**Climate Satellites Negative**

[\*\*\*EU CP \*\*\* 3](#_Toc299661318)

[EU CP --- Solvency --- General 4](#_Toc299661319)

[EU CP --- Solvency --- Leadership 7](#_Toc299661320)

[EU CP --- Solvency --- Key to US 11](#_Toc299661321)

[EU CP --- Solvency --- Satellites 12](#_Toc299661322)

[EU CP --- Solvency --- Satellites Data 13](#_Toc299661323)

[EU CP --- Solvency --- Satellites Now 15](#_Toc299661324)

[EU CP --- Solvency --- Spillover 17](#_Toc299661325)

[EU CP --- A2 Internal Politics DA 18](#_Toc299661326)

[EU CP --- A2 Veto 19](#_Toc299661327)

[\*\*\*A2 SOLVENCY\*\*\* 20](#_Toc299661328)

[No Solvency --- Inaccurate Data 21](#_Toc299661329)

[No Solvency --- NASA Launch Failure 22](#_Toc299661330)

[No Solvency --- No Integration 23](#_Toc299661331)

[\*\*\*A2 WARMING\*\*\* 24](#_Toc299661332)

[A2 Warming --- Author Indict --- Schwartz and Randall 25](#_Toc299661333)

[A2 Warming --- Data Gaps Inevitable 26](#_Toc299661334)

[A2 Warming --- Not Real 27](#_Toc299661335)

[A2 Warming --- Status Quo Solves 28](#_Toc299661336)

[\*\*\*A2 CLIMATE LEADERSHIP\*\*\* 29](#_Toc299661337)

[A2 Climate Leadership --- Alt Causes to Climate Leadership 30](#_Toc299661338)

[A2 Climate Leadership --- Cannot Solve for Other Countries 32](#_Toc299661339)

[A2 Climate Leadership --- Hegemony Defense 33](#_Toc299661340)

[A2 Climate Leadership --- Not Key to US Leadership 34](#_Toc299661341)

[\*\*\*A2 ADAPATION \*\*\* 35](#_Toc299661342)

[A2 Adaptation --- Bioterrorism 36](#_Toc299661343)

[A2 Adaptation --- Diffusion --- Fails 37](#_Toc299661344)

[A2 Adaptation --- Diffusion --- Timeframe 39](#_Toc299661345)

[A2 Adaptation --- Diffusion --- Turn 40](#_Toc299661346)

[A2 Adaptation --- International Environmental Policies Fail 41](#_Toc299661347)

[A2 Adaptation --- Refugees 42](#_Toc299661348)

[\*\*\*A2 CLIMATE CHANGE IMPACTS\*\*\* 44](#_Toc299661349)

[A2 Climate Change Impacts --- Africa Water Shortages 45](#_Toc299661350)

[A2 Climate Change Impacts --- Biodiversity 46](#_Toc299661351)

[A2 Climate Change Impacts --- Water Wars 47](#_Toc299661352)

[\*\*\*A2 NASA ADD-ON\*\*\* 50](#_Toc299661353)

[A2 NASA --- NASA Not Key to Soft Power 54](#_Toc299661354)

[A2 NASA --- Soft Power --- Alt Cause 55](#_Toc299661355)

[A2 NASA --- Soft Power --- Causes Resentment 56](#_Toc299661356)

[A2 NASA --- Soft Power --- Fails 57](#_Toc299661357)

[\*\*\*A2 SOIL EROSION\*\*\* 58](#_Toc299661358)

[A2 Soil Erosion --- Alt Cause to Soil Erosion 61](#_Toc299661359)

[A2 Soil Erosion --- US Not Key to International Action 63](#_Toc299661360)

[\*\*\*POLITICS\*\*\* 64](#_Toc299661361)

[Politics --- Link --- Congressional Opposition 65](#_Toc299661362)

[Politics --- Link --- Political Capital 66](#_Toc299661363)

# \*\*\*EU CP \*\*\*

## EU CP --- Solvency --- General

### The counterplan solves – the European Commission encourages climate change

Schreurs & Tiberghien 7 – Miranda A. Schreurs is Director of the Environmental Policy Research Institute and Professor of Comparative Politics at the Free University of Berlin. Prior to this she was Associate Professor in the Department of Government and Politics, University of Maryland. \*\*AND Yves Tiberghien is Assistant Professor in the Department of Political Science at the University of British Columbia. 2007. "Multi-Level Reinforcement: Explaining European Union Leadership in Climate Change Mitigation," http://www.mitpressjournals.org/doi/pdf/10.1162/glep.2007.7.4.19

The European Commission

At numerous critical points, the Commission and its environmental Directorate General have wielded their agenda-setting power, developing and promoting new policy ideas and blueprints of agreements or reinforcing other actors’ demands. The Commission has followed three main goals. At one level, it has sought to respond to public opinion with outcomes thereby showing its relevance. At a second level, the Commission has used climate policy as a means to push EU integration forward and empower the Commission with new regulatory tools and monitoring powers. Finally, the Commission has used climate change to build the EU’s foreign identity, especially relative to the US. As a top official of Directorate General Environment put it, the environment is a great unifying issue for EU integration (an issue of predilection), one where everyone expects that the EU must act and must lead.57 Within the reinforcement model, it is also noteworthy that the Commission is often pushed into a reactive mode by national leaders in key countries or the EP. Thus, the Commission must propose ambitious blueprints in order to retain its agenda-setting role.

At the EU Council in Gothenburg, on 15–16 June 2001, the heads of state of member governments called on the Commission to prepare by the end of the year a proposal for the rapid ratification of the Kyoto Protocol by the European Community with the goal of having Kyoto enter into force in 2002. The proposal was issued on October 23, 2001 and noted that greenhouse gas emissions in the EU had declined by 4 percent between 1990 and 1999 but were rising in the transport sector. The conclusion of the proposal was that “the EU on the whole is firmly on the road to meeting its targets for 2008–2012.”58 The proposal did note, however, that meeting the targets would require not only new measures in the sectors of transport, energy, housing, agriculture, households, and research, but also the adoption of an emissions trading system. The Commission thus took the initiative to also prepare a separate proposal for greenhouse gas emissions trading.59 This represented a major shift in European attitudes towards emissions trading. When the Kyoto Protocol initially was negotiated, the Clinton Administration had been pushing for maximum flexibility in how states reached their Kyoto Protocol targets, including use of joint implementation and emissions trading. The EU had strongly opposed this idea arguing that emissions reductions should primarily be done through domestic policies and measures. Europeans had little real understanding of how emissions trading worked; they were more used to regulatory than market-based approaches to pollution control and they viewed US calls to permit emissions trading with much skepticism.60 The idea that a price could be put on pollution was not an idea that was well accepted in social democratic Europe.

Over the course of several years, however, interest in emissions trading began to build in Europe. The UK introduced the world’s first nation-wide carbon emissions trading scheme in 2002. Following these UK policy developments, the Commission began to study the possibility of an emissions trading system at the EU level. A March 2000 Commission Green Paper on greenhouse gas emissions trading in the EU helped to initiate greater debate on the potential benefits of an emissions trading system. The October 2001 Commission proposal for Europe to adopt an emissions trading system may have been as much an attempt by Europe to try to win the US back into the negotiation process as it was a recognition of the potential cost effectiveness of an emissions trading system for reducing carbon dioxide emissions.

### Europe solves best – European integration of observation data key

Environment and Climate Programme 2k – Environment and Climate Programme, Space Techniques Applied to Environmental Monitor and Research, September 30th, 2000, “EOPOLE: Earth Observation and Data Policy and Europe,” www.ucl.ac.uk/laws/environment/satellites/docs/EOPOLEreport.doc

This integration of Earth observation data and non-Earth observation data is a vital part of many successful Earth observation applications e.g. related to climate and global change. This in turn means that there should be compatibility between data policies for both types of data in order to be able to generate the required information products. Currently, there are little or no European data policies for non-Earth observation data. A greater consistency in Europe between data policies for Earth observation and non-Earth observation data would help the development and implementation of operational applications of Earth observation data, particularly in a GIS context (for example, in relation to digital terrain models, soil type and road network data).

In this context the value adding industry should improve on the aspects of metadata and of data documentation of their data and information products, especially related to the quality, accuracy and reliability of their products: here a strict standardisation is essential to gain the confidence of the users.

4.2.1. Conclusions

As the Earth observation industry matures it needs a greater uniformity of data policies to help users gain more confidence in accessing Earth observation data and products. Data policies should be more oriented towards specific uses rather than towards users and user groups. The European Association of Remote Sensing Companies (EARSC) and similar organisations can assist by promoting dialogue and agreement between data providers and the value adding industry on, for example, descriptions of data levels, data documentation and processing steps.

The value adding industry needs to make a detailed specific assessment of the operational needs, requirements and characteristics of its users, as a basis for the generation of dedicated data and information products. In this context the European actors in the Earth observation chain should not only focus on the European Internal Market, but also take the global market into account. Dedicated building of capacity and awareness amongst the users forms an essential basis for the development of the Earth observation market.

Regional development could strongly benefit from the application of Earth observation data. The European Commission Structural Funds could form a suitable way for local and regional users to implement specific sustainable Earth observation applications, which support their tasks. However the value adding industry needs to demonstrate its potential to fulfil the needs and requirements of these users. In this context, a broad dissemination of success stories related to applications of Earth observation data can be helpful.

4.2.1. Recommendations

It is recommended to initiate European research into the possible development of a compatible data policy for Earth observation and non-Earth observation environmental data. This data policy should include aspects such as metadata, data documentation and (long term) archival. As a first step, such a development could be focused on the marine and coastal environment, in view of the important progress made in this field by organisations such as ICES, IOC and Euro-GOOS. The choice in favour of the marine and coastal environment of Europe could further be motivated pointing to its strong economic relevance, as well as to its unique position in the context of global change and world climate.

It is recommended to initiate a European effort in the field of Earth observation capacity- building, awareness creation and training aimed at the users, both within and outside Europe, especially in less-developed countries. Such an effort is deemed essential to energise the Earth observation market and to ensure that each country and end-user can have independent access to Earth observation data and enjoy the benefits thereof. Additionally, such an effort can improve the much-needed awareness amongst the providers on the specific requirements of the users.

### No national legislation means a broad formal framework in Europe is easy to develop

Environment and Climate Programme 2k – Environment and Climate Programme, Space Techniques Applied to Environmental Monitor and Research, September 30th, 2000, “EOPOLE: Earth Observation and Data Policy and Europe,” www.ucl.ac.uk/laws/environment/satellites/docs/EOPOLEreport.doc

In terms of substance, three topics from this perspective would then deserve special attention:

privacy in the context of VHR-data

the legal value as evidence of Earth observation data, and

intellectual property rights issues (including the World Trade Organisation)

4.2.1. Conclusions

Because of the prospective and increasing economic, social and public benefits of Earth observation, the sector is a likely and logical element of the Internal Market being developed further in the context of the European Union. Involvement of the European Union, and more specifically of the European Community legal order, is justified because it enhances the competitiveness of European Earth observation and related industries in global markets.

The European Community disposes of a coherent, comprehensive and effective legislative mechanism (Directives, Regulations and Decisions). European Community law will overrule in principle (such as the subsidiarity principle) national legislation pertinent to the matter (direct applicability, recourse to the European Court of Justice). Little if any legislation specifically targeted at Earth observation data policy issues currently exists at the national level, making it relatively easy to establish a coherent formal context (a legal ‘spacescape’) in Europe. At the global level rather little binding law exists which could compromise on that level any effort within Europe to establish its own regime. In neighbouring fields – intellectual property rights for databases, evidentiary value of Earth observation data – the European Community has already undertaken or is currently undertaking legislative, pre-legislative or quasi-legislative initiatives.

In view of the focus of EOPOLE being on Europe, the European Union presents itself as the logical organisation. The major states involved in satellite Earth observation are members of the European Union, and the major European international organisations involved (ESA and EUMETSAT) almost overlap with the European Union in terms of membership. Data policies form an excellent and logical instrument for furthering the cause of Earth observation as a whole, in view of their inherent focus on applications, users and user issues.

### The EU solves – effective European Community legal structure

Environment and Climate Programme 2k – Environment and Climate Programme, Space Techniques Applied to Environmental Monitor and Research, September 30th, 2000, “EOPOLE: Earth Observation and Data Policy and Europe,” www.ucl.ac.uk/laws/environment/satellites/docs/EOPOLEreport.doc

4.2.1. Discussion of the issues

From the perspective of the formal context currently available for Earth observation, the legal regimes and mechanisms remain largely confined to a number of unfocused statements and conditions. The situation can be summarised by the following comments.

at least in some European states there is a legal framework for space activities in general (Sweden, the United Kingdom);

in all European states a general, very extended body of national legislation exists, which on some points (for example, intellectual property rights, trade issues, liability, private involvement) is of (indirect) relevance for Earth observation data policies or certain important aspects thereof;

the general European Community legal structure acts as the only coherent and comprehensive legal machinery on a European level, albeit with only indirect relevance for Earth observation (competition law, intellectual property rights and databases);

the United Nations Resolution on Principles Relating Remote Sensing of the Earth from Outer Space presents some valuable but rather vague and broad principles, which moreover are not of a binding legal nature;

WMO Resolution 40 basically applies in a similar way as the UN Resolution, this time however regarding only meteorological satellite operations;

a number of data policies of important Earth observation data providers exist (for Europe notably ESA and EUMETSAT) which as such however are at best of a pre-legal nature.

Consequently, efforts to strengthen the formal context should be directed at building sub-regimes more focused on Earth observation data policy issues than on these more general legal regimes or, where that is not feasible, develop new legal regimes. In respect of the former however, care should be taken that any activities within Europe undertaken in this regard on a national level should be subject to harmonisation at a European level to the greatest extent feasible. Such harmonisation is more easily realised to the extent that such initiatives as new legal regimes could more easily be undertaken at the international level itself.

Since therefore law as a policy instrument on Earth observation data issues is not currently available everywhere or on all relevant aspects, at the most fundamental level the issue concerns establishment of such instruments. In the context of Earth observation activities in Europe specifically, the European Commission would be the most suitable vehicle.

## EU CP --- Solvency --- Leadership

### **EU key to long term leadership on climate change and biodiversity – US credibility is permanently shot**

Vogler and Bretherton 6 – John Vogler, Keele University, \*\*AND Charlotte Bretherton, Liverpool John Moores University, February 9th, 2006, "The European Union as a Protagonist to the United States on Climate Change," International Studies Perspectives, Volume 7, Issue 1, pages 1-22

Whatever the continuing influence of U.S. policy innovations, during the past decade, the idea of U.S. environmental leadership has, to put it politely, ceased to be credible. In the words of one Commission official, referring to a range of environmental negotiations in the mid-1990s, “the U.S. has raised sitting on its hands to the status of an art form” (Interview then DGXI Brussels 6 June 1996). U.S. obstructionism and disengagement across a range of negotiations left the EU with a leadership opportunity that it was uniquely qualified to seize:

The U.S. is a strong political actor whereas the EU is a slow moving but weighty ship. The Community position has more weight in the long term. The U.S. often cannot define a credible negotiating platform - they cannot think of all the ramifications, on North-South issues for example, as the Community can. In climate, forests and biodiversity the EU is the only leader while the U.S. is absent, blocking or destructive. (ibid.)

Not only was the U.S. no longer a leader, but it was involved in a progressive distancing from active involvement in climate-change management, culminating in the March 2001 formal denunciation of the Kyoto Protocol. U.S. withdrawal from the negotiations prompted the observation by the president of the sixth UNFCCC Conference of the Parties (CoP 6), Jan Pronk, that the EU “had become the only game in town”

### **The EU is the international agenda setter on climate change policies and solves better than the US**

Schreurs & Tiberghien 7 – Miranda A. Schreurs is Director of the Environmental Policy Research Institute and Professor of Comparative Politics at the Free University of Berlin. Prior to this she was Associate Professor in the Department of Government and Politics, University of Maryland. \*\*AND Yves Tiberghien is Assistant Professor in the Department of Political Science at the University of British Columbia. 2007. "Multi-Level Reinforcement: Explaining European Union Leadership in Climate Change Mitigation," http://www.mitpressjournals.org/doi/pdf/10.1162/glep.2007.7.4.19

The European Union has positioned itself as the international agenda setter in relationship to climate change mitigation. At several critical junctures, the EU and its members have adopted policies and programs that have put it at the forefront of international efforts to address climate change. In January 2007, with an eye towards the post-Kyoto First Commitment period, the European Commission under a German presidency published a communiqué calling for limiting mean temperature increases to 2 degrees above pre-industrial times.1 In March 2007, the European Council confirmed Europe’s commitment to this approach announcing that the EU would cut its CO2 emissions by 20 percent of 1990 levels by 2020, increasing this to 30 percent should other developed countries agree to take action within the framework of an international agreement.2 Beyond this, the European Union adopted a number of other noteworthy policies. In its spring 2007 summit, the European Council committed to the establishment of a binding target of 20 percent of renewables in the EU’s overall total energy consumption and a binding target of 10 percent for biofuels in the total mix of transportation fuel (petrol and diesel) consumption by 2020.3 After the agreement was forged, Tony Blair remarked that Europe now has “a clear leadership position on this crucial issue facing the world.”4 In its effort to and cost effective ways to reduce emissions, the EU has also implemented the world’s first international carbon emissions trading system (ETS), modeled on the successful US sulfur dioxide (SO2) emissions trading system established by the 1990 US Clean Air Act Amendments. The Directive (2003/87/EC) mandated a system covering approximately 12,000 installations representing just under half of European CO2 emissions. In 2004, a Linking Directive (2004/101/EC) was passed linking the joint implementation and clean development mechanisms of the Kyoto Protocol to the ETS. The ETS began operating in January 2005. While implementation is still a challenge and the EU has yet to prove that it can lead as effectively in policy outcome as in idea formulation, these policies and programs go far beyond anything proposed to date by the United States, Japan, or other major industrialized countries.

The EU and its Member States have been agenda setters at a number of other junctures as well. In the early 1990s, several European countries took the lead in establishing voluntary domestic emission reduction targets. In October 1990, reacting to these national developments, the European Ministers of Energy and the Environment announced that the European Community as a whole would seek to stabilize its joint carbon dioxide (CO2) emissions at 1990 levels by the turn of the century, a goal that the EU was able to achieve. In 1997 in the months leading up to the Kyoto Protocol negotiations, the EU set the tone for the international negotiations with its proposal that industrialized states commit to reducing their greenhouse gas emissions by 15 percent of 1990 levels by 2010. While in the end, the EU committed to a far more modest 8 percent reduction of 1990 greenhouse gas emissions by 2008–2012, the EU put other countries on the defensive, pushing them to go farther than they had said they were willing or able to go.

The most significant instance of EU leadership is arguably its decision to move forward with ratification of the Kyoto Protocol after President George W. Bush made clear on March 28, 2001 that his intention was to withdraw the US from the agreement. The US pull-out left Europe in a conundrum. The US accounted for 36.1 percent of the 1990 CO2 emissions of industrialized countries. The EU as a whole was responsible for a somewhat smaller 24.2 percent. If the protocol was to survive, the EU would have to convince states representing another 30.8 percent of 1990 industrialized country CO2 emissions to join it in ratifying the agreement in order to meet the Kyoto Protocol’s somewhat arbitrary requirement that 55 percent of industrialized states’ 1990 CO2 emissions be represented by ratifying states in order for the agreement to go into effect. This meant that the EU, at a minimum, would have to convince Japan (responsible for 8.5 percent of 1990 industrialized states’ emissions) and Russia (responsible for 17.4 percent) to ratify.

Despite these obstacles, the European Council formally agreed to the Kyoto Protocol on 25 April 2002.5 The 15 Member States of the EU, represented by Jaume Mata Palou, Minister of the Environment of Spain (which held the EU presidency at the time), and the European Commission, represented by Margot Wallström, jointly presented their instruments of ratification to the United Nations on 31 May 2002.6

### The EU’s institutional and structural capacities make it the best leader on climate change – it can change the perception of others

Schreurs & Tiberghien 7 – Miranda A. Schreurs is Director of the Environmental Policy Research Institute and Professor of Comparative Politics at the Free University of Berlin. Prior to this she was Associate Professor in the Department of Government and Politics, University of Maryland. \*\*AND Yves Tiberghien is Assistant Professor in the Department of Political Science at the University of British Columbia. 2007. "Multi-Level Reinforcement: Explaining European Union Leadership in Climate Change Mitigation," http://www.mitpressjournals.org/doi/pdf/10.1162/glep.2007.7.4.19

At a stakeholder conference launching the second European Climate Change Programme in October 2005, Stavros Dimas, Commissioner for the Environment, explained that with the launching of this program the European Union was showing its continued commitment to climate change leadership. The programme is focused on promoting stakeholder involvement in furthering greenhouse gas emission reductions in the transportation sector (aviation and vehicles) and through carbon capture and storage, adaptation measures, and the EU emissions trading scheme. Dimas explained:

This is not just leadership for the sake of leadership, or because we think we can fight climate change on our own—we clearly can’t. The EU’s commitment and success has been an inspiration to our global partners. Without it, it is certain that the Kyoto Protocol would not have entered into force.9

Albert Gore on a recent visit to Europe seemed to back up this perspective, arguing that the EU had an “absolutely critical leadership role to play . . . [in] helping the world make the changes it must.”10

European environmental leadership more generally, and climate change leadership more specifically, has attracted considerable scholarly attention.11 Vogler suggests that a strengthening of EU institutional capacities has made it possible for the EU to take on environmental leadership although he cautions that there are still significant limitations to EU autonomy in this realm.12 Gupta and Grubb have suggested that EU climate change leadership should be viewed along three dimensions: structural, instrumental, and directional. The EU’s ability to wield leadership is in part structural; that is, it derives from Europe’s substantial political strength in the global order and international respect in the area of environmental protection. It is also partly instrumental. The EU has effectively used its negotiation skills and the instrumental design of regimes to accommodate the different needs of its Member States and other country actors. Finally, it has exhibited directional leadership, changing the perceptions of others on climate change mitigation.13

### The EU is key to setting targets and goals on climate change, and taking the lead in policy innovation – the Kyoto Protocol proves

Schreurs & Tiberghien 7 – Miranda A. Schreurs is Director of the Environmental Policy Research Institute and Professor of Comparative Politics at the Free University of Berlin. Prior to this she was Associate Professor in the Department of Government and Politics, University of Maryland. \*\*AND Yves Tiberghien is Assistant Professor in the Department of Political Science at the University of British Columbia. 2007. "Multi-Level Reinforcement: Explaining European Union Leadership in Climate Change Mitigation," http://www.mitpressjournals.org/doi/pdf/10.1162/glep.2007.7.4.19

Building on this theoretical line of reasoning, Gupta and Ringius argue that “[u]ndoubtedly, the EU has been quite successful as an international leader. The Kyoto targets would not have been as ambitious as they are without the EU.”14 They suggest, however, that for the EU to maintain its leadership it will have to enhance its directional leadership (demonstrating through successful implementation efforts that a goal is achievable), instrumental leadership (effectively promoting issue-linkage and coalition building to promote mutually beneficial solutions), and structural leadership (crafting incentives for others to cooperate).

In analyzing European environmental policy, Anthony Zito raises the question of why in some, but not all environmental cases, the EU has been able to introduce substantial policy change.15 He suggests that while intergovernmental bargaining perspectives would assume least common denominator outcomes, and this is in fact often the case, when “collective entrepreneurship” comes into play, more demanding policies can emerge. He shows how entrepreneurs—either a Member State or States, the parliament, or the Commission—can pursue policy ideas that can lead to a revision of policy goals, in turn causing a redefinition of actor interests. This can make it possible to move beyond the least common denominator. What is important is not simply ideas, institutions, and interests by themselves but entrepreneurial opportunism, alliance formation, and persuasiveness. He concludes, however, that no set patterns exist for determining whether inter-governmental bargaining or collective entrepreneurship will dominate.

The EU has clearly been a leader in the climate change area along a number of fronts. The EU has functioned as a classic norm entrepreneur.16 It has been a powerful backer of the precautionary principle in relation to climate change, heeding the warnings of the International Panel on Climate Change that anthropogenic emissions of greenhouse gases are warming the planet and that this could have serious ecological, health, and climatic impacts.17 It has embraced the notion embodied in the United Nations Framework Convention on Climate Change that the industrialized states have the responsibility to act first given their historic contributions to anthropogenic greenhouse gas emissions. It has defined climate change action as a moral and ethical issue that must transcend narrow economic interests.

Beyond this, the EU has acted as a political entrepreneur,18 actively setting targets, policies and goals that have become the international standards against which other states have had to react. It has taken the lead in policy innovation, setting examples for others to learn from, and in the politics of persuasion, convincing other states of the importance of joining it in international action.

Zito’s focus on “collective entrepreneurship” is an intriguing one to use to explore the case of EU climate change leadership. Whereas Zito is concerned with particular policy decisions, however, here we attempt to explain a sustained pattern of policy innovation. Why has the EU repeatedly reasserted itself on climate change matters since the early 1990s? While there have been a few policy failures, such as the inability to establish an EU-wide carbon tax and the excessive allocation by Member States of carbon permits to their industries in the first phase of the European carbon emissions trading system, on the whole the EU has continued to be the international policy leader. What explains this?

### EU member states create competitive leadership and mutual reinforcement – they solve better than the US

Schreurs & Tiberghien 7 – Miranda A. Schreurs is Director of the Environmental Policy Research Institute and Professor of Comparative Politics at the Free University of Berlin. Prior to this she was Associate Professor in the Department of Government and Politics, University of Maryland. \*\*AND Yves Tiberghien is Assistant Professor in the Department of Political Science at the University of British Columbia. 2007. "Multi-Level Reinforcement: Explaining European Union Leadership in Climate Change Mitigation," http://www.mitpressjournals.org/doi/pdf/10.1162/glep.2007.7.4.19

The EU can be viewed as both an arena for Member States to negotiate with each other and an actor in its own right in the international climate change negotiations. 19 It can also be considered a dynamic arena in which over time, multiple leaders have contributed ideas that have made it possible for the EU to sustain an agenda setting role internationally.

The open-ended and competitive governance structure of the EU in an issue of shared competence such as the global environment has created multiple and mutually-reinforcing opportunities for leadership. This suggests a kind of logic that is the reverse of that of veto points or veto players. In the model of veto players developed by Tsebelis, the presence of a large number of actors with the capacity to block a decision renders policy change unlikely.20 In the EU’s case, the reverse can occur as well.21 Institutionally, environmental policy is an issue where the Commission and Member States have joint competence and one where decisions in the EU Council are taken by qualified majority voting. Under these circumstances, a positive cycle of competing leadership among different poles can take place.

In the EU climate negotiations, there have been multiple times when different actors have taken up the leadership ball. For example, the Dutch played this kind of leadership role when they held the EU presidency in 1992 and 1997, and the Irish did so when they presided over the ratification deal with Russia. The Germans and the British have quite consistently taken on climate change leadership roles within Europe, and have very visibly done so when they have held the Council presidency (2005 for Britain and 2007 for Germany). These are examples of Member States that have pushed European climate policy forward. They are in particularly powerful positions to do so when they hold the presidency of the European Council.22

Other Member States have reacted to the moves of leaders.23 France, for example, tried to reassert its imprint over EU integration by using the EU Council to advance sustainability legislation. The UK put pressure on Germany to apply more stringent conditions on the allocation of pollution permits to industry under the Emissions Trading System.24

In turn, the Commission has seized the ball on a number of occasions and used it to push forward climate-wide action and further EU integration. An example has been the Commission’s sponsorship of emissions trading. The EP has also demonstrated its relevance by passing resolutions calling for swift European action. Environmental NGOs have been able to press their concerns both with the Commission and the Parliament.25

This baton passing has continued over the years in a very dynamic and mutually reinforcing way. Under these conditions, multi-level governance has created not just multiple veto points, it has created numerous leadership points where competitive leadership has been initiated. While it is certainly the case that there are many points where policy proposals can be blocked, the EU’s governance structure has opened numerous avenues by which advocates of climate change action have been able to inject their priorities and concerns into policy debate.

Explaining EU Leadership: Institutions, Interests, and Ideas

It is necessary to consider how institutions, interests, and ideas have come together in such a way as to make it possible for Europe to do what the US could not: effectively champion the Kyoto Protocol. The EU and the US are both major economic blocks with entire sectors of the economy that would be heavily affected by mitigation policies. Why was it that in the EU economic interests (workers, firms, industries) or less-environmentally minded and economically developed states did not block the Kyoto Protocol’s ratification as their counterparts succeeded in doing in the US? Why were European policy entrepreneurs able to develop winning coalitions for policy change when the arguably even stronger environmental community in the US could not? The stakes were certainly high for European economic interests and they too had numerous ways to express their voice to the EU (through committees of the Commission and lobbying of Members of the EP) and at the national level.26 Why was industrial opposition to Kyoto not stronger?

EU policy toward climate change often has been couched in terms of an ideational agenda, namely the representation of the EU as a different kind of polity, one more concerned with international law, institution-building, and a normative vision.27 Through their global policy-making actions the EU elites seek to increase public support for EU integration.

While these normative arguments have some validity, they fail to explain why supporters of Kyoto were able to trump opponents within Europe. More persuasive is the explanatory power that is provided by a focus on institutions, ideas, and interests and the way entrepreneurs were able to come up with creative policy approaches that made it possible to win acceptance of climate change policies and programs from interests that would otherwise most likely have joined veto blocks.28 In particular, we look at the divide within European industry and the weakening effect this had on potential veto players; the role of public opinion, green parties, and NGOs in promoting a precautionary approach to climate change; the adoption of a burden sharing approach and the possibilities this afforded to win over potential opponents of substantive policy change; the role of national states in shaping community-wide policies; and the influence of the Commission and Parliament on driving community action. Ultimately, a critical structural variable has been the open and multi-level nature of the EU’s institutional setup, which enabled a dynamic of competitive leadership reinforcement to take place.

Multi-Level Governance and Mutual Reinforcement

The strengthening of European Community environmental capacities has closely paralleled more fundamental treaty-based efforts to strengthen overall European integration and to expand the role and power of Europe in global affairs. 29 Although the European Community has been engaged in environmental protection since the early 1970s, it was not until the 1986 Single European Actadded a Title on the Environment that the Community’s competencies were explicitly extended to the environmental realm. The Act called for Community action to “be based on the principles that preventive action should be taken, that environmental damage should be rectified at source, and that the polluter should pay.” The 1992 Maastricht Treaty went a step further making the environment an explicit policy responsibility of the Community, giving the Commission greater powers to represent Member States in international organizations and with third parties, and calling upon it to promote measures to deal with regional and worldwide environmental problems.30 While the subsidiarity principle assures that many environmental decisions remain at the local and national levels, there has been a steady strengthening of the Community’s powers with time.

Treaty revisions have gradually enabled new decision-making processes and altered the rights and responsibilities of the Commission, Parliament, and Council.31 In the past, the Council of Ministers of the Environment had to pass decisions unanimously. The Single European Act introduced qualified majority voting within the Council for matters where the Community has exclusive competence (thus, many environmental issues, but not energy or taxation questions which still function on the unanimity principle). Responding to criticisms of a democratic deficit in European policy-making, the Treaty of Maastricht and the subsequent Treaty of Amsterdam also expanded somewhat the powers of the European Parliament. While the Commission still has the exclusive power to develop proposals and the Council still meets in secret when agreeing on legislation, the Parliament was given codecision authority with the Council in amending Commission proposals and determining whether or not they will become law. As a whole, while still not immune to criticisms that a democratic deficit remains, this structure allows for multiple leadership points. Far from creating deadlock, this decentralized multi-polar structure has allowed for competitive leadership and mutual reinforcement to take place on climate change.

### The EU solves better than the US – companies are more climate-friendly

Schreurs & Tiberghien 7 – Miranda A. Schreurs is Director of the Environmental Policy Research Institute and Professor of Comparative Politics at the Free University of Berlin. Prior to this she was Associate Professor in the Department of Government and Politics, University of Maryland. \*\*AND Yves Tiberghien is Assistant Professor in the Department of Political Science at the University of British Columbia. 2007. "Multi-Level Reinforcement: Explaining European Union Leadership in Climate Change Mitigation," http://www.mitpressjournals.org/doi/pdf/10.1162/glep.2007.7.4.19

Yet, far more than has been the case in the US (although there are signs of change in the US in recent years), many European businesses have accepted the Kyoto Protocol framework. Many companies have joined groups like the Business Council for a Sustainable Energy Future, the European Wind Energy Association, and the International Cogeneration Alliance that accepted the need for action. Even many fossil fuel firms started to follow the lead of BP, which in 1997 publicly accepted that precautionary action was necessary.33 In the lead-up to Kyoto, the oil firm Austrian OMV announced its support for the EU’s 15 percent reduction target.34 During 2000–2002 Royal Dutch Shell Group introduced an internal emissions trading scheme. On the whole, in Europe where corporatist traditions are quite strong, the economic community accepted the need for action as long as it could influence the shape of policies and programs. It worked to do this both at the national and the European levels.

Many firms appeared cognizant of the strong public support for action as well as the high potential for regulatory action within some Member States. Several states, such as Denmark, Sweden, the Netherlands, and Norway had already introduced carbon taxes. Industry also saw the potential to move into new business areas, such as BP’s move into solar energy, Royal Dutch Shell Group’s development of solar and wind energy, and Austrian OMV’s embrace of biofuels. The potential to shape a global carbon ETS also attracted some ªrms.35 This does not mean that there were not still intense battles among corporations related to climate mitigation policies. European industry, however, did not work to derail Kyoto in the way that American industry did. To understand why it is useful to consider the strength of public opinion on climate change matters.

## EU CP --- Solvency --- Key to US

### The US admits that the EU is the leader on climate change – American NGOs are dependent on the EU, and the EU is key to pressure the US to take action

Schreurs & Tiberghien 7 – Miranda A. Schreurs is Director of the Environmental Policy Research Institute and Professor of Comparative Politics at the Free University of Berlin. Prior to this she was Associate Professor in the Department of Government and Politics, University of Maryland. \*\*AND Yves Tiberghien is Assistant Professor in the Department of Political Science at the University of British Columbia. 2007. "Multi-Level Reinforcement: Explaining European Union Leadership in Climate Change Mitigation," http://www.mitpressjournals.org/doi/pdf/10.1162/glep.2007.7.4.19

Nongovernmental Organizations There is an active environmental NGO community in Europe.43 Under the right conditions, NGOs can take advantage of windows of opportunity to induce policy change.44 The Climate Action Network Europe, the leading NGO network working on climate change, has over 100 member organizations. They have been ardent supports of climate action.45 At the EU level, the so-called Green 9 Group of environmental NGOs (BirdLife International, Climate Action Network Europe, European Environmental Bureau, EPH Environmental Network, the European Federation for Transport and Environment, Friends of the Earth Europe, Greenpeace, International Friends of Nature, WWF European Policy Office) has gained advisory status in EU decision-making and all members (except for Greenpeace) receive funding from the Commission to do this work. European NGOs often receive financial support from state governments and the Commission and as a result are less dependent on membership contributions. Possibly because of this, they were quicker to take on climate change campaigns that called for changes not only in corporate, but also consumer behavior than their American counterparts. American NGOs have found themselves having to increasingly depend on European NGOs to help them lobby the US government. A dozen US environmental groups through the US Climate Action Network made the following appeal to the EU in the period after the US withdrawal from Kyoto:

[T]he importance of continued and strengthened EU leadership in addressing climate change for the positioning of the United States cannot be overstated. . . The EU’s continued leadership will be essential to maintaining and strengthening the Kyoto Protocol. . . . Implementation efforts domestically in the EU provide an important example for U.S. lawmakers and businesses of the feasibility of real action. In addition, EU progress also applies additional pressure on U.S. businesses by highlighting the emissions trading opportunities being missed as well as the loss of market share in reduction technologies and services. The EU’s positions and policies have set a tone of urgency while demonstrating feasibility, both of which will continue to be essential for overcoming the significant political barriers for the United States. In fact a concerted effort on the part of the EU and its member countries to reach out to decision makers and constituencies in the U.S. would be quite beneficial in highlighting the reality and feasibility of actions already taken and commitments made.46

## EU CP --- Solvency --- Satellites

### **The EU is a global player – it can solve for satellites**

ISI 8 – ISI Proprietary Information, February 2008, “Satellite Communication Flagship: Elements for an Advanced European Satellite Communication Network,” pg. 1-7

In Europe the violence of the first half of the 20th Century has given way to a period of peace and stability unprecedented in European history.

The creation of the European Union has been central to this development, as it has transformed the relations between states, and the lives of citizens. European countries are committed to dealing peacefully with disputes and to co-operating through common institutions. However, Europe still faces security threats and challenges. The outbreak of conflict in the Balkans was a reminder that war has not disappeared from our continent. No single Country is able to tackle today’s complex problems on its own.

Moreover, climate change has accelerated the number of catastrophes in Europe (floods, fires, tempest, landslides, heat waves etc) which should result in a higher political concern to set up solutions guaranteeing early warning and early action for ensuring the safety of EU citizens. Advanced satellite-based networks should be made available to ensure the European communications networks are saved from terrestrial harms.

As a union of 27 states with over 450 million people producing a quarter of the world’s Gross National Product, and with a wide range of instruments at its disposal, the European Union can develop the appropriate solutions for protecting citizens inside and outside of Europe. Europe is inevitably a global player. .

### Individual European nations are already doing satellites independently, but integration solves best

ISI 8 – ISI Proprietary Information, February 2008, “Satellite Communication Flagship: Elements for an Advanced European Satellite Communication Network,” pg. 1-7

During the last ten years up to five European nations have independently developed their civilian and dual use satellite-based communication systems, which appears as being a costly exercise and could prevent the interoperability of security teams in case of European actions. This should be avoided in the near future.

The development of an integrated and advanced system appears to be the solution.

The efficiency of all the European space-based systems could be dramatically enhanced by using a worldwide very high data rate intersatellite communication system.

In particular we can mention:

GMES: The near real-time transmissions of Earth Observation images will require inter communications capabilities on board the satellites. Two to three satellites would be sufficient to cover the whole earth.

Convergence of applications: Navigation applications combined with Earth Observation images and quick satellite telecommunications capacities can bring the necessary tools to allow immediate actions in case of emergency situation.

An advanced generation of satellites in geostationary orbit with very high data rate telecommunications capabilities, integrated with geomobile (ground-based, maritime, airborne) and low earth orbit satellites could overcome this capability gap.

Such technology-advanced satellites, whose functions would be larger than the so far conceived and implemented data relay satellite systems, are needed but development and commissioning would be too expensive to be borne by each single user or nation.

This new space system would constitute a global network and an enabling infrastructure capability to support security/defence related activities, in particular in the fields of transportation security, crisis management and disaster relief operations but also to ease the birth of new commercial services.

## EU CP --- Solvency --- Satellites Data

### The counterplan solves – provides global connectivity

ISI 8 – ISI Proprietary Information, February 2008, “Satellite Communication Flagship: Elements for an Advanced European Satellite Communication Network,” pg. 1-7

For instance, three laser interconnected geostationary satellites located over the Atlantic, Indian and Pacific Oceans would constitute a connected network with only two remote ground stations located at the western and the eastern sides of Europe.

Inter-Satellite Link capabilities in geostationary as well as communications links to Low Earth Orbit satellites would ensure global connectivity without any data throughput on a ground station outside of the European borders.

This European Satellite Communication Network must be regarded both as a self-standing solution and as a space-based element of an integrated communication network, to which the satellite component adds innovative features and performances.

The satellite network must be designed for providing single hop, full meshed connectivity among all LEO satellites as well as terminals located anywhere within the coverage either onboard aircrafts, ships, on-ground fixed or handheld.

The basic idea behind this communications architecture is to create a high-capacity microwave and optical network in space that would operate according to internet protocol principles.

This European Satellite Communication Network could support data rates up to tens Mbps and laser communication user data rates in the Gbps range.

The Internet Protocol routing would enable the connection of thousands of users through networks rather than limited point-to-point connections, and additionally, it would enable high data rate connections to space, marine and airborne platforms.

### The EU is key to long-term preservation of data

Environment and Climate Programme 2k – Environment and Climate Programme, Space Techniques Applied to Environmental Monitor and Research, September 30th, 2000, “EOPOLE: Earth Observation and Data Policy and Europe,” www.ucl.ac.uk/laws/environment/satellites/docs/EOPOLEreport.doc

4.5.1. Conclusions

In the framework of the Internet/mobile Internet and European law on trade, taxation and copyright, there is a clear need to give special consideration to trade and the exchange of geographical information via new communication means.

The European players in geo-information supply can usefully work towards a common European voice. This common voice – encouraged by the European Commission – will guarantee the presence of European players in global geographic fora such as the Global Spatial Data Initiative (GSDI), the OpenGIS Consortium and others.

4.5.1. Recommendations

The national and international regulations on Earth observation (for example, the UN Principles), including national concerns on military security, should be carefully reviewed to adapt to the new very high resolution imaging technologies and Internet trade in order to protect the interests of emerging companies, national security and users.

European space agencies and the European Commission should work towards a joint European policy for space data – free from any national bias and concerns – in order to remove any obstacle for the emerging European geomatics industries.

4.6. Archiving policies

4.6.1. Introduction

While short term archiving of Earth observation data generally receives adequate attention from the data suppliers, medium and long term preservation and access is a subject of great importance that has largely been neglected in Europe.

4.6.1. Discussion of the issues

In many cases the public good value of Earth Observation data increases with time, e.g. in global change science and global monitoring, and in preserving a record of our planet for posterity. This value may transcend the primary purpose of the mission (for example, operational or commercial).

The current dominating approach is that archiving and data management are only funded for the lifetime of a specific Earth observation mission plus a relatively short period thereafter. The responsibility for long-term archiving is usually non-existent, unclear, or subject to shifting priorities.

### Europe solves – better standards and tools help more people get access

Environment and Climate Programme 2k – Environment and Climate Programme, Space Techniques Applied to Environmental Monitor and Research, September 30th, 2000, “EOPOLE: Earth Observation and Data Policy and Europe,” www.ucl.ac.uk/laws/environment/satellites/docs/EOPOLEreport.doc

There is a need to find political, financial and institutional arrangements to support the medium- and long-term archiving of Earth Observation satellite data.

Users should be active partners in data archives and not just passive recipients of data. There is merit in data archives being held close to expert organisations, but the user dimension in Earth observation data archives is an important one, and the user community needs to be involved in the management of data archives.

A European entity with responsibility for co-ordinating existing and future Earth observation data archiving deserves consideration. A European entity, preferably linked to the European Commission, would help develop better standards and metadata capabilities and access tools, promote the active exploitation of existing data archives, and develop improved service policies which help more users to use Earth observation data.

4.6.1. Recommendations

No Earth observation mission should be launched without a statement of its archiving policy, including the organisation(s) responsible for short-term archiving, and – if known – for medium and long-term archiving.

The European Commission should invite national and international European space agencies managing Earth observation data sets to consultations aimed at finding political, financial and institutional arrangements to support the medium- and long-term archiving of satellite data. Moreover, the European space agencies operating Earth observation satellites should take concrete steps to preserve all data needed for long-term global change research, this being an obligation that they have already unanimously accepted as members of CEOS.

4.2. Formal context of Earth observation data policy

4.2.1. Introduction

The prospective and increasing economic, social and public benefits of Earth observation call for substantive attention to be paid to elaborating a dedicated formal context or legal framework for Earth observation activities, particularly in Europe. From this perspective, the sector would be a likely and logical element of the Internal Market, developed further in the context of the European Union, as well as of legislative initiatives enhancing the interests of European industry in this sector in the global marketplace.

## EU CP --- Solvency --- Satellites Now

### The EU can do the plan – it has the satellite technology now

ISI 8 – ISI Proprietary Information, February 2008, “Satellite Communication Flagship: Elements for an Advanced European Satellite Communication Network,” pg. 1-7

Basic Technology building blocks are there, now an innovation roadmap has to be implemented at a global system level As a high-technology and highly-skilled industry, the European Space sector is uniquely placed to contribute significantly to the building of the above strategic objective.

The European Space Agency, as well as national Space Agencies, have played a crucial role in maintaining Europe’s industrial and technological capability for Space. Many of the technological basic elements of the above defined space based network have been already achieved. What still has to be implemented is a consistent research and innovation path, which is required to build the complete space system by filling technological capability gaps and considering all user requirements.

### **Europe can do the plan and is developing observation satellites now**

Hale 11 – Julian Hale, Defense News, March 6th, 2011, "6 EU Nations To Develop Satellite System by 2015," <http://www.defensenews.com/story.php?i=3978245&c=EUR&s=AIR>

BRUSSELS - Belgium, Germany, Greece, France, Italy and Spain agreed here March 5 to work together within the European Defence Agency (EDA) to develop the next generation of European military Earth-observation satellites. The six European Union members have together launched the Multinational Space-based Imaging System (MUSIS) project.

MUSIS aims to establish a system for surveillance, reconnaissance and observation to take over from the current French Helios II, German SAR LUPE and Italian Cosmo-Skymed and Pléiades systems from 2015-17. The EDA's Capability Development Plan considers space-based imaging capacities to be essential for European Security and Defence Policy.

EDA officials declined to provide more details, including cost.

One of EDA's roles will be to seek synergies with Earth-observation programs on the civilian side, in particular with the Global Monitoring for Environment and Security program of the European Commission.

"We will liaise with the Commission and the European Space Agency to ensure complementarity of research and technology, and to seek other synergies," said Alexander Weis, the EDA's chief executive.

The project is open to other EDA countries wanting to join later, provided that their contribution is acceptable to the existing consortium. The United Kingdom, for example, is not part of the program, but the U.K. Ministry of Defence said that it had not ruled out taking part at a later date.

## EU CP --- Solvency --- Spillover

### **The counterplan leads to international spillover effects on environmental policy**

Riedel 8 – Rafal Riedel, Centre for European Studies, University of Oslo, December 2008, "When environmental challenges spill over into energy policy problems –the case of the Polish (potential) veto on the EU climate–energy package during the council summit in December 2008,"http://www.jhubc.it/ecpr-porto/virtualpaperroom/150.pdf

The modern EU energy policy, which is missing certain necessary treaty provisions, has been built as a part of the Common Market and environmental policy, which permits supranational institutions to have greater autonomy from member state governments. Consequently, we have observed an interesting spillover effect in which the development of one policy generates pressure and outcomes in another field. This derives from treating energy as a product, and energy production and distribution as a service – which allows for secondary (hard law) legislation on energy issues that is legally rooted in primary low level rules (namely, the free flow of capital, products, and service). Also, the close correlation between energy and environmental issues is utilized in the same spillover mechanism, and energy objectives are built by the snowball dynamics of environmental policy.

### Even if the EU fails, the counterplan still encourages new policies and international cooperation on climate change

Schreurs & Tiberghien 7 – Miranda A. Schreurs is Director of the Environmental Policy Research Institute and Professor of Comparative Politics at the Free University of Berlin. Prior to this she was Associate Professor in the Department of Government and Politics, University of Maryland. \*\*AND Yves Tiberghien is Assistant Professor in the Department of Political Science at the University of British Columbia. 2007. "Multi-Level Reinforcement: Explaining European Union Leadership in Climate Change Mitigation," http://www.mitpressjournals.org/doi/pdf/10.1162/glep.2007.7.4.19

If the EU succeeds in meeting its burden sharing target, then the EU will have achieved something of a moral victory vis-à-vis the US. If the EU fails, then cynics are likely to charge that while Europe is good at setting lofty goals, it is poor at actually implementing them. On the other hand, it could be argued that even if the EU fails to fulfill its goals completely, it will still have influenced policy change and innovation both at home and internationally through the power of example in the areas of energy efficiency improvements, renewable energy development, carbon emissions trading, energy taxes, and joint implementation. The EU, moreover, will have made a strong case for international cooperation in addressing a serious threat to the planet. The signing and ratification of the Kyoto Protocol has helped to put a variety of new policies and measures in motion. It has also helped to initiate joint projects among developed and transition countries.

## EU CP --- A2 Internal Politics DA

### There is bipartisan and public support in Europe for the counterplan – countries would rather work with the EU than the US

Schreurs & Tiberghien 7 – Miranda A. Schreurs is Director of the Environmental Policy Research Institute and Professor of Comparative Politics at the Free University of Berlin. Prior to this she was Associate Professor in the Department of Government and Politics, University of Maryland. \*\*AND Yves Tiberghien is Assistant Professor in the Department of Political Science at the University of British Columbia. 2007. "Multi-Level Reinforcement: Explaining European Union Leadership in Climate Change Mitigation," http://www.mitpressjournals.org/doi/pdf/10.1162/glep.2007.7.4.19

Public opinion forms an important necessary condition for the process of mutual reinforcement. Opinion data show a trend of strengthening and widening support toward the environment, climate change, and Kyoto in particular from the early 1990s to the 2000s. As an indicator of the priority put on global environment, 88 percent of Europeans responded that “protecting the environment” should be an “EU priority” in the 2002 Eurobarometer survey (EU 15), just 3 points below the highest priority, fighting global terrorism.36 This level of support for the environment and expectation of EU action in this area has been sustained since the mid-1990s. Responses to the same question in earlier polls were as follows: 85 percent in 1997, 83 percent in 1999, 86 percent in 2000, and 87 percent in Autumn 2001, in the heat of the ratification battle.37

A sampling of dozens of press reports (collected by the US State Department) appearing in European newspapers in the week after Bush’s announcement that the US was leaving Kyoto show that the press was highly critical of the US decision. Perhaps not so surprisingly, left-leaning newspapers across Europe condemned the US withdrawal. The left-of-center Belgian Le Soir, for example, called it “a real scandal” and then asked, “Today, the question is not whether the 15 must continue Kyoto without the United States. . . The real question is will the Europeans be smart and courageous enough to do it?” The center-left Danish Politiken lamented that the United States had “in one fell swoop, set back international efforts to address global warming by more than ten years.”38

What is quite remarkable is that even more conservative European newspapers criticized the move. For example, the conservative-leaning Spanish La Razon wrote: “The American president is more concerned with the U.S. citizen’s standard of living and their energetic spending, than with the future of the planet.” The Irish Times concluded: “The rest of the world . . . has reacted with justifiable anger and outrage to the announcement.” The conservative, populist Irish Independent commented: “[Mr. Bush’s] stance will be attributed to breathtaking arrogance or his connections with the energy industry, or a combination of the two.” The center-right Berlingske Tidende of Denmark opined: “It is regrettable that Bush does not support the Kyoto agreement. It is particularly disappointing because it shows that the United States is in the process of running away from its international responsibilities.” And the independent Greek Kathimerini wrote: “The White House’s presumptuous stance [is] truly unacceptable. . . The fundamental problem lies in the message the White House sends. . . Cynically supporting the interests of specific U.S. industries is an extremely negative paradigm for international behavior.”39

As suggested by the media responses, European public opinion was strongly behind Kyoto. A Pew Global Attitudes Project poll conducted in August 2001 in the four largest European states and the US found strong disapproval of the Bush administration’s foreign policies in general, and especially in relation to the Kyoto Protocol. While 44 percent of US respondents disapproved of Bush’s decision to withdraw, almost twice that percentage disapproved in Britain (83 percent), Italy (89 percent), Germany (87 percent), and France (85 percent). 40 Similarly, a WWF UK poll conducted in late May and early June 2001 found strong support for EU leadership in bringing the Kyoto Protocol into force even if the US did not participate. 82 percent of respondents in Belgium said the EU should play a leadership role, 91.3 percent in Spain, 88.7 percent in Italy, and 79.7 percent in the UK. There was also a strong feeling in Belgium, Spain, and the UK (but less so in Italy) that Canada, Japan, and other industrialized states should join the EU in tackling global warming rather than siding with the US and that their own governments should do more.41 According to a top official at the DG Environment, climate change is an issue that has reached such a level of social and political acceptability across the EU that it enables (indeed, forces) the EU Commission and national leaders to produce all sorts of measures, including taxes.42

## EU CP --- A2 Veto

### Burdensharing stops veto

Schreurs & Tiberghien 7 – Miranda A. Schreurs is Director of the Environmental Policy Research Institute and Professor of Comparative Politics at the Free University of Berlin. Prior to this she was Associate Professor in the Department of Government and Politics, University of Maryland. \*\*AND Yves Tiberghien is Assistant Professor in the Department of Political Science at the University of British Columbia. 2007. "Multi-Level Reinforcement: Explaining European Union Leadership in Climate Change Mitigation," http://www.mitpressjournals.org/doi/pdf/10.1162/glep.2007.7.4.19

In sum, EU leadership was made possible in part because of changing underlying conditions in the three biggest polluter states (Germany, the UK, and Italy) that meant that even under business as usual scenarios there would be significant cuts in their emissions. It would not have been possible, however, without European Community-wide acceptance of the principle of differentiated obligations. The inclusion of a burden sharing approach won over states that would otherwise have vetoed EU climate change policy targets.

# **\*\*\*A2 SOLVENCY\*\*\***

## No Solvency --- Inaccurate Data

### Climate observation satellites give inaccurate data

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| Kirk-Davidoff et al. 5 – Daniel B. Kirk-Davidoff Department of Meteorology, University of Maryland, Richard M. Goody and James G. Anderson, Division of Engineering and Applied Science, Harvard University, 2005, "Analysis of Sampling Errors for Climate Monitoring Satellites," Journal of Climate, Volume 18, Issue 6, March 2005, pg. 810-822, http://journals.ametsoc.org/doi/full/10.1175/JCLI-3301.1  1. Introduction |

Satellite climate observations offer broad and consistent spatial sampling, complementing surface-based observations, which may be compromised by correlations with anthropogenic or natural changes in surface conditions near observation sites, and which may be spatially biased by ease or difficulty of access to a given location on the surface. However, imperfect temporal sampling introduces random errors (due to aperiodic weather noise) and biases that can substantially reduce the accuracy of satellite observations of the state of the atmosphere. Selection of the number of satellites, their orbital configuration, and their scanning pattern all contribute to satellite sampling errors for climate studies. These errors have been carefully investigated for existing climate records ([Salby and Callaghan 1997](javascript:popRef2('i1520-0442-18-6-810-Salby2')); [Christy et al. 2003](javascript:popRef2('i1520-0442-18-6-810-Christy1')); [Mears et al. 2003](javascript:popRef2('i1520-0442-18-6-810-Mears1')); [Vinnikov and Grody 2003](javascript:popRef2('i1520-0442-18-6-810-Vinnikov1')); [Vinnikov et al. 2004](javascript:popRef2('i1520-0442-18-6-810-Vinnikov2'))). The latter three papers included specific measures to estimate and remove biases contributed by inadequately sampled diurnal variability, either by estimating the strength of various harmonics of the diurnal cycle directly from observations, or by simulating the diurnal cycle using a general circulation model ([Mears et al. 2003](javascript:popRef2('i1520-0442-18-6-810-Mears1'))).

The continuing controversy over the tropospheric temperature record as measured by radiosondes and by the Microwave Sounding Unit (MSU)/Advanced Microwave Sounding Unit (AMSU) instruments illustrates the need for climate observing strategies that can produce absolutely accurate climate data records. Our purpose is to reduce the need for after-the-fact error correction by finding orbits that minimize sampling errors. For interannual trends, much of the bias treated by these authors derives from the drift in the equator-crossing time of sun-synchronous satellites. A theoretical study of sampling errors due to satellite orbital drift for a constellation of three sun-synchronous orbits was made by [Leroy (2001)](javascript:popRef2('i1520-0442-18-6-810-Leroy1')), for the case of clear skies and large-amplitude diurnal variability in surface temperature. He showed that asymmetry in the time of observations for ascending and descending orbit legs caused substantial errors in high latitude regions even for three equally spaced satellites, due to aliasing of the semidiurnal cycle onto the long-term mean. He also showed that that cross-track scanning of practical width did little to reduce this sampling bias. We extend this work using a more realistic proxy dataset, and consider both bias and short term climate variability in order to determine which constellation of satellites in which orbital configuration are capable of adequately sampling radiance observations so as to obtain accurate climate means. The climate means investigated include annual and seasonal mean brightness temperature, as well as annual mean diurnal brightness temperature maximum, minimum, and range.

### **Forest change reports are inaccurate – global studies fail because they’re too costly and too labor-intensive**

Song 10 – Kuang Song, Ph.D. at the Department of Geography, University of Maryland, supervised by Professor John Townshend, Department of Geography, University of Maryland, 2010, "Tackling uncertainties and errors in the satellite monitoring of forest cover change," http://drum.lib.umd.edu//handle/1903/10523

The previously mentioned FAO report series of world’s forest in years 1980, 1990, 1995, and 2000 did not see much use of remote sensing. The forest change reports incorporated the use of satellite images with a 10% random sampling scheme. It was criticized for only sampling 10% randomly (Tucker and Townshend 2000). They argued that such a low sampling rate is insufficient given the high spatial variability of forest change. Forest change is not likely to be spatially random event. Their suggestion of a wall-to-wall mapping was countered by FAO. “FAO did not have sufficient funding or staffing to accomplish this immense task” (Czaplewski 2002).

This discussion showed us two important issues: 1. Global forest change has a high spatial heterogeneity that can only be reliably estimated with a census instead of limited sampling. 2. The very high cost and the need for big staff cited necessary to achieve that purpose only imply that automated algorithms are not fully-fledged.

Apart from these two issues, there are controversies around another vital theme: the accuracy of remote sensing analysis. In the same paper by Tucker and Townshend, they gave an optimistic evaluation to this topic. They were pleased with the approximately 85% accuracy achievable by combining unsupervised classification, human interpretation, and expert inputs. However, this approach is too labor-intensive that it is not suitable for global studies.

### **Remote sensing satellites cannot monitor water effectively**

Tran et al. 10 – Annelise Tran, Flavie Goutard, Lise Chamaille, Nicolas Baghdadi, Danny Lo Seen, environment experts from France, February 2010, "Remote sensing and avian influenza: A review of image processing methods for extracting key variables affecting avian influenza virus survival in water from Earth Observation satellites," International Journal of Applied Earth Observation and Geoinformation, Volume 12, Issue 1, Pages 1-8, <http://www.sciencedirect.com/science/article/pii/S0303243409000956>

Water surface temperature can be estimated with remotely sensed thermal infrared (TIR) images ([Anding and Kauth, 1970], [Handcock et al., 2006], [Kay et al., 2005], [Li et al., 2001], [Reinart and Reinhold, 2008], [Schott et al., 2001] and [Wloczyk et al., 2006]). Two thermal bands are required to compensate atmospheric effects in an appropriate way (split-window technique) (McMillin and Crosby, 1984). Nevertheless, studies using one TIR band from Landsat Enhanced Thematic Mapper (ETM+) imagery showed satisfactory results ([Schott et al., 2001] and [Wloczyk et al., 2006]). Thus, depending on the spatial resolution of the sensor (see Table 1), a good agreement is obtained between remote sensing estimated and in situ measured temperatures of rivers, lakes and seas. Most of the studies concern the estimation of sea-surface temperatures ([Anding and Kauth, 1970], [Franca and Cracknell, 1994] and [Li et al., 2001]); examples of applications to land-surface water bodies (of interest in the AI context) are scarce, in part because of the difficulty detecting streams and small lakes using satellite remote sensing (Kay et al., 2005). For example, Reinart and Reinhold (2008) used MODIS data to map temperatures in large lakes and Handcock et al. (2006) estimated that reliable satellite TIR measurements are limited to large rivers (about 180 m across). For smaller rivers and streams, only airborne thermal remote sensing may be used (Torgersen et al., 2001).

## **No Solvency --- Monitoring Fails**

### **Monitoring cannot solve climate change**

Dalby 9 – Simon Dalby, Department of Geography & Environmental Studies, Carleton University, 2009, "Geopolitics, the revolution in military affairs and the Bush doctrine," International Politics (2009), 46, page 234-252, <http://www.palgrave-journals.com/ip/journal/v46/n2/full/ip200840a.html>

Building forces to deal with emergencies is not what the recent military revolution has been about, but military operations other than war are clearly part of what armed forces do currently. If climate change sets migration in motion on a large scale, then all sorts of serious problems may require military attention ([Smith, 2007](http://www.palgrave-journals.com/ip/journal/v46/n2/full/ip200840a.html#bib43)), but preventing climate disaster and preparing societies for the coming changes is not something that the current revolution in military affairs equips contemporary states to do. Numerous space-based technologies may have some uses in monitoring environmental changes or facilitating communications in dealing with disasters, but they are not much use in reducing the human disruptions of ecosystems. The overtly military response to the war on terror, and the geopolitical formulation of security primarily in terms of regimes judged unfriendly to the American world order, diverts attention from these other pressing policy necessities for the future, not least by precluding more cooperative ventures in many places.

## **No Solvency --- NASA Launch Failure**

### **NASA is ineffective at observation satellites – past failed launch attempts prove**

Washington Times 11 – Jessica Gresko, Washington Times, Associated Press, March 4th, 2011, "NASA: Rocket probably in ocean after failed launch," <http://www.washingtontimes.com/news/2011/mar/4/nasa-observation-satellite-fails-reach-orbit/print/>

WASHINGTON (AP) — A rocket carrying an Earth-observation satellite is in the Pacific Ocean after a failed launch attempt, NASA officials said Friday.

The Taurus XL rocket carrying NASA's Glory satellite lifted off around 2:10 a.m. PST from Vandenberg Air Force Base in California.

During a press conference Friday officials explained that a protective shell or fairing atop the rocket did not separate from the satellite as it should have about three minutes after the launch. That left the Glory spacecraft without the velocity to reach orbit.

NASA suffered a similar mishap two years ago when a satellite that would have studied global warming crashed into the ocean near Antarctica after launching from the same kind of rocket that carried Glory. Officials said Friday that Glory likely wound up landing near where the previous satellite did.

"We failed to make orbit," NASA launch director Omar Baez said Friday. "Indications are that the satellite and rocket ... is in the southern Pacific Ocean somewhere."

Had Glory reached orbit it would have been on a three-year mission to analyze how airborne particles affect Earth's climate. Besides monitoring particles in the atmosphere, it would also have tracked solar radiation to determine the sun's effect on climate change.

Glory was supposed to study tiny atmospheric particles known as aerosols, which reflect and trap sunlight. The vast majority occurs naturally, spewed into the atmosphere by volcanoes, forest fires and desert storms. Aerosols can also come from manmade sources such as the burning of fossil fuel.

The $424 million mission is managed by the NASA's Goddard Space Flight Center in Maryland.

Friday's launch came after engineers spent more than a week troubleshooting a glitch that led to a last-minute scrub and two years studying what went wrong with the 2009 mission that also crashed.

An accident board was formed to investigate and corrective action was taken to prevent future problems. A duplicate is now scheduled to fly from Vandenberg in 2013.

Investigators spent several months testing hardware, interviewing engineers and reviewing data and documents. The probe did not find evidence of widespread testing negligence or management shortcomings, but NASA declined to release the full accident report, citing sensitive and proprietary information.

## **No Solvency --- No Integration**

### **The plan’s satellites cannot be integrated to solve the data gap**

Wulder et al. 11 – Michael A. Wulder, Canadian Forest Service, Pacific Forestry Centre, \*\*AND Joanne C. White, Biospheric Sciences Branch, NASA Goddard Space Flight Center, \*\*AND Jeffrey G. Masek, United States Geological Survey, Center for Earth Resources Observation and Science (EROS), \*\*AND Geographic Information Science Center of Excellence, South Dakota State University, February 15th, 2011, "Continuity of Landsat observations: Short term considerations," Remote Sensing of Environment, Volume 115, Issue 2, pages 747-751, <http://www.sciencedirect.com/science/article/pii/S0034425710003214>

Currently there are no other missions analogous to Landsat that have global observation capabilities or accumulated global archives. In cases where there are data that have been or could be acquired to augment Landsat holdings, data sharing agreements and political considerations can hinder such activities. Sensors from non-Landsat missions may meet some baseline requirements to emulate Landsat image characteristics, but it is unlikely that sufficient similarity exists to enable direct integration or interoperability, especially from operations perspectives where known relationships and algorithms will no longer function.

# **\*\*\*A2 WARMING\*\*\***

## **A2 Warming --- Author Indict --- Schwartz and Randall**

### **Their impact is not true – their authors were only doing a hypothetical exercise**

Schwartz and Randall 3 Peter Schwartz, co-founder and chairman of Global Business Network \*\*AND Doug Randall, California-based Global Business Network, October 2003 “An Abrupt Climate Change Scenario and Its Implications for United States National Security,” <http://www.edf.org/documents/3566_AbruptClimateChange.pdf>

The purpose of this report is to imagine the unthinkable – to push the boundaries of current research on climate change so we may better understand the potential implications on United States national security.

We have interviewed leading climate change scientists, conducted additional research, and reviewed several iterations of the scenario with these experts. The scientists support this project, but caution that the scenario depicted is extreme in two fundamental ways. First, they suggest the occurrences we outline would most likely happen in a few regions, rather than on globally. Second, they say the magnitude of the event may be considerably smaller.

## **A2 Warming --- Data Gaps Inevitable**

### **Landsats are still working well – data gaps are being solved for in the status quo**

Wulder et al. 11 – Michael A. Wulder, Canadian Forest Service, Pacific Forestry Centre, \*\*AND Joanne C. White, Biospheric Sciences Branch, NASA Goddard Space Flight Center, \*\*AND Jeffrey G. Masek, United States Geological Survey, Center for Earth Resources Observation and Science (EROS), \*\*AND Geographic Information Science Center of Excellence, South Dakota State University, February 15th, 2011, "Continuity of Landsat observations: Short term considerations," Remote Sensing of Environment, Volume 115, Issue 2, pages 747-751, <http://www.sciencedirect.com/science/article/pii/S0034425710003214>

Landsat-7 continues to operate, albeit, since May 31, 2003, with a failed scan line corrector (SLC). The SLC compensates for the forward motion of the sensor and its failure has resulted in images that have high geometric and radiometric fidelity, but no data present for wedges varying in size from one 30 m pixel near the centre of the image to fourteen 30 m pixels along the eastern and western edges of the image (Storey et al., 2005). Although the central swath of the Landsat-7 image (approximately 22 km wide) is not impacted by the SLC failure, approximately 22% of the image data are lost. To mitigate the impact of the data gaps caused by the SLC failure, a number of approaches have been developed, including image segmentation (Maxwell et al., 2007) and multi-date (same season) image compositing. Subsequent investigations have determined that the segment-based gap-filled SLC-off imagery is sufficiently robust for certain land cover applications ([Bédard et al., 2008] and [Wulder et al., 2008a]), while the multi-date compositing has been used for the NASA/USGS Global Land Survey (GLS) product suite (Gutman et al., 2008). Image compositing has also provided an opportunity to both address the data gaps related to SLC-off and to enable cloud infill for seamless, wide-area, characterizations ([Lindquist et al., 2008] and [Roy et al., 2010]). Landsat-7 has sufficient fuel to maintain operations through 2016.

### **Data gaps are inevitable – empirical estimates fill in**

Baldocchi 1 – Dennis D. Baldocchi, University of California, Berkeley, Ecosystem Science, December 27th, 2001, "Measuring CO2 flux measurements over long periods reduces random samplingerror to small values. However, gaps are inevitable in long records. Filling data gapswith empirical estimates do not introduce significant bias errors as gaps are filled withalgorithms derived from a large statistical population. Systematic bias errors are greatestwhen winds are light and intermittent, as at night. On an annual basis, the error of netecosystem CO2 exchange ranges between 30 and 200 gC m-2.," http://nature.berkeley.edu/biometlab/pdf/annual rev carbon dioxide fluxes baldocchi.pdf

Measuring CO2 flux measurements over long periods reduces random sampling error to small values. However, gaps are inevitable in long records. Filling data gaps with empirical estimates do not introduce significant bias errors as gaps are filled with algorithms derived from a large statistical population. Systematic bias errors are greatest when winds are light and intermittent, as at night. On an annual basis, the error of net ecosystem CO2 exchange ranges between 30 and 200 gC m-2.

### **Data gaps inevitable but they’re easily bridged – calibration solves**

Datla 9 – R. U. Datla, J. P. Rice, K. Lykke and B. C. Johnson, NIST Optical technology Division, J.J. Butler and X. Xiong, NASA Goddard Space Flight Center, January 2009, “Best Practice Guidelines for Pre-Launch Characterization and Calibration of Instruments for Remote Sensing,”

The pre-launch characterization and calibration of remote sensing instruments should be planned and carried out in conjunction with their design and development to meet the mission requirements. In the case of infrared instruments, the onboard calibrators such as blackbodies and the sensors such as spectral radiometers should be characterized and calibrated using SI traceable standards. In the case of earth remote sensing, this allows intercomparison and intercalibration of different sensors in space to create global time series of climate records of high accuracy where some inevitable data gaps can be easily bridged. The recommended best practice guidelines for this pre-launch effort is presented based on experience gained at National Institute of Standards and Technology (NIST), National Aeronautics and Space Administration (NASA) and National Oceanic and Atmospheric Administration (NOAA) programs over the past two decades. The currently available radiometric standards and calibration facilities at NIST serving the remote sensing community are described. Examples of best practice calibrations and intercomparisons to build SI traceable uncertainty budget in the instrumentation used for preflight satellite sensor calibration and validation are presented.

## A2 Warming --- Not Real

### Observation satellite data proves there is no warming now – there’s global cooling

**Taylor 9** (James, Senior Fellow @ Heartland Institute, “Global Cooling Continues,” March 1, http://www.heartland.org/publications/environment%20climate/article/24739/Global\_Cooling\_Continues.html)

Continuing a decade-long trend of declining global temperatures, the year 2008 was significantly colder than 2007, and global temperatures for the year were below the average over the past 30 years. The global temperature data, reported by NASA satellite-based temperature measurements, refuted predictions 2008 would be one of the warmest on record. Data show 2008 ranked 14th coldest of the 30 years measured by NASA satellite instruments since they were first launched in 1979. It was the coldest year since 2000. (See accompanying figure.) Satellite Precision NASA satellites uniformly monitor the Earth’s lower atmosphere, which greenhouse gas theory predicts will show the first and most significant effects of human-caused global warming. The satellite-based measurements are uncorrupted by urban heat islands and localized land-use changes that often taint records from surface temperature stations, giving false indications of warming. The uncorrupted satellite-based temperature measurements refute surface temperature station data finding 2008 to be one of the top 10 warmest years on record. “How can an ‘average year’ in one database appear to be a [top 10] warmest year in another?” asked meteorologist Joe D’Aleo on his International Climate and Environmental Change Assessment Project Web site. “Well, the global databases of [surface station reports] are all contaminated by urbanization, major station dropout, missing data, bad siting, instruments with known warm biases being introduced without adjustment, and black-box and man-made adjustments designed to maximize [reported] warming,” explained D’Aleo. Warming Trend Overstated “The substantial and continuing La Niña cooled the Earth quite a bit in 2008, to the point that it was slightly below the 30-year average [1979-2008] but slightly above the 20-year average [1979-1998],” said John Christy, distinguished professor of atmospheric science and director of the Earth System Science Center at the University of Alabama in Huntsville (UAH). “From research we have published, and more to come soon, we find that land surface air temperatures misrepresent the actual temperature changes in the deep atmosphere—where the greenhouse effect is anticipated to have its easiest impact to measure. Surface thermometers are affected by many influences, especially surface development, so the bulk atmospheric measurements from satellites offer a straightforward indicator of how much heat is or is not accumulating in the air, for whatever reason,” Christy explained. “Recent published evidence also supports the long-term trends of UAH as being fairly precise, so the observed rate of warming is noticeably less than that projected by the IPCC ‘Best Estimate’ model simulations which, we hypothesize, are too sensitive to CO2 increases,” Christy added.

## **A2 Warming --- Status Quo Solves**

### **Existing landsats solve – gaps in data are negligible**

Loveland et al. 8 – Thomas R. Loveland, US Geological Survey Center for Earth Resources Observation and Science (EROS), \*\*AND Mark A. Cochrane and Geoffrey M. Henebry, Geographic Information Science Center of Excellence, South Dakota State University, April 2008, "Landsat still contributing to environmental research," Volume 23, Issue 4, pages 182-183, <http://www.sciencedirect.com/science/article/pii/S0169534708000621>

Loarie and colleagues [1] present important information about current problems in Earth observation. However, in our opinion, the environmental community has not been left ‘blind’ [1]. The Landsat archive is the longest-running and most comprehensive global land record ever created [2]. Loarie et al. incorrectly conclude that the Landsat era ended when the Landsat 7 Enhanced Thematic Mapper Plus (ETM+) Scan-Line Corrector (SLC) failed in 2003. Although it is true that the reduction in data quality has had an impact on the environmental remote sensing community, it has not been the deadly blow implied in the article. Seventy-eight percent of the data within each Landsat 7 scene are unaffected and continue to be valuable for many environmental applications. Approximately 300 scenes continue to be added to the US Geological Survey (USGS) Landsat data archive each day [3].

### **The status quo Landsat Continuity Program solves**

Loveland et al. 8 – Thomas R. Loveland, US Geological Survey Center for Earth Resources Observation and Science (EROS), \*\*AND Mark A. Cochrane and Geoffrey M. Henebry, Geographic Information Science Center of Excellence, South Dakota State University, April 2008, "Landsat still contributing to environmental research," Volume 23, Issue 4, pages 182-183, <http://www.sciencedirect.com/science/article/pii/S0169534708000621>

The long-term future of Landsat data continuity is improving. NASA and the USGS are currently developing the Landsat Data Continuity Mission, which should result in the launch of Landsat 8 in mid-2011. The administration has recommended formation of the National Land Imaging Program to make global Earth observation at Landsat scales operational far beyond Landsat 8 [[4]](http://www.sciencedirect.com/science/article/pii/S0169534708000621" \l "bib4). If this program functions as envisioned, stability of data collection, as called for by Loarie *et al.*, will be achieved and the environmental community will not be left ‘blind to the ongoing changes in land-use patterns across key ecosystems.’

### **Landsats are functioning well now – the data gap is decreasing every day**

Wulder et al. 11 – Michael A. Wulder, Canadian Forest Service, Pacific Forestry Centre, \*\*AND Joanne C. White, Biospheric Sciences Branch, NASA Goddard Space Flight Center, \*\*AND Jeffrey G. Masek, United States Geological Survey, Center for Earth Resources Observation and Science (EROS), \*\*AND Geographic Information Science Center of Excellence, South Dakota State University, February 15th, 2011, "Continuity of Landsat observations: Short term considerations," Remote Sensing of Environment, Volume 115, Issue 2, pages 747-751, <http://www.sciencedirect.com/science/article/pii/S0034425710003214>

As of writing in mid-2010, both Landsat-5 and -7 continue to function, with sufficient fuel to enable data collection until the launch of the Landsat Data Continuity Mission (LDCM) scheduled for December of 2012. Failure of one or both of Landsat-5 or -7 may result in a lack of Landsat data for a period of time until the 2012 launch. Although the potential risk of a component failure increases the longer the sensor's design life is exceeded, the possible gap in Landsat data acquisition is reduced with each passing day and the risk of Landsat imagery being unavailable diminishes for all except a handful of applications that are particularly data demanding. Advances in Landsat data compositing and fusion are providing opportunities to address issues associated with Landsat-7 SLC-off imagery and to mitigate a potential acquisition gap through the integration of imagery from different sensors. The latter will likely also provide short-term, regional solutions to application-specific needs for the continuity of Landsat-like observations. Our goal in this communication is not to minimize the community's concerns regarding a gap in Landsat observations, but rather to clarify how the current situation has evolved and provide an up-to-date understanding of the circumstances, implications, and mitigation options related to a potential gap in the Landsat data record.

# **\*\*\*A2 CLIMATE LEADERSHIP\*\*\***

## **A2 Climate Leadership --- Alt Causes to Climate Leadership**

### **The US can never be the leader on climate change because of domestic political divisions**

Falkner 5 – Robert Falkner, Department of International Relations, London School of Economics, 2005, "American Hegemony and the Global Environment," International Studies Review, Volume 7, Issue 4, pages 585-599

As the experience with US policy on biodiversity and climate change suggests, US presidential leadership abroad is easily trumped by Congressional opposition at home. The split between the executive and legislative branches of government became all too apparent in the 1990s. Because the Clinton administration lacked Congressional support for its international environmental ambitions, it had to backtrack from its support of the CBD and the Kyoto Protocol, and it was unable to live up to its earlier promises to take the country back into the multilateral policymaking arena. These two examples suggest that a critical condition for environmental leadership is, therefore, the building of domestic coalitions in support of an active foreign policy (Paarlberg 1997:137). Although the success of domestic coalition building will be influenced by the political landscape of the day, there are structural reasons to suggest that stable and broad-based coalitions are likely to be the exception rather than the norm, and that domestic fragmentation will remain a pervasive aspect of foreign environmental policy in the United States.

One important reason for this fragmentation lies in the nature of the American political system. With its decentralized decision-making process and power separation between the executive, legislative, and judiciary, US environmental politics proceeds in an often erratic fashion and can lead to considerable deadlock between competing institutional interests (Kraft 2004:chap. 3). Presidential leadership can easily be blocked through concerted efforts on Capital Hill, where lobbyists are likely to find a receptive audience, especially in the runup to Congressional elections. And although the executive has greater room for initiative in foreign policy, the need for Congressional approval of international agreements and domestic programs acts as a dampener on international leadership efforts that are not backed by a broader coalition of interests at home.

Congress's powerful position in US foreign environmental policy is based on its constitutional role in the policymaking process in three particularly sensitive areas: its authority to ratify international treaties; its budgetary and fiscal powers that affect proposals for environmental taxation, international environmental aid, and other environmental spending programs; and its general legislative role in establishing and reviewing environmental regulations. All three of these areas are critical to foreign environmental policy. They affect the ability of the United States to accede to agreements it has negotiated and signed; they determine the extent to which US environmental leadership is backed up by promises of international environmental aid; and they influence the ability of the United States to provide a model for policy innovation through effective domestic regulation.

Decentralization and the separation of powers in the American political system make it more difficult for the government to sustain support for international environmental institutions. The example of global biodiversity policy shows how limited the powers of the White House can be when faced with determined opposition in Congress. Despite achieving major concessions at the 1992 Earth Summit in Rio, the United States refused to sign the CBD, mainly over concerns for intellectual property protection and in response to intense industry lobbying. The Clinton administration sought to reverse the image of the United States as a global environmental laggard and negotiated with leading biotechnology firms a solution that would allow the country to sign the Convention. This was to be done through an interpretation to be submitted with the US signature, which would prevent the convention from infringing on patent rights or commercial opportunities for research and innovation. In the end, however, it was Congress that refused to ratify the Convention, despite a broad consensus between industry, environmental groups, and the White House. Until today, Republican opposition to this particular Convention has prevented full participation by the United States in this area of international environmental regulation (Falkner 2001:169–171).

### **Alt cause to decline in environmental leadership – failure to join international initiatives like the Kyoto Protocol**

Ivanova & Esty 8 – Maria Ivanova is Assistant Professor of Government and Environmental Policy at The College of William and Mary and the Director of the Global Environmental Governance Project at the Yale Center for Environmental Law and Policy. \*\*AND Daniel C. Esty is the Hillhouse Professor of Environmental Law and Policy at Yale University. He holds faculty appointments in both Yale’s Environment and Law Schools. He is the Director of the Yale Center for Environmental Law and Policy and the Center for Business & Environment at Yale. Summer-Fall 2008, "Reclaiming U.S. Leadership in Global Environmental Governance," SAIS Review of International Affairs, Volume 28, Number 2, http://muse.jhu.edu/journals/sais\_review/v028/28.2.ivanova.html#back

However, the United States has since retreated from its global environmental leadership role. The George W. Bush Administration has obstructed progress on a number of international environmental initiatives: protecting **[End Page 57]** biodiversity, regulating the trade in genetically modified products, and instituting a legally binding treaty banning mercury. The high watermark—or perhaps the low tide—of U.S. obstructionism, however, came with the U.S. “unsigning” of the Kyoto Protocol on climate change in 2001 and once more at the 2007 international climate negotiations in Bali, Indonesia. The only developed nation not having ratified the Kyoto Protocol, the United States was the main opponent in Bali to a proposal for greenhouse gas reductions by 25 to 40 percent by 2020 from 1990 levels. As the United States balked at the emerging Bali consensus, an extraordinary diplomatic breech occurred: the U.S. delegation was booed. Lest there be any doubt, Nobel Laureate Al Gore weighed in, observing that the United States was “obstructing progress.”   
The list of international environmental initiatives that the United States has failed to join has become longer. The United States has yet to ratify the 1982 Law of the Sea Treaty, the 1992 Basel Convention on Export of Hazardous Waste, the 1993 Convention on Biological Diversity, and, of course, the Kyoto Protocol (see [Table 1](http://muse.jhu.edu/journals/sais_review/v028/28.2.ivanova.html" \l "tab01) for a chronological overview of main international environmental conventions and the status of U.S. participation). The Bush Administration’s “go-it-alone” strategy in security issues has mirrored a similar unilateralism in the international environmental domain. Once a leader in international environmental policy, the United States has lost much of its political influence today. What is more, U.S. withdrawal from multilateralism has left the United Nations—the imperfect but important instrument for international cooperation—“in limbo, neither strengthened nor abandoned,”[1](http://muse.jhu.edu/journals/sais_review/v028/28.2.ivanova.html" \l "f1) threatening the ability of the world community to resolve fundamental global problems.

### **Alt cause to decline in environmental leadership – US ambivalence on environmental policies**

Ivanova & Esty 8 – Maria Ivanova is Assistant Professor of Government and Environmental Policy at The College of William and Mary and the Director of the Global Environmental Governance Project at the Yale Center for Environmental Law and Policy. \*\*AND Daniel C. Esty is the Hillhouse Professor of Environmental Law and Policy at Yale University. He holds faculty appointments in both Yale’s Environment and Law Schools. He is the Director of the Yale Center for Environmental Law and Policy and the Center for Business & Environment at Yale. Summer-Fall 2008, "Reclaiming U.S. Leadership in Global Environmental Governance," SAIS Review of International Affairs, Volume 28, Number 2, http://muse.jhu.edu/journals/sais\_review/v028/28.2.ivanova.html#back

Recent U.S. involvement in global environmental governance is characterized by a fundamental ambivalence about multilateralism and the international **[End Page 61]** institutions that support it. As Edward Luck explains, “Persistent strains of idealism and cynicism, multilateralism and unilateralism, internationalism and isolationism have long coexisted across the spectrum of American thinking. The resulting ambivalence . . . about the soul and shape of America’s place in the world . . . has yet to be resolved either intellectually or politically, leaving Washington unable to abandon the world organization or to give it full support.”[15](http://muse.jhu.edu/journals/sais_review/v028/28.2.ivanova.html" \l "f15) This dual-edged attitude toward international organizations has clearly diminished the U.S. leadership position and its ability to exert influence in the global environmental domain.[16](http://muse.jhu.edu/journals/sais_review/v028/28.2.ivanova.html" \l "f16)

## **A2 Climate Leadership --- Cannot Solve for Other Countries**

### **Even if the US stopped emissions, it cannot solve for other countries**

Ivanova & Esty 8 – Maria Ivanova is Assistant Professor of Government and Environmental Policy at The College of William and Mary and the Director of the Global Environmental Governance Project at the Yale Center for Environmental Law and Policy. \*\*AND Daniel C. Esty is the Hillhouse Professor of Environmental Law and Policy at Yale University. He holds faculty appointments in both Yale’s Environment and Law Schools. He is the Director of the Yale Center for Environmental Law and Policy and the Center for Business & Environment at Yale. Summer-Fall 2008, "Reclaiming U.S. Leadership in Global Environmental Governance," SAIS Review of International Affairs, Volume 28, Number 2, http://muse.jhu.edu/journals/sais\_review/v028/28.2.ivanova.html#back

Second, the Bush Administration’s reflexive unilateralism on international concerns—whether environmental, economic, or security—represents a break with the prevailing presumption since World War II favoring cooperation **[End Page 58]** and multilateralism through NATO, OECD, and other regional bodies, if not the UN. The “go-it-alone” approach is especially difficult to justify on issues that are inescapably global in scope, such as climate change. Even if the United States were able to eliminate its greenhouse gas emissions entirely, climate change would not be stopped. The build-up of atmospheric concentrations of carbon dioxide driven by rising emissions in China, India, Indonesia, and other developing countries would continue, leaving the United States exposed to the threat of global warming, increased intensity of windstorms, altered rainfall patterns, melting ice caps, and rising sea levels.

## A2 Climate Leadership --- Hegemony Defense

### No transition war

**Ikenberry 8** John Ikenberry, professor of Politics and International Affairs at [Princeton University](http://en.wikipedia.org/wiki/Princeton_University), “The Rise of China and the Future of the West Can the Liberal System Survive?,” Foreign Affairs Magazine, January/February 2008

Some observers believe that the American era is coming to an end, as the Western-oriented world order is replaced by one increasingly dominated by the East. The historian Niall Ferguson has written that the bloody twentieth century witnessed "the descent of the West" and "a reorientation of the world" toward the East. Realists go on to note that as China gets more powerful and the United States' position erodes, two things are likely to happen: China will try to use its growing influence to reshape the rules and institutions of the international system to better serve its interests, and other states in the system -- especially the declining hegemon -- will start to see China as a growing security threat. The result of these developments, they predict, will be tension, distrust, and conflict, the typical features of a power transition. In this view, the drama of China's rise will feature an increasingly powerful China and a declining United States locked in an epic battle over the rules and leadership of the international system. And as the world's largest country emerges not from within but outside the established post-World War II international order, it is a drama that will end with the grand ascendance of China and the onset of an Asian-centered world order. That course, however, is not inevitable. The rise of China does not have to trigger a wrenching hegemonic transition. The U.S.-Chinese power transition can be very different from those of the past because China faces an international order that is fundamentally different from those that past rising states confronted. China does not just face the United States; it faces a Western-centered system that is open, integrated, and rule-based, with wide and deep political foundations. The nuclear revolution, meanwhile, has made war among great powers unlikely -- eliminating the major tool that rising powers have used to overturn international systems defended by declining hegemonic states. Today's Western order, in short, is hard to overturn and easy to join.

## **A2 Climate Leadership --- Not Key to US Leadership**

### **Climate leadership is not key to overall US leadership**

Falkner 5 – Robert Falkner, Department of International Relations, London School of Economics, 2005, "American Hegemony and the Global Environment," International Studies Review, Volume 7, Issue 4, pages 585-599

Second, there is no simple and straightforward correlation between America's hegemonic position and the type of environmental diplomacy it is likely to pursue. The fact of hegemony as such does not determine whether the United States will promote or oppose the creation of international environmental governance. To some extent, a link can be established between US predominance in the international political economy and the rise of global environmentalism since the late 1960s, analogous to the way in which it promoted global economic cooperation after 1945. But unlike trade and monetary policy, environmental policy has never been central to the US effort to create international order. At times, the US government has used its economic strength and political influence to promote global environmental objectives. On other occasions, it has acted as a veto power, blocking progress toward multilateral policymaking. This suggests that we have no convincing structural theory that can explain the direction and evolution of US foreign environmental policy.

# **\*\*\*A2 ADAPATION \*\*\***

## **A2 Adaptation --- Bioterrorism**

### **Monitoring cannot solve bioterrorism – not fast enough**

Dembek 5 – Zygmunt F. Dembek, Ph.D, infectious disease epidemiologist with the Conneticut Department of Public Health, 2005, "Modeling for Bioterrorism Incidents," , Infectious Disease, Part 1, 23-29, <http://www.springerlink.com/content/m332688r23808527/fulltext.pdf>

Epidemiological surveillance for bioterrorism must operate continuously to be effective and should be sensitive enough to detect abnormal disease activity in a population, whether from a nonendemic disease (e.g., anthrax in postal workers) or an increase in a naturally occurring disease that has been purposefully introduced (e.g., hundreds of salmonellosis cases in Oregon) (7). Databases that may be monitored include hospital admissions, 911 calls, unexplained deaths, use of over-the-counter medications, emergency department volume, and selected emergency department discharge diagnoses. The surveillance system must also possess the specificity to detect any of the reportable bioterrorism diseases. Although it is possible to construct a passive disease monitoring system to detect disease levels above those anticipated, it is exceedingly difficult to construct a passive surveillance system with specificity for bioterrorism diseases that identifies patients exposed to life-threatening illnesses with rapid symptom onset in time to administer potentially life-saving treatment or prophylaxis. The recent cases from exposure to anthrax-contaminated mail demonstrate this point (35,36). Only an extremely rapid response can diagnose and identify cases of inhalational anthrax and pneumonic plague; however, this still may not be possible, even under the best of circumstances.

## **A2 Adaptation --- Disease**

### **No impact – diseases have evolved to be less dangerous**

Achenbach 3 – Joel Achenbach, Washington Post staff, November 2003, "Our Friend, the Plague," writer http://ngm.nationalgeographic.com/ngm/0311/resources\_who.html

Whenever a new disease appears somewhere on our planet, experts invariably pop up on TV with grave summations of the problem, usually along the lines of, "We're in a war against the microbes"—pause for dramatic effect —"and the microbes are winning."  
War, however, is a ridiculously overused metaphor and probably should be bombed back to the Stone Age.   
Paul Ewald, a biologist at the University of Louisville, advocates a different approach to lethal microbes. Forget trying to obliterate them, he says, and focus instead on how they co-evolve with humans. Make them mutate in the right direction. Get the powers of evolution on our side.  
Disease organisms can, in fact, become less virulent over time. When it was first recognized in Europe around 1495, syphilis killed its human hosts within months. The quick progression of the disease—from infection to death—limited the ability of syphilis to spread. So a new form evolved, one that gave carriers years to infect others.  
For the same reason, the common cold has become less dangerous. Milder strains of the virus—spread by people out and about, touching things, and shaking hands—have an evolutionary advantage over more debilitating strains. You can't spread a cold very easily if you're incapable of rolling out of bed.  
This process has already weakened all but one virulent strain of malaria: *Plasmodium falciparum* succeeds in part because bedridden victims of the disease are more vulnerable to mosquitoes that carry and transmit the parasite. To mitigate malaria, the secret is to improve housing conditions. If people put screens on doors and windows, and use bed nets, it creates an evolutionary incentive for *Plasmodium falciparum* to become milder and self-limiting. Immobilized people protected by nets and screens can't easily spread the parasite, so evolution would favor forms that let infected people walk around and get bitten by mosquitoes.

## **A2 Adaptation --- Diffusion --- Fails**

### **Market diffusion of technology fails – imperfect information**

Jaffe 5 – Adam B. Jaffe, Brandeis University and National Bureau of Economic Research, \*\*AND Richard G. Newell, Resources for the Future, \*\*AND Robert N. Stavins, Harvard University, 2005, "A tale of two market failures: Technology and environmental policy ," August 2005, Ecological Economics, Volume 54, Issues 2-3, pages 164-174,http://www.sciencedirect.com/science/article/pii/S0921800905000303

With respect to technology adoption and diffusion, we have already noted that imperfect information can slow the diffusion of new technology. First, information has important “public good” attributes: once created it can be used by many people at little or no additional cost. It may be difficult or impossible for an individual or firm that invests in information creation to prevent others who do not pay for the information from using it. It is well known that such public goods will tend to be underprovided by ordinary market activity. Incomplete information can also foster principal–agent problems, as when a builder or landlord chooses the level of investment in energy efficiency in a building, but the energy bills are paid by a later purchaser or a tenant. If the purchaser has incomplete information about the magnitude of the resulting energy savings, the builder or landlord may not be able to recover the cost of such investments, and hence might not undertake them. These market failures with respect to adoption of new technology are part of the explanation for the apparent “paradox” of underinvestment in energy-saving technologies that appear cost-effective but are not widely utilized ([Jaffe and Stavins, 1994](http://www.sciencedirect.com/science/article/pii/S0921800905000303" \l "bib17)).

## **A2 Adaptation --- Diffusion --- Timeframe**

### **Huge timeframe for diffusion**

Jaffe 5 – Adam B. Jaffe, Brandeis University and National Bureau of Economic Research, \*\*AND Richard G. Newell, Resources for the Future, \*\*AND Robert N. Stavins, Harvard University, 2005, "A tale of two market failures: Technology and environmental policy ," August 2005, Ecological Economics, Volume 54, Issues 2-3, pages 164-174,http://www.sciencedirect.com/science/article/pii/S0921800905000303

Dynamic increasing returns can be generated by learning-by-using, learning-by-doing, or network externalities.[4](http://www.sciencedirect.com/science/article/pii/S0921800905000303" \l "fn4) While the image of the world beating a path to the door of the successful innovator may seem compelling, the diffusion of a new technology is typically gradual. It takes time for potential users to learn of the new technology, try it, adapt it to their circumstances, and become convinced of its superiority. An important mechanism in this learning process is the observation of the adoption of the new technology by others. Hence the adopter of a new technology creates a positive externality for others in the form of the generation of information about the existence, characteristics, and success of the new technology. This phenomenon is often called “learning-by-using.”

## **A2 Adaptation --- Diffusion --- Turn**

### **Government initiatives to encourage diffusion stifle innovation and development of better technology**

Jaffe 5 – Adam B. Jaffe, Brandeis University and National Bureau of Economic Research, \*\*AND Richard G. Newell, Resources for the Future, \*\*AND Robert N. Stavins, Harvard University, 2005, "A tale of two market failures: Technology and environmental policy ," August 2005, Ecological Economics, Volume 54, Issues 2-3, pages 164-174,http://www.sciencedirect.com/science/article/pii/S0921800905000303

On the other hand, the possibility of technology “lock-in” makes this a potentially two-edged sword. If the government encourages the diffusion of a particular technology, it is possible that it could become so entrenched in the market place that it stifles, at least for a time, the development of some other, superior technology. This danger creates a tension in the design of policies to encourage adoption. To maximize the exploitation of dynamic increasing returns, it is desirable to focus on the development of a small number of promising technologies. Yet to avoid accidentally helping to entrench the wrong technology, it is desirable for policy to be “technology neutral,” encouraging all efforts that achieve specified objectives without focusing on a particular approach.

Given limited public resources, the government clearly cannot subsidize all new technologies, so there is a need to focus scarce resources on commercialization opportunities for which there is the clearest need for a public role. As stated earlier, this case will be more compelling the lower are the private incentives for adoption, as in the case of environmental problems that have not otherwise been fully priced into private decisions.

## **A2 Adaptation --- International Environmental Policies Fail**

### **International policies fail – jurisdictional overlaps and lack of capacity**

Ivanova & Esty 8 – Maria Ivanova is Assistant Professor of Government and Environmental Policy at The College of William and Mary and the Director of the Global Environmental Governance Project at the Yale Center for Environmental Law and Policy. \*\*AND Daniel C. Esty is the Hillhouse Professor of Environmental Law and Policy at Yale University. He holds faculty appointments in both Yale’s Environment and Law Schools. He is the Director of the Yale Center for Environmental Law and Policy and the Center for Business & Environment at Yale. Summer-Fall 2008, "Reclaiming U.S. Leadership in Global Environmental Governance," SAIS Review of International Affairs, Volume 28, Number 2, http://muse.jhu.edu/journals/sais\_review/v028/28.2.ivanova.html#back

At first glance, the world can be quite proud of the number of multilateral environmental agreements and institutions that have been launched. In fact, the organizational proliferation in the environmental field seems encouraging and in line with the argument for mainstreaming environment into the mandates of all relevant organizations. The multiplicity of international agencies and conventions might also seem necessary because of the complex nature of environmental issues: they require specific responses that could probably not be delivered by any single body. The practical result, however, has been a series of jurisdictional overlaps, gaps, and an inability to respond to overarching environmental problems. This has led to operational and implementation inefficiencies, inconsistencies, and an overload of national administrations in both developed and developing countries. In this context, the capacity of national governments and international organizations to attain the environmental results desired has been severely weakened. The ultimate result has been that global environmental bodies often lack the capacity or the authority to address global environmental problems. And in the absence of a vibrant international environmental organization, many decisions with serious environmental repercussions are undertaken within the economic, trade, and financial institutions, where short-term economic priorities often trump long-term sustainability.27 [End Page 70]

## **A2 Adaptation --- Refugees**

### **Climate change does not cause refugee flows**

Vidal 11 – John Vidal, environment editor for the Guardian, February 4th, 2011, "Climate change not expected to lead to mass cross-border migration," <http://www.guardian.co.uk/global-development/poverty-matters/2011/feb/04/climate-climate-refugees>

Climate change not expected to lead to mass cross-border migration

People are more likely to move short distances to cities, rather than across borders, says a new report

Alarming predictions by the UN, charities and some environmentalists that between 200 million and 1 billion people could flood across international borders to escape the impacts of [climate change](http://www.guardian.co.uk/environment/climate-change) in the next 40 years are unrealistic, distract from the real problems and could actually impoverish vulnerable people, new research suggests.

Case studies from [Bolivia, Senegal and Tanzania](http://pubs.iied.org/10590IIED.html), three countries extremely prone to climate change, show that people affected by environmental degradation rarely move across borders. Instead, they adapt to new circumstances by moving short distances for short periods, often to cities.

"The studies give no reason to think that environmental degradation linked to climate change will result in large flows of international migrants," says [Cecilia Tacoli](http://www.iied.org/human-settlements/staff/cecilia-tacoli), a senior researcher with the [International Insititute for Environment and Development](http://www.iied.org/) (IIED) in London.

"People affected by environmental degradation rarely moved across borders. Instead they moved to other rural areas or to local towns, often temporarily," she says. "This kind of migraion," says Tacoli, "is a positive response by people being affected by desertification, soil degradation, disrupted rainfall patterns and the changes in temperature associated with climate change."

Dire predictions of waves of forced climate change "refugees" have been made for more than 20 years. In 1990, the [Intergovernmental Panel on Climate Change (IPCC)](http://www.guardian.co.uk/environment/ipcc) said that its greatest single impact might be on human migration – with millions of people displaced by shoreline erosion, coastal flooding and agricultural disruption.

Since then, [Lord Stern](http://www2.lse.ac.uk/GranthamInstitute/Home.aspx), [Christian Aid](http://www.christianaid.org.uk/Images/human-tide.pdf) and environmentalists like [Norman Myers](http://en.wikipedia.org/wiki/Norman_Myers) predict that by 2050 between 200 million and 1 billion people could be displaced primarily because of environmental degradation linked to climate change.

In fact, says Tacoli, non-environmental factors largely determine the duration, destination and composition of migrant flows. "Temporary migration is more likely to be directed towards urban centres, and increasingly towards smaller towns. Young people also move to towns, with boys as young as 14 going to work in construction and services such as watchmen," she says.

### Migration is good – it strengthens the economy and helps populations adapt to climate change – the aff predictions are alarmist and hurt the poor

Vidal 11 – John Vidal, environment editor for the Guardian, February 4th, 2011, "Climate change not expected to lead to mass cross-border migration," <http://www.guardian.co.uk/global-development/poverty-matters/2011/feb/04/climate-climate-refugees>

Far from being a loss to local economies, Tacoli found that when people do move internationally they often invest back in their home regions, strengthening the economy and actually reducing people's vulnerability to climate change.

"Both the relatively common internal migration and the relatively rare international migration can support poor people who are at risk from climate change," she says. "Migration is part of the solution, not part of the problem as many people think."

"There is a danger," she says, "that alarmist predictions will backfire and result in policies that marginalise the poorest and most vulnerable groups. Governments often view migrants as a problem and either provide little support or actively discourage them from moving."

Unfortunately, most governments and international agencies tend to see migration as a problem that needs to be controlled instead of a key part of the solution.

"In doing so, they are missing opportunities to develop policies that can increase people's resilience to climate change. Policymakers need to redefine migration and see it as a valuable adaptive response to environmental risks and not as problem that needs to be tackled," says Tacoli.

"We need rational, realistic responses to climate-change, not knee-jerk reactions that create new problems and increase vulnerability."

### **Multiple alt causes to migration**

Brown 8 – Oli Brown, International Organization for Migration (IOM) Migration Research Series, 2008, "Migration and Climate Change," <http://www.migrationdrc.org/publications/resource_guides/Migration_and_Climate_Change/MRS-31.pdf>

Migration, even forced migration, is not usually just a product of an environmental “push” from a *climate process* like sea level rise. Except in cases of *climate events*, where people flee for their lives, it does require some kind of “pull”: be it environmental, social or economic. There has to be the hope of a better life elsewhere, however much of a gamble it might be. Past environmental migratory movements, such as in the US Dust Bowl years in the 1930s (see Box 3), suggest that being able to migrate away from severe climatic conditions, in this case prolonged drought, requires would-be migrants to have some “social and financial capital” such as existing support networks in the destination area and the funds to be able to move. 46

It also should be mentioned, and this is absent from much of the campaigning literature, that climate change will make some places *better able* to sustain larger populations. This is particularly reflected in predictions for less-severe total temperature rises, i.e. 2 to 3ºC over the 21st century rather than rise of 4 to 5 degrees or more. This is for three main reasons. First, higher temperatures will likely extend growing seasons and reduce frost risk in mid to high-latitude areas such as Europe, Australia and New Zealand and make new crops viable (already vineyards are spreading north in Britain).47 Second, the “fertilization effect” of more CO2 in the atmosphere is predicted to increase crop yields and the density of vegetation in some areas.48 And third, altered rainfall patterns mean that rain might increase in areas previously suffering water stress. A 2005 study, for example, predicts that a warmer north Atlantic and hotter Sahara will trigger more rain for the Sahel.49 It is not inconceivable then that there might be migration in order to take advantage of the effects of climate change.

In other words, climate change might provide both “push” and “pull” for some population displacement. This is not to downplay the seriousness of climate change: above 4 or 5ºC the predicted impacts of climate change become almost universally negative.50 But it is to make that point that the role of climate change in population displacement is not a linear relationship of cause and effect, of environmental “push” and economic “pull”.

Non-climatic drivers remain a key variable. It is, after all, population growth, income distribution and government policy that push people to live on marginal lands in the first place. In other words a community’s vulnerability to climate change is not a constant – it can be increased or decreased for reasons that have nothing to do with greenhouse gas emissions.51 In this sense it is the non-climatic drivers (that put vulnerable people in marginal situations) that can be as important a determinant of the problem as the strength of the “climate signal” itself.

As Steve Lonergan of the University of Victoria, Canada, noted in 1998, “there is too often an uncritical acceptance of a direct causal link between environmental degradation and population displacement. Implicit in these writings is the belief that environmental degradation—as a possible cause of population displacement—can be separated from other social, economic or political causes. It must be recognized that the degradation of the environment is socially and spatially constructed; only through a structural understanding of the environment in the broader political and cultural context of a region or country can one begin to understand the “role” it plays as a factor in population movement”.52

# \*\*\*A2 CLIMATE CHANGE IMPACTS\*\*\*

## A2 Climate Change Impacts --- Africa Water Shortages

### **Climate change does not cause water shortages in Africa, and Africa is not drying up**

UPI 7-13 – UPI, July 13th, 2011, "African drought not tied to climate change," <http://www.upi.com/Business_News/Energy-Resources/2011/07/13/African-drought-not-tied-to-climate-change/UPI-90011310558193/#ixzz1S0BSo8OA>

NAIROBI, Kenya, July 13 (UPI) -- The worst drought to hit the Horn of Africa in more than 60 years is likely the result of strong seasonal weather phenomenon in the region, scientists say.

U.N. officials are warning that those living in the region, particularly in Somalia, are facing starvation because of lingering drought that is expected to last for much of the year.

The United Nations' humanitarian news agency IRIN notes, however, that global climate change isn't the likely culprit.

Philip Thornton, a scientist splitting his duties between Kenya's International Livestock Research Institute and Scotland's Institute of Atmospheric and Environmental Sciences, said the idea that parts of Africa are drying up is wrong.

"Some people think that East Africa is drying and has dried over recent years," he told the news agency. "Currently there is no hard, general evidence of this and it is very difficult as yet to see where the statistical trends of rainfall in the region are heading but these will of course become apparent in time."

## A2 Climate Change Impacts --- Biodiversity

### Biodiversity loss is inevitable, even if there is no further warming

Thomas 5-5 Chris D. Thomas, department of biology, University of York, UK, May 5th, 2011, "Translocation of species, climate change, and the end of trying to recreate past ecological communities," <http://www.sciencedirect.com/science/article/pii/S0169534711000504>

In more heavily transformed and disturbed regions, conservation goals often shift towards maintaining or restoring biodiversity in ‘semi-natural habitats’ and ‘cultural landscapes’ [[33]](http://www.sciencedirect.com/science/article/pii/S0169534711000504" \l "bib0160), [[34]](http://www.sciencedirect.com/science/article/pii/S0169534711000504" \l "bib0165) and [[35]](http://www.sciencedirect.com/science/article/pii/S0169534711000504" \l "bib0170). Traditional land management, such as hunters using fire, herders grazing domestic livestock, or woodsmen cutting trees on a rotational basis, has been carried out for hundreds or even thousands of years, but has largely been abandoned where these activities are no longer economic. Conservationists and governments replicate these activities, directly and through subsidies, to maintain traditional habitats and the rich biodiversity associated with them [[33]](http://www.sciencedirect.com/science/article/pii/S0169534711000504" \l "bib0160), [[34]](http://www.sciencedirect.com/science/article/pii/S0169534711000504" \l "bib0165), [[35]](http://www.sciencedirect.com/science/article/pii/S0169534711000504" \l "bib0170) and [[36]](http://www.sciencedirect.com/science/article/pii/S0169534711000504" \l "bib0175). This can be important in regions where some of the species are entirely reliant on anthropogenic habitats, their original pristine habitats having long since been destroyed. However, as species change their distributions and abundances with the climate, the historic management of a particular region will no longer deliver the historic community composition. One cannot restore the historical biota associated with traditional management, in a given locality.

The changes are substantial. Recently observed rates of change in the distributions of species are sufficiently high [[37]](http://www.sciencedirect.com/science/article/pii/S0169534711000504" \l "bib0180) to bring about distributional changes of similar magnitude to the major distribution and community changes of the past, with novel biological associations emerging under different climatic conditions [[38]](http://www.sciencedirect.com/science/article/pii/S0169534711000504" \l "bib0185). Time delays between the onset of environmental change and the stabilisation of novel communities are apparent for range changes during the past 40 years [[7]](http://www.sciencedirect.com/science/article/pii/S0169534711000504" \l "bib0035) and over thousands of years for responses to Holocene warming [[39]](http://www.sciencedirect.com/science/article/pii/S0169534711000504" \l "bib0190). Rapid climate change sets up disequilibria between distributions and climate that might take centuries or millennia to stabilise; hence, dynamic changes to the distributions of species are already inevitable for a substantial period, even if there were to be no further warming (unrealistic as that is).

## **A2 Climate Change Impacts --- Water Wars**

### No water wars – based on faulty Malthusian arguments

Allouche 11 – Jeremy Allouche, Institute of Development Studies, UK, January 2011, "The sustainability and resilience of global water and food systems: Political analysis of the interplay between security, resource scarcity, political systems and global tradestar, open," Food Policy, Volume 36, Supplement 1, January 2011, Pages S3-S8, http://www.sciencedirect.com/science/article/pii/S0306919210001272

The question of resource scarcity has led to many debates on whether scarcity (whether of food or water) will lead to conflict and war. The underlining reasoning behind most of these discourses over food and water wars comes from the Malthusian belief that there is an imbalance between the economic availability of natural resources and population growth since while food production grows linearly, population increases exponentially. Following this reasoning, neo-Malthusians claim that finite natural resources place a strict limit on the growth of human population and aggregate consumption; if these limits are exceeded, social breakdown, conflict and wars result. Nonetheless, it seems that most empirical studies do not support any of these neo-Malthusian arguments. Technological change and greater inputs of capital have dramatically increased labour productivity in agriculture. More generally, the neo-Malthusian view has suffered because during the last two centuries humankind has breached many resource barriers that seemed unchallengeable.

### Their evidence is only alarmist – comprehensive studies disprove their impact

Allouche 11 – Jeremy Allouche, Institute of Development Studies, UK, January 2011, "The sustainability and resilience of global water and food systems: Political analysis of the interplay between security, resource scarcity, political systems and global tradestar, open," Food Policy, Volume 36, Supplement 1, January 2011, Pages S3-S8, http://www.sciencedirect.com/science/article/pii/S0306919210001272

Lessons from history: alarmist scenarios, resource wars and international relations

In a so-called age of uncertainty, a number of alarmist scenarios have linked the increasing use of water resources and food insecurity with wars. The idea of water wars (perhaps more than food wars) is a dominant discourse in the media (see for example [Smith, 2009](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0315)), NGOs ([International Alert, 2007](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0175)) and within international organizations ([UNEP, 2007](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0340)). In 2007, UN Secretary General Ban Ki-moon declared that ‘water scarcity threatens economic and social gains and is a potent fuel for wars and conflict’ ([Lewis, 2007](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0195)). Of course, this type of discourse has an instrumental purpose; security and conflict are here used for raising water/food as key policy priorities at the international level.

In the Middle East, presidents, prime ministers and foreign ministers have also used this bellicose rhetoric. Boutrous Boutros-Gali said; ‘the next war in the Middle East will be over water, not politics’ (Boutros Boutros-Gali in [Butts, 1997](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0060), p. 65). The question is not whether the sharing of transboundary water sparks political tension and alarmist declaration, but rather to what extent water has been a principal factor in international conflicts. The evidence seems quite weak. Whether by president Sadat in Egypt or King Hussein in Jordan, none of these declarations have been followed up by military action.

The governance of transboundary water has gained increased attention these last decades. This has a direct impact on the global food system as water allocation agreements determine the amount of water that can used for irrigated agriculture. The likelihood of conflicts over water is an important parameter to consider in assessing the stability, sustainability and resilience of global food systems.

None of the various and extensive databases on the causes of war show water as a casus belli. Using the International Crisis Behavior (ICB) data set and supplementary data from the University of Alabama on water conflicts, Hewitt, Wolf and Hammer found only seven disputes where water seems to have been at least a partial cause for conflict ([Wolf, 1998](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0360), p. 251). In fact, about 80% of the incidents relating to water were limited purely to governmental rhetoric intended for the electorate ([Otchet, 2001](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0260), p. 18).

### Scarcity leads to cooperation – no water wars

Allouche 11 – Jeremy Allouche, Institute of Development Studies, UK, January 2011, "The sustainability and resilience of global water and food systems: Political analysis of the interplay between security, resource scarcity, political systems and global tradestar, open," Food Policy, Volume 36, Supplement 1, January 2011, Pages S3-S8, http://www.sciencedirect.com/science/article/pii/S0306919210001272

As shown in The Basins At Risk (BAR) water event database, more than two-thirds of over 1800 water-related ‘events’ fall on the ‘cooperative’ scale ([Yoffe et al., 2003](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0365)). Indeed, if one takes into account a much longer period, the following figures clearly demonstrate this argument. According to studies by the United Nations Food and Agriculture Organization (FAO), organized political bodies signed between the year 805 and 1984 more than 3600 water-related treaties, and approximately 300 treaties dealing with water management or allocations in international basins have been negotiated since 1945 ([[FAO, 1978]](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0095) and [[FAO, 1984]](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0100)).

The fear around water wars have been driven by a Malthusian outlook which equates scarcity with violence, conflict and war. There is however no direct correlation between water scarcity and transboundary conflict. Most specialists now tend to agree that the major issue is not scarcity per se but rather the allocation of water resources between the different riparian states (see for example [[Allouche, 2005]](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0015), [[Allouche, 2007]](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0020) and [[Rouyer, 2000]](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0290)). Water rich countries have been involved in a number of disputes with other relatively water rich countries (see for example India/Pakistan or Brazil/Argentina). The perception of each state’s estimated water needs really constitutes the core issue in transboundary water relations. Indeed, whether this scarcity exists or not in reality, perceptions of the amount of available water shapes people’s attitude towards the environment ([Ohlsson, 1999](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0250)). In fact, some water experts have argued that scarcity drives the process of co-operation among riparians ([[Dinar and Dinar, 2005]](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0090) and [[Brochmann and Gleditsch, 2006]](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0055)).

In terms of international relations, the threat of water wars due to increasing scarcity does not make much sense in the light of the recent historical record. Overall, the water war rationale expects conflict to occur over water, and appears to suggest that violence is a viable means of securing national water supplies, an argument which is highly contestable.

### Alt causes to water conflict

Allouche 11 – Jeremy Allouche, Institute of Development Studies, UK, January 2011, "The sustainability and resilience of global water and food systems: Political analysis of the interplay between security, resource scarcity, political systems and global tradestar, open," Food Policy, Volume 36, Supplement 1, January 2011, Pages S3-S8, http://www.sciencedirect.com/science/article/pii/S0306919210001272

What seem to be emerging, in fact, is that geographical scale and intensity of conflict are inversely related. However, water-related conflicts are caused more by the way in which water use is governed than by water scarcity (see for example the ongoing tensions between landowners and poorer peasants in the Chittoor District, India, over the lowering of the water table). The outcome of local conflicts tends to reflect societal problems. The evidence that countries engage in wars specifically over water is poor but there is little doubt that water conflicts are common at the inter-sector, inter-community, inter-farm and inter- (and intra-) household levels. Access and control over water, political power, and social and gender relations are the major drivers causing water crises, especially at the local level (see for example [Mehta, 2005](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0225)).

### Climate change is not the driver of conflict – wars will be settled diplomatically

Allouche 11 – Jeremy Allouche, Institute of Development Studies, UK, January 2011, "The sustainability and resilience of global water and food systems: Political analysis of the interplay between security, resource scarcity, political systems and global tradestar, open," Food Policy, Volume 36, Supplement 1, January 2011, Pages S3-S8, http://www.sciencedirect.com/science/article/pii/S0306919210001272

Overall, it seems clear that perceived resource scarcity is not an adequate explanation for war at the international level. At the national level, water and food insecurity are relatively important factors in the causes of civil wars. At the local level, water scarcity and food insecurity may lead to local political instability and sometimes violent forms of conflict. Armed conflict creates situation of emergency food and water insecurity and has a long-term impact on post-conflict societies. In the near future, it seems that despite climate change, international resource wars are unlikely and resource allocation will be settled through diplomatic negotiation and perhaps most importantly international trade as will be discussed in the next section.

Global water and food systems and international trade

Debates on resource scarcity and conflict have ignored the role of trade in both causing and addressing local and regional shortages. In the case of food and water, this has led to conclusions that are highly questionable. Indeed, food security has essentially been addressed through national water availability and ignores the spectacularly successful benefits of international trade, in this particular case food imports ([Allan, 2001](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0010)). Water availability is often hidden in international trade. Countries with more water are able to trade water-intensive goods for export. Water embedded in traded crops has been termed ‘virtual water’ and trade in virtual water has been suggested as a way to alleviate water shortages. However, the limit of this logic should be recognized in that global trade is based on broader political and economic factors rather than on water.

Through global trade, one can observe an overall increase in terms of food security between 1970 and 1990. The greatest improvements were in North Africa and the Middle East, moderate change in Asia and Oceania and Latin America, and a decline in Sub-Saharan Africa. A number of specialists emphasize the need for free international trade in order to assure global food security, as it enables supply and demand to be balanced across regions ([Godfray et al., 2010](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0130)). Global trade therefore is seen as a solution to the ‘equality’ problem as it enables food security as defined by the FAO (namely when “all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” – as defined at the 1996 World Food Summit, [FAO, 1996](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0105)). Although it has been acknowledged that free markets usually penalize the poorest who have the least influence on how global markets are structured and regulated (see [Anderson, 2009](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0030) and [Aksoy and Beghin, 2005](http://www.sciencedirect.com/science/article/pii/S0306919210001272" \l "b0005)), alternatives have usually been dismissed.

### Water shortages do not cause wars – limited to local conflicts

Allouche 11 – Jeremy Allouche, Institute of Development Studies, UK, January 2011, "The sustainability and resilience of global water and food systems: Political analysis of the interplay between security, resource scarcity, political systems and global tradestar, open," Food Policy, Volume 36, Supplement 1, January 2011, Pages S3-S8, http://www.sciencedirect.com/science/article/pii/S0306919210001272

Conclusion

This article has provided an overview of the current and future challenges in terms of global food and water systems. The major focus of the argument has been on how resource scarcity is a contested and subjective concept which cannot fully explain conflict, political instability or food insecurity. The politics of inequality and allocation are much more important variables in explaining water and food insecurity. This is particularly true for conflicts. Although resource scarcity has been linked to international wars, the current data shows that most conflict over water and food are much more local. But there again, although resource scarcity can be linked to malnutrition, hunger and water insecurity, in the majority of cases, water and food insecurity are rarely about competition over resources but rather reflect the politics of allocation and inequality. In this respect, war and conflicts aggravate these insecurities not just on the short term but also on the long term.

At the global level, food security has considerably improved and provides the means to address these insecurities. Trade can certainly be seen as a way to address access for countries that are under severe stress in terms of food and water and provides logical grounds for questioning the various water and food wars scenarios. Although global trade and technological innovation are key drivers in providing stable and resilient global systems, the most destabilizing global water-related threat is increasing food prices and hunger. Overall, decision-makers should show greater concern for the human beings who make their living in agriculture, so that those at risk of livelihood and food-security failures, especially under anticipated scenarios of climate change, will be less deprived. Current debates linked to global food security and climate fail to address the political dimension of resource scarcity which is primarily linked to the politics of inequality, gender and power.

# \*\*\*A2 ECONOMY ADD-ON\*\*\*

## A2 Economy --- Status Quo Solves

### **Current NASA solar shield efforts protect the energy grid**

Dillow 10 – Clay Dillow, October 28th, 2010, "NASA is Building a 'Solar Shield' to Protect Power Grids from Space Weather," http://www.popsci.com/technology/article/2010-10/nasa-building-solar-shield-protect-power-grids-space-weather

But NASA has a plan to battle these blackouts with blackouts. If transformers are offline at the time the storm hits they will not be affected, so the trick is to figure out where and when a storm is going to hit before it reaches the atmosphere. To do that, NASA’s SOHO and two STEREO spacecraft identify a coronal mass ejection (CME) heading toward earth and create a 3-D image of it, allowing researchers to characterize its strength and determine when it will hit.

Depending on the intensity of the CME, the trip from sun to Earth can take 24-48 hours. NASA would track the CME across the sky, with the pivotal moment coming about 30 minutes prior to impact when the storm comes screaming past the ACE spacecraft, something like 930,000 miles from Earth. Sensors aboard ACE gather more data on the storm’s speed, magnetic field, and density that is fed into computer models at NASA’s Goddard Space Flight Center.

With less than 30 minutes until impact, NASA’s models calculate the places most likely to be impacted with dangerous GIC and utilities are notified so they can pull their grids offline. This will cause a blackout in the region, but only a temporary one. When the storm ends, the grids come back online and life goes on.

## A2 Economy --- Weather Satellites Fail

### Weather monitoring satellites are inaccurate

Kirk-Davidoff et al. 5 – Daniel B. Kirk-Davidoff Department of Meteorology, University of Maryland, Richard M. Goody and James G. Anderson, Division of Engineering and Applied Science, Harvard University, 2005, "Analysis of Sampling Errors for Climate Monitoring Satellites," Journal of Climate, Volume 18, Issue 6, March 2005, pg. 810-822, http://journals.ametsoc.org/doi/full/10.1175/JCLI-3301.1

Satellites designed for weather prediction are generally placed in sun-synchronous orbits because of the need to emphasize changes occurring on time scales of a few days. However, the canonical meteorological constellation of three sun-synchronous satellites clearly compromises climate investigations. Averages for individual climate regions can show large errors, which are only partially reproducible from year to year. However, if repeatable errors can be eliminated (using spectrally resolved data taken from geostationary orbit), or if zonal means can be taken, annual mean sampling errors of less than 0.2 K are feasible for three sun-synchronous satellites. Error corrections along the lines of [Mears et al. (2003)](javascript:popRef2('i1520-0442-18-6-810-Mears1')) and [Vinnikov and Grody (2003)](javascript:popRef2('i1520-0442-18-6-810-Vinnikov1')) may further reduce these errors, though such corrections are vulnerable to model deficiencies.

# \*\*\*A2 NASA ADD-ON\*\*\*

## A2 NASA --- NASA Not Key to Soft Power

### **NASA cannot mobilize soft power – it’s too divided and distracted**

Dinerman 9 – Taylor Dinerman, author and journalist, June 15th, 2009, "NASA and soft power, again," <http://www.thespacereview.com/article/1396/1>

Translating achievements into soft power is the work of thousands of creative cultural entrepreneurs. These people cannot be conjured up out of nothing; they have to exist within a supportive social environment. It was the lack of this environment that doomed George W. Bush’s rather weak efforts to enlist America’s soft power on behalf of his pro-democracy agenda.

NASA and the space industry, on the other hand, do have a supportive network amongst the creative elite. They have not been able to mobilize it effectively due to obvious divisions and distractions. For example, the industry has been able to put together a coalition for space exploration, but is has yet to make much of an impact due to its Washington-centric focus. A support system based on new ideas would concentrate on building and mobilizing support from the people who make movies, TV shows, and videogames.

Beyond this, soft power is often seen as a tool or instrument of foreign policy. Thinking of it this way seriously handicaps any policymaker who wants to use it as a part of American strategy. This simply will not work. One might as well try and tie up a package with silly string rather than twine. Yet soft power can be created by involving other nations in challenging, difficult, and rewarding programs like the International Space Station.

## A2 NASA --- Soft Power --- Alt Cause

### **Multiple alt causes to soft power like Iraq and Afghanistan – climate change is not key**

Rothman 11 – Steven B. Rothman, PhD, is an assistant professor at Ritsumeikan Asia Pacific University, currently researches and publishes in the areas of international relations theory, soft power, 2011, "Revising the soft power concept: what are the means and mechanisms of soft power?" Journal of Political Power, Volume 4, Issue 1, 2011, 49-64, http://www.tandfonline.com/doi/full/10.1080/2158379X.2011.556346

As a negative example, we can look at areas in which the US is not successful and determine to what extent these policies or cultural aspects are attractive to other countries in the world. Soccer, for example, is not one of the US strongest sports, and rarely does the US team enter the final rounds of the World Cup. One of the US sports not accepted by Europeans and others around the World is the coverage of US soccer teams. Similarly, US climate change policy, the rejection of the International Criminal Court, rejection of the Landmine Convention, and other issues do not increase US influence in foreign countries.

Similarly, the general failure of policies in the first Iraq war to stem Hussein’s aggression, the failure of the US policy of state‐building in the second Iraq war and in Afghanistan has driven other countries away from US foreign policy culture. The Pew Global Attitudes Project shows a marked decline in support for the US in British, French, German, Spanish, and other countries since 2002 (PewResearchCenter 2010). These favorability ratings increased in 2009 and 2010. Although it is difficult to suggest a single cause of these changes, one might attribute the changes to the most dominant international policy of the time for the US – the wars in Afghanistan and Iraq, neither of which was highly successful. After Obama’s election and the movement to remove troops and end conflict in Iraq, these ratings increased. It is unlikely that these changes are due simply to the difference between the Democrat president and the Republican president because favorable ratings occurred in 2000 and 2002 for many countries before the decline. The Bush administration’s desire to spread democracy through force has not been attractive to other populations. Coinciding with unfavorable attention toward these policies by western Europe and others is the fact that the US foreign policies in the Middle East region have generally been unsuccessful at achieving policy goals.

## A2 NASA --- Soft Power --- Causes Resentment

### **Soft power fails – it is not a replacement for military force, and causes resentment and backlash**

Gray 4-8 Dr. Colinn S. Gray is Professor of International Politics and Strategic Studies at the University of Reading, England. He worked at the International Institute for Strategic Studies (London), and at Hudson Institute (Croton-on-Hudson, NY) before founding the National Institute for Public Policy, a defense-oriented think tank in the Washington, DC, area. Dr. Gray served for 5 years in the Reagan administration on the President’s General Advisory Committee on Arms Control and Disarmament. He has served as an adviser to both the U.S. and British governments. April 8th, 2011, "Hard Power and Soft Power: The Utility of Military Force as an Instrument of Policy in the 21st Century," <http://www.strategicstudiesinstitute.army.mil/pubs/display.cfm?pubid=1059>

The first of the three questions posed above all but invites a misleading answer. Nye plausibly offers the co-option of people rather than their coercion as the defining principle of soft power.38 The source of possible misunderstanding is the fact that merely by conjuring an alternative species of power, an obvious but unjustified sense of equivalence between the binary elements is produced. Moreover, such an elementary shortlist implies a fitness for comparison, an impression that the two options are like-for-like in their consequences, though not in their methods. By conceptually corralling a country’s potentially attractive co-optive assets under the umbrella of soft power, one is near certain to devalue the significance of an enabling context. Power of all kinds depends upon context for its value, but especially so for the soft variety. For power to be influential, those who are to be influenced have a decisive vote. But the effects of contemporary warfare do not allow recipients the luxury of a vote. They are coerced. On the other hand, the willingness to be coopted by American soft power varies hugely among recipients. In fact, there are many contexts wherein the total of American soft power would add up in the negative, not the positive. When soft power capabilities are strong in their values and cultural trappings, there is always the danger that they will incite resentment, hostility, and a potent “blowback.” In those cases, American soft power would indeed be strong, but in a counterproductive direction. These conclusions imply no criticism of American soft power per se. The problem would lie in the belief that soft power is a reliable instrument of policy that could complement or in some instances replace military force.

## A2 NASA --- Soft Power --- Fails

### **Soft power fails – states will do what is in their own best interests**

Rothman 11 – Steven B. Rothman, PhD, is an assistant professor at Ritsumeikan Asia Pacific University, currently researches and publishes in the areas of international relations theory, soft power, 2011, "Revising the soft power concept: what are the means and mechanisms of soft power?" Journal of Political Power, Volume 4, Issue 1, 2011, 49-64, http://www.tandfonline.com/doi/full/10.1080/2158379X.2011.556346

The above discussion demonstrates one potential mechanism for the perpetuation of soft power via the diffusion of norms. This generally rests on the successfulness of the policy or idea to accomplish the goals – not only of the state wielding soft power, but also the potential success of the target state. Because norm diffusion occurs through competing norms until one becomes clearly dominant against all others, there is less control over the process by each state. States will pursue policies they believe are successful for their goals, and if those policies are successful, the policy will become attractive to others seeking similar goals and most likely adopted by them. The state and policy‐makers have less control over this process because they cannot control the alternative norms that appear to compete against their own. In addition, states will attempt to make their policies or culture successful regardless of what other norms are competing, so it is not clear that states can always use potential soft power resources. Once a policy becomes perceived as ineffective or unsuccessful in international politics, states would rather reject such a policy rendering the soft power resource obsolete.

### **The benefits of soft power are exaggerated – soft power fails because it cannot be applied in specific instances like hard power**

Gray 4-8 Dr. Colinn S. Gray is Professor of International Politics and Strategic Studies at the University of Reading, England. He worked at the International Institute for Strategic Studies (London), and at Hudson Institute (Croton-on-Hudson, NY) before founding the National Institute for Public Policy, a defense-oriented think tank in the Washington, DC, area. Dr. Gray served for 5 years in the Reagan administration on the President’s General Advisory Committee on Arms Control and Disarmament. He has served as an adviser to both the U.S. and British governments. April 8th, 2011, "Hard Power and Soft Power: The Utility of Military Force as an Instrument of Policy in the 21st Century," <http://www.strategicstudiesinstitute.army.mil/pubs/display.cfm?pubid=1059>

Thus, soft power does not lend itself to careful regulation, adjustment, and calibration. What does this mean? To begin with a vital contrast: whereas military force and economic pressure (negative or positive) can be applied by choice as to quantity and quality, soft power cannot. (Of course, the enemy/rival too has a vote on the outcome, regardless of the texture of the power applied.) But hard power allows us to decide how we will play in shaping and modulating the relevant narrative, even though the course of history must be an interactive one once the engagement is joined. In principle, we can turn the tap on or off at our discretion. The reality is apt to be somewhat different because, as noted above, the enemy, contingency, and friction will intervene. But still a noteworthy measure of initiative derives from the threat and use of military force and economic power. But soft power is very different indeed as an instrument of policy. In fact, I am tempted to challenge the proposition that soft power can even be regarded as one (or more) among the grand strategic instruments of policy.

The seeming validity and attractiveness of soft power lead to easy exaggeration of its potency. Soft power is admitted by all to defy metric analysis, but this is not a fatal weakness. Indeed, the instruments of hard power that do lend themselves readily to metric assessment can also be unjustifiably seductive. But the metrics of tactical calculation need not be strategically revealing. It is important to win battles, but victory in war is a considerably different matter than the simple accumulation of tactical successes. Thus, the burden of proof remains on soft power: (1) What is this concept of soft power? (2) Where does it come from and who or what controls it? and (3) Prudently assessed and anticipated, what is the quantity and quality of its potential influence? Let us now consider answers to these questions.

# \*\*\*A2 OCEANS ADD-ON\*\*\*

## A2 Oceans --- Resilient

### **The oceans are resilient**

Balbulus & Fitzgerald 6 – John Balbulus, MD, Health Program Directory, \*\*AND Timothy Fitzgerald, scientist, March 24th, 2006, "Ensuring a future supply of healthy fish and omega-3s," <http://www.bmj.com/content/332/7544/739/reply>

Breaking downward cycles in fisheries requires altering the short- term economic incentives that stem from current management systems, which push fishermen to maximize today's catch at the expense of future populations and ecosystem health. Luckily, the oceans are resilient and inherently capable of providing far more fish than they currently do.

### **The Gul Oil Spill proves the oceans are resilient and can bounce back**

Handwerk 11 – Brian Handwerk, National Geographic News, April 19th, 2011, "Gulf Oil Spill Anniversary: Resilience Amid Unknowns," http://news.nationalgeographic.com/news/2011/04/110420-gulf-oil-spill-anniversary-year-later-science-nation-environment/

On the first anniversary of the Gulf oil spill, scientists caution that it could take years to understand the full scope of the disaster. (See photos of the Gulf oil spill in National Geographic magazine.)

But many are encouraged because the damage could have been far worse—and nature is already showing signs of resilience.

On April 20, 2010, a massive explosion rocked the Transocean oil rig Deepwater Horizon, a state-of-the art mobile offshore drilling platform at work on a well in the Gulf of Mexico. Eleven workers were killed by the blast and survivors had just minutes to flee an inferno that would soon burn and sink the rig.

The accident unleashed a torrent of oil that began roaring from an underground Macondo reservoir into the Gulf waters. During the first few frantic days of the BP crisis that became the worst oil spill in U.S. history, experts had a hard time determining what was happening—much less what the spill's ultimate environmental and economic consequences might be.

(See satellite pictures of the Gulf oil spill's evolution.)

As people around the world fixated on oil spewing from a pipe 1 mile (1.6 kilometers) beneath the Gulf's surface, scientists clambered to discern just how much was gushing out. Estimates climbed from 1,000 barrels a day to 12,000 barrels to 62,000 barrels a day. Even less certain was how the damaged wellhead would finally be plugged—and for a while, people feared the leak could continue for years. Authorities finally capped it in July.

A spill that started with the tragic loss of life soon wrought major environmental devastation over huge region of the Gulf. Disturbing images appeared daily of oiled wildlife, iridescent surface slicks, overwhelmed cleanup workers, fouled beaches, burning oil fires, and blackened wetlands.

The damage from nearly five million barrels of oil was very real, yet many expert predictions missed their marks. Hurricanes didn't drive enormous quantities of oil ashore, giant dead zones didn't materialize, and oil didn't round the tip of Florida to rocket up the East Coast via the Gulf Stream. Fisheries now appear poised to rebound instead of suffering the barren years or decades some feared. And Mother Nature had her own surprises in store, showcasing an ability to fight back against the spill and, later, to bounce back from the damage—at least in the short-term.

# \*\*\*A2 SOIL EROSION ADD-ON\*\*\*

## A2 Soil Erosion --- Alt Cause to Soil Erosion

### Alt cause to soil erosion – crop subsidies

**Person 5** (Stacey, J.D. Candidate, Georgetown University Law Center, Georgetown International Environmental Law Review, Winter)

Subsidy programs have also generally encouraged monoculture, or raising the same crop year after year on the same plot of land, because benefits are tied to crop yields on a specified acreage planting base. 36 Large scale monoculture contributes to soil erosion and consumes water and energy in large amounts. Monoculture also depletes nutrients in the soil because the same crop drains a particular nutrient from the soil year after year without any opportunity for replenishment. Nutrient depletion forces farmers to intensify their use of fertilizers in order to get maximum yields of single commodity program crops. 37 In addition to increased use of fertilizers, farmers must also increase their use of pesticides because erosion and nutrient depletion of the soil increase the vulnerability of plants to diseases and pests. 38 These pesticides and fertilizers are the leading causes of contaminated surface waters. Another consequence of the current farm program structure is that it favors certain crops. Rather than developing naturally, agricultural markets develop solely in specialized sectors for subsidized crops because those sectors are where farmers reap the most economic gain. 39 Farmers must also invest more and more in subsidized sectors due to those crops being less risky. 40 This specialization and non-natural development of agricultural markets causes environmental harm by contributing to monoculture and making it financially uncertain for farmers to diversify because markets for alternative crops are poorly defined. 41 Generally, the types of crops the farm program encourages are row crops rather than fields of grasses, which could be used to feed livestock, in addition to corn, soybeans, and wheat. 42 Grasslands create a better habitat for wildlife, prevent soil erosion, and require fewer agricultural chemicals; but some economists estimate that thirty million acres of grassland have been shifted to cropland as a result of farm program policy benefits accruing only to specified commodities. 43 There are also large federal subsidy programs dedicated to supporting and developing farm irrigation infrastructure and supply. 44 These subsidies encourage [\*313] increased demand for overuse of groundwater sources, leading to such environmental catastrophes, such as desertification, destruction of natural springs with their wildlife habitats, and saltwater intrusion. 45

## **A2 Soil Erosion --- US Not Key to International Action**

### **US leadership not key to international environmental action**

Falkner 5 – Robert Falkner, Department of International Relations, London School of Economics, 2005, "American Hegemony and the Global Environment," International Studies Review, Volume 7, Issue 4, pages 585-599

Scholars of international environmental politics have objected to this line of thinking for two reasons. At an empirical level, several cases can be cited in which environmental regimes have been created and developed irrespective of, and even against, the interests of the great powers and especially the hegemon. Oran Young (1994:117) has pointed to the bargaining regarding the deep seabed provision of the 1982 Convention on the Law of the Sea, in which the United States was unable to prevail over other countries, and the 1990 London Amendments to the Montreal Protocol on Substances that Deplete the Ozone Layer, which included provisions that the United States did not want to see as part of the Protocol. One can add to this the case of the 1997 Kyoto Protocol on climate change, which was adopted despite severe US reservations and entered into force in February 2005. More recently, the Cartagena Protocol on Biosafety was adopted in 2000 and entered into force in 2003; this protocol was achieved despite US obstinacy (Falkner 2000). These cases suggest that it has been possible at least to reach agreement on international environmental issues without full US support or even against active US opposition. Of course, whether international regimes created against the interests of hegemons stand a chance of being effective cannot be taken for granted. But it is widely accepted that the experience with international environmental policymaking in the twentieth century does not support the claim that hegemony is a necessary condition for regime formation.

At a conceptual level, structural accounts emphasizing the role of hegemons have been criticized for providing only a partial explanation of international cooperation at best or for ignoring the issue-specific characteristics of international environmental politics. Young (1994) has argued that the question of transferability or substitutability of different forms of power limits the applicability of hegemonic theory in the field of environmental protection. The United States may be the unrivaled military superpower at the beginning of the twenty-first century, but “there is little reason to believe that military power has much relevance in the negotiations of … environmental regimes” (Young 1994:136). In a similar vein, Gareth Porter and Janet Welsh Brown (1996:15) state:

Global environmental politics do not give rise to a hegemonic power in the traditional sense of a state with the ability to use military power to coerce other states into accepting the hegemon's position. There is no positive correlation between dominant military power and leadership on global environmental issues—and there may be a negative correlation between the two in that high levels of military spending divert financial resources from environmental issues.

Given the empirical anomalies and conceptual limitations of hegemonic theory, it is not surprising to find most environmental scholars looking for other, nonstructural accounts of environmental regime building. In his review of recent scholarship on global environmental politics, Ronald Mitchell (1998) accords only marginal value to hegemony in explaining regime formation. While acknowledging that regimes can be imposed by hegemonic states or that weaker states may perceive certain regimes as imposed, Mitchell (2003:505) asserts that “structural power provides less explanatory leverage than realists might have us believe.” Michael Zürn (1998:625), in his review of recent scholarship on international environmental politics, likewise dismisses the notion that hegemonic power plays a major explanatory role. In accounting for the rise of international environmental regimes and governance, the majority of environmental scholars have used neoliberal institutionalist, cognitivist, or transnationalist arguments (Haas 1990; Haas, Keohane, and Levy 1993; Wapner 1996). When structural arguments enter the analysis, they usually do so with regard to the distribution of interests and issue-specific power resources in a given policy field, but less so with regard to the basic structure of the international system and its conditioning effect on interstate relations.

# \*\*\*POLITICS\*\*\*

## Politics --- Link --- Congressional Opposition

### **Satellites will meet political opposition because of the cost**

Hasson 9 Judi Hasson, April 8th, 2009, "Obama satellite plan faces Capitol Hill push back," <http://www.fiercegovernmentit.com/story/obama-satellite-plan-faces-capitol-hill-push-back/2009-04-08>

President Obama's plan to replace aging spy satellites is meeting some resistance in Congress because of the cost. The administration said this week that it wants to purchase expensive new spy satellites for the long run, but in the short term buy commercial imagery from the private sector to fill gaps in coverage. The proposal is designed to replace a failed satellite program led by Boeing that ran into delays and cost overruns.

Sen. Christopher Bond (R-MO), a member of the Senate Intelligence Committee, urged the administration to hold off on its plan.

"The amount of resources this acquisition will consume is very large and the savings from selecting a cheaper but equally effective alternative could be applied to meet other critical intelligence shortfalls," Bond said in a letter to the White House.

The fight involves big government money for high technology companies, including giant defense contractor Lockheed Martin. The government already spends tens of millions of dollars a year on private imagery from firms, including DigitalGlobe of Colorado and GeoEye of Virginia. And it is always looking for better ways to enlist high-tech for national intelligence.

## Politics --- Link --- Political Capital

### **Climate satellites sap political capital**

Smith 6-4 Marcia Smith, June 4th, 2011, "Congress Not Convinced JPSS Need Is Urgent," <http://www.spacepolicyonline.com/pages/index.php?option=com_content&view=article&id=1617:congress-not-convinced-jpss-need-is-urgent&catid=67:news&Itemid=27>

Tara Rothschild, a staff member of the subcommittee on Energy and Environment of the House Science, Space and Technology (HSS&T) Committee, agreed that priority setting ultimately is the issue, but provided deeper insight into Congress's mindset.   While asserting that Congress does recognize the need for weather satellites, she revealed that some Members of Congress do not believe NOAA's contention that there will be a weather satellite data gap.   Even NOAA couches its warnings by saying a gap is "very likely" or "almost certain" since the projection is based on statistics on how long these satellites operate, but many satellites work years beyond their design lifetime.   Even if there is a gap, Rothschild continued, it will not be until 2015-2016 and on Capitol Hill everyone is focused on today:  "it's about right now," she stressed.  
Rothschild's message was that the Administration needs to help Congress determine priorities. When Congress asks executive branch agencies what is most important, she said, they usually reply that all of their programs are important.  "When everything is important, nothing is important," she remarked, "We can't fund it all."  
The possibility of commercial providers stepping into the weather satellite business was broached as an option.   Some instruments could fly as hosted payloads on unrelated satellites, for example, or weather satellites could follow the lead of the commercial remote sensing industry with guaranteed government data buys as the cornerstone of their business.  
The [1992 Land Remote Sensing Policy Act](http://www.nesdis.noaa.gov/CRSCMP/1992%20LRSPA.pdf) (P.L. 102-555) prohibits the commercialization of government weather satellites.  It does not appear to preclude the government from buying commercial weather satellite data, however.  
Meanwhile, NOAA is requesting $1.1 billion for JPSS in FY2012, the same increase Congress just rejected for FY2011.   Rothschild said that she had not seen any indication yet from House appropriators as to what they plan to do with the request.   With Republicans demanding deep budget cuts in exchange for raising the debt ceiling, it is clear that NOAA and the White House have their work cut out for them in convincing Congress that JPSS is a priority worthy of such an increase.