fiscal 2011 from the President’s request may mark in change in Congress’ views on the program, the overall program will remain inadequate. A robust commitment to defending the U.S. homeland against long-range missile attack is not to be found. The additional funding for the Airborne Laser is welcome, but it will not provide a stand-by operational capability for the system. Most importantly, the missile defense program, even with the increases approved by the House Strategic Force Subcommittee, does not include a program for placing missile defense interceptors in the location where they can be most effective. This is in space. All told, a truly robust missile defense program in fiscal 2011 would include roughly $1 billion more than what the House Subcommittee approved.

### Space based missile defense is unpopular

Pfaltzgraff, 09. – Robert L. Pfaltzgraff, MA in International Relations, and PhD in Political Science, University of Pennsylvania, Professor at the National Defense College, Tokyo, Japan. *Boost Phase Missile Defense: Present Challenges, Future Prospects.* Boost-Phase Missile Defense.

Space-based defenses as well as sea-based defenses, and I would add the airborne laser, have boost-phase intercept capabilities. Yet space-based defenses have been politically the most controversial and therefore politically the least acceptable. As a result we have failed to deploy space-based interceptors that could destroy missiles and warheads in boost phase as well as midcourse and terminal phases. As we point out in the IWG Report, the United States had developed a missile defense that could have begun operating as early as the mid 1990s that included space-based interceptors known as *Brilliant Pebbles* providing for a layered defense against missiles launched from any point against the United States itself of its interests overseas. By the early 1990s, as a result of the technology investments during the preceding decade, the space-based elements were more technically mature and capable of rapid development than the ground-based missile components of the missile defense system then envisioned. The space-based missile defense based on kinetic energy interceptors would have placed heavy emphasis on boost-phase interception. It was a program that had survived numerous peer reviews, had been approved by the Pentagon’s acquisition authorities, and yet was curtailed by Congress in 1991 and 1992 and then canceled by the Clinton Administration. Despite this cancelation, advances in the commercial , civil, and other defense sectors since that time would now permit even lighter mass, lower cost, and higher

3performance than would have been possible with the 1990-era technology base. Advances in technology would make possible boost-phase intercept of even short- and medium-range ballistic missiles as well as ICBM

### No political agreement for SBMD

Pfaltzgraff, 09. – Robert L. Pfaltzgraff, MA in International Relations, and PhD in Political Science, University of Pennsylvania, Professor at the National Defense College, Tokyo, Japan. *Boost Phase Missile Defense: Present Challenges, Future Prospects.* Boost-Phase Missile Defense.

In conclusion, there are several reasons, as I have indicated, only the United States has little or nothing in the way of boost-phase ballistic missile defense. However, there are also several reasons why we need such defenses, as I have also tried to point out. Whether and when we get the boost-phase defenses that we will increasingly need will depend on the future, as it has in the past, on the willingness of political leaders to place greater emphasis on boost-phase missile defense. In the present political environment, sea-based missile defense offers the greatest opportunity and there is broadening bipartisan support for such defense. On space, however, we remain far from political agreement, event though for reasons that I have indicated, space-based missile defenses would give us the best basis for a truly global missile defense that is layered and which includes the boost phase.

### SBMD is politically controversial

Hildreth, 07- Steven A. Hildreth Specialist in National Defense Foreign Affairs, Defense, and Trade Division. CRS report for Congress. *Ballistic Missile Defense: Historical Overview.* [www.fas.org/sgp/crs/weapons/RS22120.pdf](http://www.fas.org/sgp/crs/weapons/RS22120.pdf).

For some time there has been a growing sense of urgency to develop and deploy effective missile defenses against a range of long and short range ballistic missile threats. Although many might believe this to be relative new to U.S. national security objectives, such interest has been ongoing since the end of World War II. Many current technologies being investigated date their start to the 1980s, and earlier. This effort has been challenging technically1 and politically controversial. Some $110 billion has been spent since the mid-1980s; Congress appropriated $9.3 billion in FY2006. For FY2008 the Administration requested $8.9 billion for the Missile Defense Agency. This report provides a brief overview of U.S. efforts to date. It may be updated periodically.

## Climate Satellites

Link- Recent satellite crashes are turning congressional opinion

New York Times, 11.- Lauren Morello, reporter. March 4, 2011. *Science Satellites Crash Leaves NASA ‘Devastated’—and Flummoxed.* <http://www.nytimes.com/gwire/2011/03/04/04greenwire-science-satellites-crash-leaves-nasa-devastate-66697.html>.

A NASA satellite designed to study aerosols' influence on climate and measure solar energy failed to reach orbit this morning. The crash marks the second time in two years that a NASA climate satellite has failed to launch.

XL rocket the space agency was using as the vehicle to launch the $424 million satellite, known as Glory, into orbit.

The rocket lifted off from Southern California's Vandenberg Air Force Base just after 5 a.m. Eastern time. Three minutes into the launch, something went wrong, NASA officials said.

"We failed to make orbit," said a visibly upset Omar Baez, the NASA launch director for the Glory mission. "All indications are that the satellite and the rocket are in the southern Pacific Ocean somewhere."

Baez and other officials from NASA and Orbital Sciences Corp., the makers of the Taurus XL rocket, briefed reporters on the failed launch this morning. The space agency has already started putting together a review panel, known as a "mishap board," to review what went wrong.

Much of the discussion focused on the Taurus XL rocket's fairing, a nose cone designed to shield the Glory satellite as it traveled through Earth's atmosphere. NASA officials said it appears the fairing did not detach from the rocket the way it was supposed to.

A similar problem with the Taurus XL rocket's fairing caused the launch failure of another satellite, the $273 million Orbiting Carbon Observatory, in February 2009. That was the last time NASA used the Taurus XL as a launch vehicle ([*ClimateWire*](http://www.eenews.net/public/climatewire/2009/02/25/1), Feb. 25, 2009).

Orbital Sciences Corp. subsequently modified the fairing design, based on analyses by a NASA panel that reviewed the OCO launch failure.

The original version of the Taurus rocket used hot, pressurized gas to break frangible joints that hold the fairing in place, beginning a process that ends when pistons push the fairing pieces away and the satellite moves into orbit.

The revised version used in today's Glory launch used cold, compressed nitrogen gas to break those frangible joints. Orbital Sciences Corp. uses the same system in its Minotaur rocket, which has launched successfully three times in the last year.

"I think it's not an understatement to say tonight, we're all pretty devastated," said Rob Crabe, general manager of the rocket maker's Launch Systems Group. "We really went into this flight confident that we had solved the fairing issue, and then we came up with the result that Omar described this evening."

Mike Luther, deputy associate administrator for NASA's Science Mission Directorate, spoke bluntly.

"We believed, going in, we had an acceptable level of risk," he said. "Clearly, we missed something. Now we have to go find out what that is and fix it."

Officials said that, after the OCO satellite failure two years ago, they added more instruments to monitor Glory's launch. Those additional data should give a clearer picture of what went wrong, they said.

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*](http://www.eenews.net/public/climatewire/2011/02/14/2), 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.

### Link- Republicans don’t like satellites, prefer money to be spent on human space flight

Christian Science Monitor, 11.- Pete Spotts, staff writer for CSM. March 5, 2011. *An Inglorious End for NASA’s Glory Satellite*. http://www.csmonitor.com/USA/2011/0305/An-inglorious-end-for-NASA-s-Glory-satellite

The inglorious end on Friday to [NASA](http://www.csmonitor.com/tags/topic/NASA)'s Glory, a satellite designed to provide critical information about Earth's climate, is widely seen as a temporary blow to [US](http://www.csmonitor.com/tags/topic/United+States) climate research.

However, it also could stiffen resistance in Congress to the [Obama administration](http://www.csmonitor.com/tags/topic/Barack+Obama)'s [new direction](http://www.csmonitor.com/USA/2010/0413/Former-astronauts-pan-Obama-s-proposal-for-NASA-space-program) for the country's human-spaceflight program.

With the end of NASA's space-shuttle program only a few months away, the space agency will rely on rockets built and operated by private companies to carry cargo – and eventually crews – to and from the [International Space Station](http://www.csmonitor.com/tags/topic/International+Space+Station).

[Orbital Sciences Corporation](http://www.csmonitor.com/tags/topic/Orbital+Sciences+Corporation), which built the rocket that failed to deliver the satellite to orbit, is one of two companies NASA has tapped to deliver goods to the station via a contract worth $1.9 billion. And it's one of eight firms hoping to launch astronauts to the station as well.

Some lawmakers in key committees overseeing NASA, and from both sides of the aisle, have challenged the wisdom of such a move, arguing that NASA is putting the future of human spaceflight to low-Earth orbit in the hands of the untested.

For Orbital Sciences Corporation, the mishap Friday following an apparently successful launch from [Vandenberg Air Force Base](http://www.csmonitor.com/tags/topic/Vandenberg+Air+Force+Base) in [California](http://www.csmonitor.com/tags/topic/California) marks the second consecutive time in two years the company's Taurus XL rocket has failed to deliver a climate-research satellite to orbit.

In both cases, the failure has involved the same piece of hardware – a bullet-shaped, clamshell-like cover, or fairing, that protects the satellite during launch. Both Glory and its hapless predecessor, NASA's Orbiting Carbon Observatory, ended up in the ocean.

Over that two-year period, the company has successfully launched 20 of its rockets, many of which share the same traits at the Taurus XL, company spokesman [Barron Benski](http://www.csmonitor.com/tags/topic/Barron+Benski) told [Space.com](http://www.csmonitor.com/tags/topic/SPACE.com+Inc.).

"From time to time, a seemingly small thing can come up," he continued. "You think you've done everything humanly possible, and I know our team including the Orbital Taurus team, they scrubbed that rocket from stem to stern."

Some analysts suggest the company hasn't launched the vehicle often enough to squash all the bugs the system may have.

Losing two satellites in two Taurus XL launches is "not a great record," [Marco Caceres](http://www.csmonitor.com/tags/topic/Marco+Caceres), senior space analyst for the research firm [Teal Group Corp](http://www.csmonitor.com/tags/topic/Teal+Group+Corporation) told the [Los Angeles Times](http://www.csmonitor.com/tags/topic/Los+Angeles+Times). "Part of the problem is that the Taurus just doesn't launch enough. It's hard to develop a launch rhythm if the rocket is only going up once every few years."

NASA and Orbital Sciences have set up a team to investigate the failure.

The $424 million Glory satellite was designed to measure the effect tiny particles called aerosols have on Earth's climate.

Scientists have a broad-brush handle on the effects these particles, from natural and human sources, have on climate. But the effects are so poorly measured that the uncertainties associated with estimates of the effects are virtually as large as the effects themselves. Nor is it clear how much of the atmosphere's aerosol content is human-made or comes from natural sources – from volcanic eruptions to algae in the world's oceans.

To help fill the measurement gap, Glory aimed to provide worldwide measurements of the distribution of the sizes, composition, and behavior of these particles at different altitudes and in different regions. It also would have taken the measure of black-carbon soot, a fairly recent addition to the factors that can alter climate.

The satellite's loss also comes at a time when NASA's climate-related missions – many already long in the tooth – have come under increasing criticism from [congressional Republicans](http://www.csmonitor.com/tags/topic/U.S.+Republican+Party) skeptical that carbon dioxide and other greenhouse gases from burning fossil fuels and from land-use changes are doing anything to influence climate.

Some lawmakers have suggested that the $1.8 billion in NASA's FY 2011 budget for earth science, which includes climate-related research, [would be better spend](http://www.csmonitor.com/USA/Politics/2010/0308/Congress-tries-to-alter-Obama-s-plans-for-NASA) on human spaceflight or eliminated as a deficit-cutting measure

### Link- Failures and personal convictions have killed Republican support for climate sats.

Boston Globe, 11.- Boston.com. March 4, 2011. Seth Borenstein, staff writer. *NASA Research Satellite Plunges Into the Sea.* http://www.boston.com/business/technology/articles/2011/03/04/nasa\_research\_satellite\_plunges\_into\_the\_sea/.

WASHINGTON—For the second time in two years, a rocket glitch sent a NASA global warming satellite to the bottom of the sea Friday, a $424 million debacle that couldn't have come at a worse time for the space agency and its efforts to understand climate change.

Years of belt-tightening have left NASA's Earth-watching system in sorry shape, according to many scientists. And any money for new environmental satellites will have to survive budget-cutting, global warming politics and, now, doubts on Capitol Hill about the space agency's competence.

The Taurus XL rocket carrying NASA's Glory satellite lifted from Vandenberg Air Force Base in California and plummeted to the southern Pacific several minutes later. The same thing happened to another climate-monitoring probe in 2009 with the same type of rocket, and engineers thought they had fixed the problem.

"It's more than embarrassing," said Syracuse University public policy professor Henry Lambright. "Something was missed in the first investigation and the work that went on afterward."

Lambright warned that the back-to-back fiascos could have political repercussions, giving Republicans and climate-change skeptics more ammunition to question whether "this is a good way to spend taxpayers' money for rockets to fail and for a purpose they find suspect."

NASA's environmental division is getting used to failure, cuts and criticism. In 2007, a National Academies of Science 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." Then, 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."

Scientists are trying to move climate change forecasts from ones that are heavily based on computer models to those that rely on more detailed, real-time satellite-based observations like those that Glory was supposed to make. The satellite's failure makes that harder.

### Link- Reps. Want manned space flight

Salt Lake Tribune, 11- Judy Fayes, Salt Lake Tribune. March 22, 2011. *Lawmakers Push to Cut NASA Climate Funding, Boost Manned Space Flight.* <http://www.sltrib.com/sltrib/home/51248435-76/billion-bishop-budget-chaffetz.html.csp>.

U.S. Reps. Rob Bishop and Jason Chaffetz, of Utah, want House budgetmakers to cut funding the National Aeronautics and Space Administration spends on climate science and shift it to manned space programs.

The Utah Republicans joined four House colleagues last week in a letter that said the $1.4 billion used for climate satellites and related NASA research should be spent instead on the manned space flight program, which Bishop said in a news release was “the purpose for which the agency was originally created.”

“If NASA’s manned space program disappears, our nation will once again experience a ‘Sputnik Moment,’ ” said Bishop, whose district includes ATK, an aerospace and defense company with a big presence in northern Utah. “Our country will again watch from the sidelines as countries like Russia, China and India charge ahead as leaders in space exploration and missile defense.”

The letter signed by Bishop, Chaffetz and four colleagues went last week to House Appropriations Committee Chairman Hal Rogers, R-Ky., and Commerce, Justice, Science Subcommittee Chairman Frank Wolf, R-Va.

Under the Obama administration’s 2012 budget, NASA’s budget would be frozen at last year’s levels, about $18.7 billion, for five years. Roughly $1.4 billion of the spending is for understanding how the planet works, including the satellites that monitor climate.

The lawmakers called that spending part of the “excessive growth of climate change research” spanning several agencies. The federal government spent $8.7 billion on climate change programs in 2010.

“Limited resources force us to make important decisions with regard to the objectives of all federal departments and agencies, including NASA,” said Rep. Bill Posey of Florida. “NASA’s primary purpose is human space exploration, and directing NASA funds to study global warming undermines our ability to maintain our competitive edge in human space flight.”

### Link- Reps. Empirically hate climate spending

Washington Times, 7/25- Paige Winfield Cunningham, Washington Times. *EPA’s Funding Facing Rollbacks.* July 25, 2011. Obama Threatens to Veto Measure. <http://www.washingtontimes.com/news/2011/jul/25/epa-s-funding-facing-rollback/>.

House Republicans are attempting to slash funding for climate-change programs and reduce the power of regulatory agencies in a spending bill for next year that Democrats call an assault on the environment.

President [Obama](http://www.washingtontimes.com/topics/barack-obama/) has said he will veto the legislation, which cuts [Environmental Protection Agency](http://www.washingtontimes.com/topics/united-states-environmental-protection-agency/) funding by 18 percent, reduces funding for climate-change programs by 22 percent, and pulls back funding for the [Land and Water Conservation Fund](http://www.washingtontimes.com/topics/land-and-water-conservation-fund/) to the lowest level in more than 40 years.

Republicans also added to the bill measures that weaken the ability of the [EPA](http://www.washingtontimes.com/topics/united-states-environmental-protection-agency/) and the [Department of the Interior](http://www.washingtontimes.com/topics/department-of-the-interior/) to list species as “endangered,” open the door to uranium mining in areas near the Grand Canyon, and regulate things like carbon pollution, clean-water standards and fuel efficiency.

They tried — and failed — to achieve similar rollbacks of power last April, even though Republican leaders were able to negotiate a 16 percent cut to the [EPA](http://www.washingtontimes.com/topics/united-states-environmental-protection-agency/)’s budget as part of a temporary spending plan to keep the government running.

While that was only a few months ago, [Rep. Michael Simpson](http://www.washingtontimes.com/topics/michael-simpson/), Idaho Republican and chairman of the Appropriations Interior and the environment subcommittee, said he thinks things will be different this time around.

“[They were] trying to get it done, and they were negotiating a number,” [Mr. Simpson](http://www.washingtontimes.com/topics/michael-simpson/) said. “This time I think we’ll be negotiating the Interior bill, so I think we’ll have a better shot at getting some of the stuff in.”

[Mr. Simpson](http://www.washingtontimes.com/topics/michael-simpson/) shrugged off the likelihood that [Mr. Obama](http://www.washingtontimes.com/topics/barack-obama/) will veto the legislation.

“Good for him, that’s his job,” he said. “Our job is to pass a bill.”

Democrats were outraged by the proposed cuts and regulatory changes, saying they would prohibit the [EPA](http://www.washingtontimes.com/topics/united-states-environmental-protection-agency/) from doing its job.

“Not one voter told me to undermine the air, water and land they survive on, recreate on, rely on for the sustainability of their lives,” said Minority Whip Steny H. Hoyer, Maryland Democrat, adding that the bill “puts some of our nation’s most precious natural resources at risk.”

The bill calls for $27.5 billion in spending for the [EPA](http://www.washingtontimes.com/topics/united-states-environmental-protection-agency/), [Department of the Interior](http://www.washingtontimes.com/topics/department-of-the-interior/), Forest Service and other related agencies — $2.1 billion less than last year and $3.8 billion less than the level requested by [Mr. Obama](http://www.washingtontimes.com/topics/barack-obama/).

Climate-change legislation was among the major reforms [Mr. Obama](http://www.washingtontimes.com/topics/barack-obama/) hoped to achieve when he took office. But his hopes grew dim when Republicans won a majority in the House last November. A cap-and-trade bill limiting carbon emissions had been passed by the Democrat-controlled House in 2009 but never won Senate approval.

Rep. Edward J. Markey, Massachusetts Democrat and ranking member of the Natural Resources Committee, said Republicans had to have been “cooped up” inside during the weeks of budget negotiations.

“How else could you explain a bill that says we can’t address heat trapping, carbon pollution while most of America suffers through one of the worst heat waves in a generation?” he said.

“Under the Republican bill, when families go to enjoy the sunset across the canyon, it won’t just be the sun causing the glow, it will be the radiation.”