

Beyond 'Rounding Up the Usual Suspects:'
Identifying New, Unexpected Allies in the Struggle for Climate Policy

Andrew Szasz
Department of Environmental Studies
University of California at Santa Cruz

(ROUGH DRAFT: Please note that some sections are more developed, at this point, than others. Also, please excuse incomplete citations and mixed citation formats)

The Problem: Climate Denial; Policy Stalemate and Paralysis

Just recently, on March 30th of this year, the Intergovernmental Panel on Climate Change issued its latest summary of “Climate ... Impacts, Adaptation, and Vulnerability.”¹ The report warned of massive, disruptive societal impacts, some already being seen, soon to dramatically worsen.

A mere one day later, on March 31st, *The Hill*'s on line headline read, “UN climate report changes little on Hill.”² Sen. James Inhofe (R-Okla.) opined that “The IPCC report is another effort to scare people into believing in man-made global warming.” He said it was “a distraction from real problems in the world.” On Fox News, Bill O'Reilly “accused climate change activists of wanting to ‘destroy [the] economy or allow villains like Putin to blackmail with his fossil fuels’ based on a ‘phantom global warming theory’ when ‘no one knows whether it’s true.’”³

Scientists with hair on fire; politics polarized and paralyzed; stalemated by conservative climate “skeptics.”

The Rise of Climate “Skepticism”

In the past decade, Americans’ concern about climate change first rose sharply, then fell equally quickly. The high point was reached sometime around 2007 or 2008, with the appearance of Al Gore's film an inconvenient truth, and the publication of the fourth series of reports by the intergovernmental panel on climate change (IPCC). By 2009, though, new polls showed that the percent of Americans who agreed that there is “solid evidence” for climate

¹ <http://www.ipcc.ch/report/ar5/wg2/>

² <http://thehill.com/blogs/e2-wire/202259-un-climate-report-brings-no-change-to-political-winds>

³ <http://thinkprogress.org/climate/2014/04/02/3421636/fox-news-ipcc/>

change had fallen from 71% to 57% (Pew 2009b). The percent agreeing that climate change is caused by human activity fell from 47% to 36% (Pew 2009b). What percent believe global warming has already begun? In 2007, 61%; in 2009, 53% (Saad 2009). Worry a “great deal” or a “fair amount” about it? 66% to 60% (*Ibid*). Do you believe it is going to be a serious threat in your lifetime? 40% to 38% (*Ibid*). Does media exaggerate the problem? In 2007, 33% said yes; in 2009, 41% (*Ibid*). Should it be one of the government’s top priorities? In 2008, 35% said yes; in 2009, 30% (Pew 2009a).⁴

Undoubtedly, this reversal was, in great part, a result of the deep recession that started in late 2008, a downturn that, for many Americans, brought economic troubles that trumped most other concerns, especially those, like climate change, that seem remote and somewhat abstract. The decline in media coverage of climate change, well documented (Brulle, 2009; ClimateProgress.org, 2011), also certainly contributed.

One can, finally, cite the influence of an organized backlash by so-called "climate skeptics." By “skeptics” I am referring to the whole range of actors, from conservative think tanks, to a handful of scientists and others considered to be “experts” who are repeatedly sought out for quotes that demonstrate that not 100% of scientists believe in climate change,⁵ to conservative Republican Party leaders and Tea Party activists, to Fox News hosts and right wing talk radio, to what appears to be a mass of enraged bloggers on the web. The message of skepticism is daily repeated from the heights of Congressional hearings to the depths of flurries of “comments” on websites where climate news is posted.

⁴ Polling data needs to be updated. It tells a mixed story: Although a majority of Americans acknowledge that climate change is real and is serious, they don’t seem particularly worried about it. Rebecca Riffkin, “Climate Change Not a Top Worry in U.S.,” (Gallup Poll) March 12, 2014

⁵ See, for example, Oreskes and Conway, Merchants of Doubt, 2011.

Climate denial is in ascendance. Without exception, Republicans who were newly elected to Congress in 2010 all say that they are skeptical of climate science; they say they do not believe that climate change is a serious issue. They are ready to block further policy initiatives and intent on rolling back what has already been accomplished (for instance the EPA's recently-declared intention to regulate greenhouse gases under the authority of the Clean Air Act). In 2014, in response to the President's declared intent to bypass Congress and move on climate via administrative/executive directives, the GOP is gearing up for the fall elections with the claim that they are fighting an "imperial" Presidency.

Opinion polls show that skepticism is deeply rooted, having become a core feature of the "culture war" phenomenon in American political culture, where it is lumped together with, and gains considerable rhetorical force from being associated with, issues such as immigration, gun rights, abortion, gay marriage, opposition to Big Government, etc.⁶

Responses to Skepticism Ineffective, To Date

Scientists and social scientists have tried to respond to skepticism in a variety of ways. Social scientists have identified the network of funding that supports climate denial or climate skepticism, tracing the flow of money from the petrochemical industry in the coal industry to conservative think tanks (Dunlap, 2000; McCright and Dunlap, 2000; Dunlap and McCright, 2010).⁷ Environmental sociologists such as Bill Freudenberg and Riley Dunlap have described the "who" and the "how" of climate denial, and, more generally, the rhetoric and tactics used to

⁶ McCright, Aaron M., and Riley E. Dunlap. 2011. "Cool Dudes: The Denial of Climate Change among Conservative White Males in the United States." *Global Environmental Change* 21:1163-1172.

⁷ Most recent contribution to this literature is Robert J. Brulle, "Institutionalizing delay: foundation funding and the creation of U.S. climate change counter-movement organizations," [Climate Change](#), published on line December 21, 2013.

delegitimate scientific findings that threatened powerful economic actors and their political allies (Freudenburg and Muselli, 2010; McCright, 2007; McCright and Dunlap, 2010).

Natural scientists have also attempted to respond to climate denial. The first and most frequently seen strategy is simply to continue to do the science and published the findings. A review of the scientific literature suggests that evidence since the 2007 wave of IPCC publications has, at the very least, confirmed earlier findings and in many cases have suggested that the rate of climate change is much faster than previously thought and that the impacts of that change are going to be, if anything, far worse than depicted in earlier studies.

This strategy, usually so reliable in a culture that has long venerated Science, has not worked well. To cite just one example, NOAA, the National Oceanographic and Atmospheric Administration a few months ago published a review of recent literature that shows every indicator of climate change going in the expected direction (Arndt, et al, 2010). That is, when models of climate change predict temperatures going up, they in fact go up. When the models predict a shrinking of ice in the Arctic, that shrinkage is in fact observed. In the face of overwhelming evidence, the website's comment section was immediately hammered by skeptics who, without hesitation, immediately dismissed the metastudy as nothing but "junk science."

Some scientists have tried to delegitimate "skeptics" by marshalling evidence that they are poor at science, hence their views shouldn't be taken seriously. Steve Schneider, a leading climate scientist, for example, helped author a paper (Anderegg, et al, 2010) in which the citation counts of climate scientists are compared to the citation counts of deniers. The data are quite clear. Climate scientists' citations are impressive; deniers' citations are few and far between. This may be compelling evidence to those who believe in the culture of peer-reviewed science, but do not persuade anyone, such as the typical "skeptic," who thinks that scientists, a self-

interested lot willing to do what it takes, to the point of falsifying their data, if that's what it takes to control the scientific discourse and perpetuate the flow of exorbitant federal research funding, are in cahoots with leftish activists who want to use the call to reduce greenhouse gas emissions as the pretense for what they really want, to find reasons for the Government to intrude itself into average citizens' lives.⁸

A few years ago, some scientists proposed to form Rapid Response Teams that could be mobilized to quickly respond to and to refute claims by the denier community. More recently Michael Mann, co-creator of the (in)famous "hockey stick" 1000 year temperature chart, has used a lawsuit to fight back against defamatory attacks on his work.

So far, none of these strategies have had much success, in part, certainly, because climate denial is caught up in and is merely one element of a larger conservative political/ideological current now sweeping through American political culture.

Broadening the Climate Coalition?

I wish, here, to explore the potential for a different strategy. Instead of trying to delegitimize the skeptics directly, could scientists and activists who feel the urgency to move forward on the issue before conditions really get out of hand (i.e., on the order of a decade, if one listens to scientists like J Hanson), consider, instead, forging alliances with other forces in American society who, for their own reasons, are equally terrified of the potential impacts of doing nothing? The search for new allies might lead in unexpected directions, toward outreach to some who, at first glance, seem unlikely allies.

What would one look for when looking for such new potential allies?

⁸ Reminiscent of older accusations that environmentalists are "watermelons:" Green on the outside; Red on the inside.

The initial criterion would have to be that such actors have either *already expressed* concern about climate change or they have a clearly identifiable *objective* interest in recognizing and dealing proactively with climate change – i.e. climate change, unchecked, is a clear threat to their core interests. Applying that criterion, I initially identified three such actors: the American military establishment and national security apparatus; the insurance industry; and major faith communities in the U.S.

Objective interest is only a necessary condition, however. To be a candidate to be considered a potential ally, one also has to plausibly believe that *subjective* conditions for coalition building may also exist. Let's say, for example, that we determine that the American national security apparatus has a clear interest in policy that addresses climate change. Is it conceivable, though, that its core organizations would ever be willing to link hands with, say, 350.org?

The rest of this paper, then, is divided into three sections. The first assesses the interests of these various actors, to see if any of them meet the first criterion. The second then asks: what are these actors actually doing now? The third begins to think about the likelihood that any of these actors may, in the near future, be willing to turn more activist in climate politics? Data exists for us to come to clear conclusions in the first two sections. The discussion in part three is necessarily speculative.

Part I: Potential allies, based on “objective” interests

A The National Security Apparatus and the American Military on Climate Change

I first consider the American military establishment and the American national security apparatus. Readily available, public documents show that both the military and the national

security apparatus were, by 2007, completely convinced that global climate change has serious national security implications. These documents show, furthermore, that that concern has not diminished in the least since. That is, while the “skeptical” movement has had a marked effect on levels of public concern, compromising it to a significant degree, the military and the national security establishment have been unaffected by the politics of climate denial and quite clearly continue to express deep concerns about the future of American national security if climate change is left to play out without serious intervention.

I begin with two early, exemplary texts, the Center for Naval Analyses’s pioneering study, “National Security and the Threat of Climate Change” (2007), and the National Intelligence Council’s National Intelligence Assessment (Fingar, 2008). These documents are published at what now appears to be the high point of public interest in and concern about climate change. One important question to ask: Would the military and the intelligence community be affected by the rise of “skepticism” in 2009 and 2010? To answer that question, I also examine a set of documents from those more recent years.

Center for Naval Analyses (CNA), 2007

The Center for Naval Analyses is a Federally Funded Research and Development Center. It has been doing “operations research and analysis,” mostly for the Navy, since WWII (Wikipedia). Its study of the national security implications of climate change was published under the signatures of eleven members of CNA’s Military Advisory Board, all eleven retired Admirals and Generals with long, distinguished careers in the Army, the Navy, the Air Force and the Marine Corps. These retired senior officers say their approach was to learn from the scientists:

“We ... realized, however, that we were not scientists. ... We did not really know the science, but we were curious, we could study, and we could listen to briefings.” (General Charles Wald, 2010:275)

“We have drawn information from the Intergovernmental Panel on Climate Change (IPCC), peer-reviewed scientific literature, and data, reports, and briefings from various respected sources, including the National Academy of Sciences, National Oceanic and Atmospheric Administration, National Air and Space Administration, and the United Kingdom’s Hadley Centre for Climate Change.” (CNA, 2007:56)

The report mostly focuses on the likely consequences of climate change for vulnerable societies around the world and on how those consequences are likely to be felt as national security issues at home. Under the heading, “The Destabilizing Impacts of Climate Change,” the report discusses: reduced access to water; reductions in agricultural production; the spread of infectious diseases to new regions, new populations; coastal flooding, land loss and displacement of population (pp. 13-16). It then spells out the social/political consequences: failed states; terrorism; mass migrations; conflicts over scarce resources (pp. 16-18). The report then offers more detailed analyses of potential impacts in strategically important regions of the globe, Africa (20-23), Asia (24-27), the Middle East (30).

The report’s major finding/conclusion:

“climate change poses a serious threat to America’s national security. The predicted effects ... include extreme weather events, drought, flooding, sea level rise, retreating glaciers, habitat shifts, and the increased spread of life-threatening diseases. These conditions ... [have] the potential to create sustained natural and humanitarian disasters ... [that] will likely foster political instability... [Climate change will] seriously exacerbate already marginal living standards in many Asian, African, and Middle Eastern nations, causing widespread political instability and the likelihood of failed states. ... as food production declines, diseases increase, clean water becomes increasingly scarce ... large populations move in search of resources. Weakened and failing governments, with an already thin margin for survival, foster the conditions for internal conflicts, extremism, and movement toward increased authoritarianism and radical ideologies.” (p. 6; emphasis added)

If one were to look for the single “takeaway” message of the report, it would be:

“Climate change acts as a *threat multiplier* for instability in some of the most volatile regions of the world.” (p. 6, emphasis added)

Finally, for the sake of completeness, I note that although the report devotes most attention to impacts on other societies, there is, in addition, a discussion of potential impacts directly on US weapons systems, military installations, fighting capabilities (37-40).

National Intelligence Assessment, 2008

In 2003, the CIA asked two consultants to author a think piece on the national security implications of sudden climate change. That piece, Schwartz and Randall, 2003, depicted a potential future in which crop yields fall 10-15% and there are “catastrophic shortages of water (p. 14).” Such conditions would “pose a severe risk to political, economic and social stability (p. 5).” The world would become “increasingly disorderly and potentially violent (p. 2) ... humanity would revert to its [earlier] norm of constant battles for diminishing resources. ... Once again warfare would define human life (pp. 16-17).”

Stark as that paper was, it was a stand-alone, one-off piece until 2007-08, when Congress directed the National Intelligence Council (NIC), the federal government’s leading national security agency, to include climate change in its next National Intelligence Assessment (Mazzetti, 2008). That Assessment, completed the next year, was CLASSIFIED, but its main findings were reported in Congressional testimony by Dr. Thomas Fingar, Deputy Director of National Intelligence for Analysis and Chairman of the National Intelligence Council.

In language similar to what we read in the CNA report, Fingar states that NIC “depended upon open sources ... outside expertise. Since the Intelligence Community does not conduct climate research, we began our effort by looking for other US government entities that

were experts in this area. ... Our primary source for climate science was the United Nations Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report, which we augmented with other peer-reviewed analyses and contracted research.” (Fingar, 2008:2)

Fingar testified, without qualification, that

“current scientific observations indicate the Earth’s climate is changing ... Many physical and biological systems are changing in ways consistent with the present warming trend.” (Ibid:5) In fact, he said, things look worse than the predictions that had been made by IPCC just two years earlier: “In some cases, changes ... are occurring faster and with larger magnitude than scientists anticipated as recently as ten years ago.” (Ibid:6)

Speaking for the national intelligence community, Fingar testified:

“We judge global climate change will have wide-ranging implications for US national security interests over the next 20 years. ... We judge that the most significant impact for the United States will be indirect and result from climate-driven effects on many other countries ... ” (Ibid:4)

Climate change will bring food shortages. “Water will become increasingly scarce across several regions.” (Ibid:6) Africa and Asia, already on the brink, will be especially hard hit. “We judge that sub-Saharan Africa will continue to be the most vulnerable region to climate change because of multiple environmental, economic, political, and social stresses. ... climate change is likely to cause agricultural losses ... yields from some rainfall dependent crops could be reduced by up to 50 percent by 2020.” (Ibid:8)

“South, Southeast, and East Asia will face risks of reduced agricultural productivity ... increased risk of floods and drought. ... extreme weather events. ... as many as 50 million additional people could be at risk of hunger by 2020. ... 120 million to 1.2 billion people will continue to experience some water stress.” (8-9)

Other regions of the world of strategic importance to the U.S., such as Latin America and the Middle East, will also be adversely affected (10-12).

Overall, climate change

“will worsen existing problems – such as poverty, social tensions, environmental degradation, ineffectual leadership, and weak political institutions. Climate change could threaten domestic stability.” (4-5)

Although these impacts will be felt most directly in

“the struggling and poor states in Sub-Saharan Africa, the Middle East, and Central and South Asia ... the *spillover* – from potentially increased migration ... – could have a

harmful global impact.” (13) “We judge that economic refugees will perceive additional reasons to flee their homes. ... Many likely receiving nations will have neither the resources nor interest to host these climate migrants.” (14) “the United States will need to anticipate and plan for growing immigration pressures.” (16; italics added by me)

Fingar, at one point, observes that US economic welfare (different from but with implications for national security), in the broadest sense, will be impacted by climate change:

“The United States depends on a smooth-functioning international system ensuring the flow of trade and market access to critical raw materials such as oil and gas, and security for its allies and partners. Climate change ... could affect all of these – domestic stability in a number of key states, the opening of new sea lanes and access to raw materials, and the global economy more broadly – with significant geopolitical consequences.” (p 7)

Fingar ends with a call for more, better science:

“From an intelligence perspective, the present level of scientific understanding of future climate change lacks the resolution and specificity we would like for detailed analysis at the state level. ... We require improved and better validated regional and local models. (18) ... The continued use of outside experts is critical to our success.” (19).

The Military, 2007 to 2010

In 2007, the same year CNA, the Center with deep links to the Navy, published its study, the Strategic Studies Institute of the US Army War College sponsored a colloquium on the same topic (Strategic Studies Institute, 2007; Kempf, 2007; Eilpenin, 2007). Has the military’s concern about climate change been affected by the rise of climate “skepticism” since then? The documentary evidence says it has not.

In 2009, retired high-ranking Admirals and Generals, some who are members of CNA’s Military Advisory Board (McGinn, 2009a, 2009b; Sullivan, 2009), others affiliated with other national security Projects (Gunn, 2009; Powers, 2009), testified repeatedly, in both House and Senate Committee hearings, about the gravity of the threat. General Sullivan told the House Committee on Energy and Commerce that in the two years since CNA had issued its report

“we’ve seen no evidence to contradict those findings. In fact, we’ve only seen them reinforced.”
 (Sullivan, 2009:1) ... climate change is occurring at a much faster pace than the scientists
 previously thought it could.” (ibid:2)

Admiral McGinn, another CNA advisor, told the Committee that:

“the information is not as ambiguous as some may want to believe. The science community has clear consensus in concluding that human activities are the most significant cause of climate change. There is no disagreement in peer-reviewed literature. Every major professional science society and organization in the world has issued powerful statements to this effect.” (McGinn, 2009b:2)

“Last month, global climate researchers revised [their] predictions, now forecasting that the planet could warm by as much as 6.3 degrees Fahrenheit by the end of the century ... a much faster and broader scale of change than the IPCC forecast just two years ago.”
 (Ibid:3)

McGinn then repeated what the CNA had written about probably impacts in some of the more volatile regions of the world, Africa, South and Central America, Bangladesh, the Middle East.

Admiral Gunn, president of the American Security Project, testified to much the same effect. Food and water shortages; spread of tropical diseases; weakened marginal states; conditions that will create masses of climate refugees and “incubate extremism.” (Gunn, 2009:1)

“climate change threatens unrest and extremism as competition for dwindling resources, especially water, spreads. Weak or poorly functioning governments will lose credibility and the support of citizens. ... extremism will increasingly find willing recruits.” (Ibid:2)

“Climate change,” Gunn concludes, “poses a clear and present danger to the United States of America.” (Ibid:4)

Powers, chief operating officer of the Truman National Security Project, also testified, repeating many of these same themes (Powers, 2009).

On a more practical level, in 2009 the Navy formed a Task Force devoted solely to understanding the implications of climate change for naval operations (Freeman, 2009; Titley, 2010a:31).

When one considers the evidence from 2010, one sees continuity (even as “skepticism” enjoys increasingly popularity in national political discourse).

Climate change is prominent in in the Department of Defense (DoD)’s 2010 “Quadrennial Defense Review Report,” as is the question of energy security and the links between these two issues.

In March, 2010 the CNA and the Johns Hopkins Applied Physics Laboratory cosponsored a symposium on climate and security (JHop/CNA workshop, 2010). Let’s consider just a few of the presentations:

* Rear Admiral David Titley, Oceanographer of the Navy, discusses: how changes in sea level and in precipitation will impact agriculture in Vietnam, China, India (Titley, 2010a:37) and how acidification of the ocean will affect the “billion people who get their protein from the ocean.” (37-38); how the Navy’s bases, facilities will be impacted world-wide by rising seas, storm surge, extreme weather (37); how the disappearance of ice in the Arctic will mean new challenges for the Navy in that part of the world (31-36).

* Captain Al Collins, appearing for the Commander of USSOUTHCOM, discusses the military’s role in humanitarian assistance and disaster relief following the earthquake in Haiti, using that as an example for the kinds of challenges that the military will have to cope with as climate change brings more and more intense disasters to vulnerable populations in Latin America (Collins, 2010).

* Lieutenant Colonel O. Kent Stader, Deputy Chief, Strategic Concepts Branch, Strategy and Policy Division of USNORTHCOM discusses, too, the challenge of a changing Arctic and also how climate change is going to impact DoD facilities (Stader, 2010).

* Colonel James Welton, Deputy Director for Programs in the Strategy, Plans, and Programs Directorate of USAFRICOM states that “Africa is almost universally seen as the continent most at risk for climate-induced conflict.” (309) The continent that has a “history of resource-related, ethnic, and political conflict” (309) and it is a place where “Natural disasters over the past 50 years have [already] had devastating impacts to populations.” (310). “Food security, which is already a humanitarian crisis in many areas of Africa, is likely to be further aggravated and exacerbated by climate change.” (311). “The thin line between security and insecurity and stability and instability will be affected by climate change and the ability of African populations and governments to adapt.” (315) What are the national security implications? “Africa is a continent of vast resources, strategic minerals, and energy sources. It is indeed in the U.S. national interest to ensure access to markets of all the global commodities that are necessary in today’s world to support our standard of living.” (312)

In 2010 we also see new evidence that the military is actively cooperating with climate scientists, thereby hoping to get from the scientists better climate models, models better able to predict impacts at a scale more fine-grained, so that it (the military) can better prepare for future impacts (Morello, 2010).

“the Navy is actively leveraging interagency, international, and academic partnerships to ensure it has access to the best science.... in coordination with ... the National Science and Technology Council’s Roundtable on Climate Information and Services, co-chaired by the Office of Science and Technology Policy, the National Oceanic and Atmospheric Administration, and the U.S. Geological Survey and the U.S. Global Change Research Program’s National Climate Assessment.” (Titley, 2010b:7)

Finally, in the two months immediately before the time I am writing this draft, military men, Admiral Titley, the Navy’s Oceanographer, Admiral McGinn of the CNA, retired General Wesley Clark, were on Capital Hill warning Congressmen to take seriously the national security implications of climate change (Titley, 2010b; McGinn, 2010b; Clark, 2010; Zabarenko, 2010).

The Intelligence Community, 2008 to 2010

Immediately following the 2008 National Intelligence Assessment, the NIC announced that it would next turn to more detailed studies of climate impacts on six strategically vital countries or regions, China, India, Russia, North Africa, Mexico/the Caribbean, and Southeast Asia/Pacific Island States (NIC, 2008c). Still in 2008, NIC published two very substantial reports, “Global Scenarios to 2025,” (NIC, 2008a) and “Global Trends 2025: A Transformed World,” (NIC, 2008b). The first reports the results of a year-long planning exercise in which teams of experts developed three possible scenarios for how world history may unfold between now and 2025. The first of these scenarios, “Borrowed Time,”

“describes a world following a path that, without major changes, leads to an unsustainable future ... Governments [prove] incapable of finding creative solutions to newer problems (e.g., climate change, global terrorism). Short-term, stopgap solutions to problems requiring a long-term commitment are ineffective. Lack of global leadership

only worsens conditions. ... The result is a world that is ill-equipped to deal with complex global dilemmas.” (NIC, 2008a:9)

The clear implication is that climate *is* a problem that, if it to be dealt with effectively, calls for concerted, coordinated multi-nation response.

The second NIC policy document from 2008 repeats earlier NIC warnings that food and water, already a significant problem in much of the world, will only worsen if there is no meaningful intervention to deal with climate change (NIC, 2008b).

The same themes were restated the following year, when Dennis Blair, Director of National Intelligence, testified in front of the Senate Select Committee on Intelligence (Blair, 2009). Blair told the Committee that the intelligence community has been increasingly focused on the issue in the past year. He testified that the

“IC [intelligence community] judges climate change will have important and extensive implications for US national security interests over the next 20 years. ... [Outside the U.S., climate change] “will worsen existing problems such as poverty, social tensions, environmental degradation, ineffectual leadership, and weak political institutions. ... threaten domestic stability in some states, ... particularly over access to increasingly scarce water resources. We judge economic migrants will perceive additional reasons to migrate because of harsh climates, both within nations and from disadvantaged to richer countries.” Blair, 2009:42)

Furthermore, said Blair, climate change will impact U.S. national security in this way, too:

“The United States depends on a smooth-functioning international system ensuring the flow of trade and market access to critical raw materials such as oil and gas, and security for its allies and partners. Climate change could affect all of these – domestic stability in a number of key states, ... access to raw materials, and the global economy more broadly – with significant geopolitical consequences.” (Ibid:42-43)

The House of Representatives heard similar testimony from James Woolsey, former director of the CIA and, at the time of his testimony, Annenberg Distinguished Fellow at the Hoover Institution (Woolsey, 2009).

In 2009, too, the CIA opened a Center on Climate Change and National Security (CIA, 2009) and in 2010 the CIA revived a program that fostered sharing of data between intelligence and the environmental science community (program had been shut down by the Bush Administration) (Broad, 2010).

Moving forward to 2010, the intelligence community remained unmoved by increasing climate skepticism among conservative Republicans. The documents available from that year, speeches and Powerpoint presentations by Rich Engel, Director of NIC's Climate Change and State Stability Program (Engel, 2010a, 2010b) and NIC's newest report, "Global Governance 2025: At a Critical Juncture," (2010) all simply reiterate the NIC's earlier analyses.

Observations

From these documents one can draw the following observations: (1) The military and the national security establishment does not question either the reality or the gravity of impending climate change. They do not question the science. They repeatedly state that they are not experts or scientists, and they have not, and are not planning to, do their own science but that they are relying on open source, non-classified, peer-reviewed science, in general, and on the 2007 IPCC reports, specifically (and on findings published since the 2007 IPCC process, findings which consistently report faster climate change than previously thought, more dire consequences). Not a hint of doubt about the climate science community's findings. If anything, the military and the national security types want more precise information from the scientific community, better, more fine-grained models so they can better prepare for trouble. (2) The military and the national security establishment will have no truck with climate denial. Their assessments have been consistent and clear, even as climate denial grips the blogs, talk radio, the Tea Party and the ever-more-conservative GOP Senators and Representatives.

Some “skeptics” simply assert, baldly, that claims that the climate is changing or that greenhouse gases are raising global temperatures are just wrong (and, in some statements, to be explained by leftish political motives or by scientists’ interests in being awarded large research grants). Others in the skeptic camp offer more subtle arguments such as: climate change, to the degree that it is occurring, is due to natural variation in the Earth’s climate and not caused by human intervention; there is still great uncertainty in the science and it would be imprudent to rush to implement reforms that would cost US GDP hundreds of billions of dollars until and unless the case for climate change is proven beyond any shadow of doubt.

We have seen, already, that both the military and the intelligence community firmly reject any notion that climate change is not happening. Here is another categorical statement:

“I know that there remain some who are still not convinced by the science of climate change. I am convinced.” (Gunn, 2009:1)

And another:

“As I go around the country, I find that there are still a fair number of people who believe this is all some vast left-wing conspiracy, that climate change is a hoax. ... I hope to convince you that climate is in fact changing.” (Rear Admiral David Titley, Oceanographer of the Navy, 2010a:27)

They repeatedly state, simply and without qualification, that they (ie, both the military men and the spies) know they are not scientists, they don’t have the knowhow to do their own research, hence are depending on the work of climate scientists, as found in the reports of the IPCC, in the science being done in various U.S. government agencies, and as found in peer-reviewed scientific publications (CNA, 2007; Fingar, 2008; Engel, 2010a); Wald, 2010).

What about the more subtle forms of skepticism? Here, too, the military men and those in intelligence stand firm:

(1) statements that climate change is not just natural variation but is the result of human intervention:

“The science community has clear consensus in concluding that human activities are the most significant cause of climate change. There is no disagreement in peer-reviewed literature. Every major professional science society and organization in the world has issued powerful statements to this effect.” (McGinn, 2009b:2)

“Many remain to be persuaded by science that humans are at least contributing in important ways to the warming of the globe. I am not in that group.” (Gunn, 2009:1)

“Mr. Chairman, I realize there is not unanimity in the Congress on the issue of whether human activity – the destruction of rainforests, the burning of fossil fuels – contributes to climate change. I believe that it does, but not that human activity is the sole contributor to such change.” (Woolsey, 2009:2)

(2) statements that it doesn't, in the final analysis, matter if climate change is natural or is caused by an industrial economy fueled by coal, oil and natural gas:

“it is not necessary to believe that all climate change is caused by humans to believe that we may negatively affect the situation by our behavior. Even if the earth is in a warming trend due to natural causes we can make the problem worse by doubling or tripling the amount of CO₂ in the atmosphere. If an individual is genetically inclined to have lung cancer it is still not wise for him to decide to smoke five packs a day.” (Woolsey, 2009:3)

(3) statements that uncertainty is no excuse for inaction:

“As military leaders, we know we cannot wait for certainty. Failing to act because a warning isn't precise enough is unacceptable” (CNA, 2007:7)

“as military professionals [we are] accustomed to making decisions during times of uncertainty. ... We know that demanding 100% certainty during a crisis could be disastrous. ... This is not the time to either wait for 100% certainty or simply hope that our environment is not changing.” (Sullivan, 2009:2)

B. The Insurance Industry

With sales worldwide estimated to be about \$4.3 trillion, about 7 % of world GDP,⁹ insurance is the largest or close to the largest “industry” on Earth. Not every segment of it is

⁹ Liedtke, Schanz and Stahel, 2009:6.

vulnerable to climate change, but many important segments are. Firms insure property loss or personal injury caused by flood, wind, storm surge, etc. Even one such event can bring an insurance company down: “Following Hurricane Andrew ... the country’s largest homeowner property insurer, State Farm Fire & Casualty, was brought to the brink of insolvency, necessitating a rescue by its parent (State Farm Group).” (Mills, Lecomte and Pears, 2001:15)

The industry’s exposure to risk increases when extreme weather events are more frequent and/or when those events grow more severe and cause greater damage. Insurance publications often feature charts that graphically show a recent, marked trend toward more frequent and more costly weather-related events.¹⁰ Climate change is, as we know, predicted to keep increasing both the frequency and the severity of such events.

Raising premiums could be one answer, but raising those premiums high enough to match the greater (and ever growing) risk could mean raising prices so high that customers balk at buying insurance.¹¹

Worse, some observers point out that climate change could bring on conditions so drastically different from past experience that “Current catastrophe models, epidemiological assessments, and litigation risk models are likely not adequate to predict future risk.”¹² Hecht concludes, starkly, “Thus, many of the basic criteria of insurability are threatened by climate change.”¹³

¹⁰ Dlugolecki, 2009:3; Nutter, 2013.

¹¹ “In extreme cases, uncertainty will render a risk uninsurable [because it is] unable to be priced at a level palatable to customers.” (Hecht, 2008:1567). And: “If costs are high enough, there will be no price point that satisfies both the insurer and the consumer, and there will be no market for the insurance, rendering the risk essentially uninsurable.” (Ibid:1574)

¹² Ibid:1580.

¹³ Ibid:1581.

Some insurers still say they are agnostic about the *cause* of climate change,¹⁴ but no large insurance corporation or insurance trade group denies that climate change is real, that it is happening and that it is likely to have a major, one might venture the term “existential,” impact on them.

The clearest and most categorical statements come from the reinsurance segment of the industry, that is those firms that exist at a meta level in the industry, selling protection to other insurance companies who wish to protect themselves if they get into difficulty because they are suddenly liable for payouts that they can’t cover. I am referring to companies such as Swiss Re, Zurich Re, Geneva Re, Lloyd’s of London, and their trade group, The Geneva Association. From this sector, one can find many statements, position papers, publications that correspond to meetings of COP, the annual meeting of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC),¹⁵ the websites of individual reinsurance giants.¹⁶ A recent headline declares, “No climate-change deniers to be found in the reinsurance business,”¹⁷ and no surprise about that since, as Hecht observes, “The huge amount of risk held by a comparatively small number of reinsurers may explain why those companies have been the most proactive in addressing climate risks.” (2008:1585). The reinsurance sector not only completely “buys” the science, they can sound downright radical, as when one reads that their

¹⁴ “... the climate is changing ... But how much of this is due to natural phenomena and how much to the effects of human activity is a matter of debate.” Insurance Information Institute, “Climate Change: Insurance Issues,” April, 2010. “State Farm is concerned about the prospect of climate change ... [r]egardless of whether climate variations are the result of global climate change (or warming) or whether they are due to natural climate variability...” State Farm, “State Farm’s Position on Climate Change,” <http://www.statefarm.com/about/media/current/climate.asp>

¹⁵ Liedtke, Schanz and Stahel, 2009.

¹⁶ Dlugolecki, 2009; The Geneva Association, “The Insurance Industry and Climate Change, Contribution to the Global Debate, 2009; <http://www.munichre.com/en/group/focus/climate-change/index.html>;

¹⁷ Eric Reguly, “No climate-change deniers to be found in the reinsurance business,” The Globe and Mail, Nov. 28 2013.

ultimate goal is “to promote the successful conversion to a low-carbon economy and resilient society.”¹⁸

Instead of reviewing all the many past statements, websites, white papers, I will focus on one document, a statement by Franklin W. Nutter, President of the Reinsurance Association of America, “Climate Change: It’s Happening Now,” testimony at a hearing of the U.S. Senate Committee on Environment and Public Works, July 18, 2013.¹⁹

“Property casualty insurers are more dependent on the vagaries of climate and weather than any other financial services sector. Within the insurance sector, reinsurers have the greatest financial stake in appropriate risk assessment. The industry is at great financial peril if it does not understand global and regional climate impacts, variability and developing scientific assessment of a changing climate. Integrating this information into the insurance system is an essential function.

“Insurance ... must be proactive and forward-looking in a changing climate/weather environment.

“Our industry is science based.

“Developing an understanding about climate and its impact on droughts, heat waves, the frequency and intensity of tropical hurricanes, thunderstorms and convective events, rising sea levels and storm surge, more extreme precipitation events and flooding is critical to our role in translating the interdependencies of weather, climate risk assessment and pricing.

“Insurers see climate primarily through the prism of extreme natural events. ... In the 1980’s, the average number of natural catastrophes globally was 400 events per year. In recent years, the average is 1000. Munich Re’s analysis suggests the increase is driven almost entirely by weather-related events. North America has seen a fivefold increase in the number of such events since 1980.”

Nutter describes in detail the threat of storm damage for coastal communities:

“Research and consulting firm Core Logic reports there are 4.2 million homes along the Gulf and Atlantic coast exposed to storm surge—the most significant factor in damages associated with Superstorm Sandy. Most of these storm surge affected properties are in 10 metropolitan areas. One million of these are in the category of extreme risk to storm surge and another 839,000 in the high risk category. Core Logic notes that 23 of the 25 most populous U.S. counties are ocean-facing. ... Catastrophe modeling firm AIR

¹⁸ Liedtke, Schanz and Stahel, 2009:5.

¹⁹ Nutter, 2013.

estimates the insured value of coastal properties (defined as replacement cost not market value) is expected to increase at a rate of 7% per year which means that values would double every decade. Together with changes in weather patterns, intensity, and number of events, the result, of course, is an inevitable rise in insured and uninsured damages globally and in the U.S.”

Nutter goes on to describe other sorts of damage that are on the rise, from hurricanes, tornadoes, weather related crop loss, wildfires. He offers evidence that extreme events that occurred in earlier years would be far more costly if they were happening now – “projected future losses from past events that reflect rising exposures in areas proven to be at high risk to major climate/weather events.”

Nutter quotes Swiss Re:

“Today, global warming is a fact. Since the beginning of industrialization and the rapid growth of world population, man’s activities – along with natural variability – have contributed to a change of climate manifesting itself as a considerable increase in global temperature. Climate change has the potential to develop into our planet’s greatest environmental challenge of the 21st century.”

And he quotes Munich Re:

“Globally, climate change alone will increase worldwide losses by 100% by the end of the 21st century.”

C Major Faith communities in the US

I chose my third candidate, organized religion, on a somewhat different basis. Rather than following a hunch about “objective” interest, I was drawn to it when I was surprised to learn, in 2006, about a controversy in the Evangelical and Southern Baptist communities. Surprisingly (to me), a green movement had started in these otherwise politically conservative faith communities. Interest piqued, a team of undergraduates and I began to gather information on major U.S. religions’ expressed views, if any, on climate change. We then visited with and

interviewed clergy from a variety of Christian faiths to begin to learn what was happening “on the ground” or, more properly, “in the pews.”

Although we gathered information on a larger number of faiths, I am restricting my discussion here mostly to three, the Roman Catholic Church, the United Methodist Church (pretty well representing, I came to learn, the rest of the “mainline,” older Protestant churches, such as the Evangelical Lutheran Church in America, the Presbyterian Church, the Episcopal Church) and the largest conservative Christian faith communities (Southern Baptists and Evangelicals).

Before delving individually into what these faith communities are saying, I will observe that every religion that wishes to talk to adherents about environment, about climate, has to be able to articulate *why the issue is of legitimate concern for people of faith*. They can’t just say (as a lay organization might, “we understand the science; all of us need to be concerned”). As my co-authors and I argued, in the Conclusion to our book on religion and climate change,²⁰ church leaders have to do “discursive work” to show how sacred texts, generally held beliefs can be expanded/redefined to include environmental concern. As a general observation, applicable to the whole spectrum of Christian views, this has been done in two ways: First, since Nature is God’s creation, it is sacred and God wants us to respect it, protect it, not despoil it. Second, environmental degradation, climate change included, hurts the world’s poor first and worst; because Jesus spoke for the poor, the Christian faiths have a special obligation to protect the poor, and becoming environmentalists now seems to be an essential element of doing that.

Roman Catholic Church (Vatican; U.S.)

²⁰ Robin Globus Veldman, Andrew Szasz and Randolph Haluza-DeLay, eds., How the World’s Religions are Responding to Climate Change: Social Scientific Investigations, Routledge, 2013.

Benedict, the Pope who recently stepped down, and Pope Francis have both spoken repeatedly about the urgency of the environmental crisis. Benedict often took the opportunity, on World Peace Day, on Youth Day, to speak about protecting the environment and about climate change.²¹ His encyclical letter, “Caritas in Veritate,” (“Charity in Truth”) speaks eloquently about Catholics’ responsibility toward nature (although it is true that this doesn’t come up until page 32 ...). In a speech timed to correspond to the climate talks starting in Durban, South Africa in November, 2011, Benedict urged the world’s leaders to make real progress toward a climate treaty.²²

Pope Francis, in turn, has continued to Benedict’s emphasis on climate.²³

In the United States, Catholic Bishops spoke as early as 1993, when they authored “Renewing the Earth: An Invitation to Reflection and Action on Environment in light of Catholic Social Teaching.” In 2001, the Bishops wrote a pastoral letter on “Global Climate Change: A Plea for Dialogue, Prudence and the Common Good.”²⁴

Catholic statements acknowledge science but emphasize ethics:

“At its core, global climate change is not about economic theory or political platforms, nor about partisan advantage or interest group pressures. It is about the future of God’s creation and the one human family.”²⁵

The Catholic Climate Covenant (started as the Catholic Coalition on Climate Change in 2006), defines itself

²¹ catholicclimatecovenant.org/catholic-teachings/benedict-xvi/

²² John Thavis, “Pope urges international agreement on climate change,” National Catholic Reporter, November 28, 2011.

²³ <http://catholicclimatecovenant.org/catholic-teachings/pope-francis/>

²⁴ <http://www.usccb.org/issues-and-action/human-life-and-dignity/environment/global-climate-change-a-plea-for-dialogue-prudence-and-the-common-good.cfm>

²⁵ <http://catholicclimatecovenant.org/catholic-teachings/bishops/>

“as a catalyst, convener and clearinghouse that urges Catholic individuals, families, parishes, schools and other organizations to embrace and act on Catholic teaching as it relates to care for creation and climate change.”²⁶

The Covenant’s main activity, its “primary organizing tool” is the St. Francis Pledge to Care for Creation and the Poor. The Covenant’s website claims that “Over 10,000 Catholic individuals, families and parishes have taken the Pledge ... dozens of Catholic dioceses, religious communities, and colleges/universities have also taken the Pledge.” (Ibid)

The message from church leaders is clear. What Catholics in the United States have actually done, in response, is another matter, one which I will take up below.

The United Methodist Church

My students and I found quite a lot of similarity among the “mainline,” older Protestant churches. I will focus on the Methodists, the mainline Protestant church about which I have the most information. Consulting the websites of the Methodists leaves little doubt that the Church’s leadership is passionate about environment, about climate:

“The crisis facing God's earth is clear. We, as stewards, have failed to live into our responsibility to care for creation and have instead abused it in ways that now threaten life around the planet.

“The earth lies polluted under its inhabitants; for they have transgressed laws, violated the statutes, broken the ever-lasting covenant. *Isaiah 24, NRSV*

“The scientific consensus is clear that human activities are leading to a warming of the surface temperatures of the planet and the effects of this warming are being felt now and will be felt more intensely in years to come.

As a matter of stewardship and justice, Christians must take action now to reduce global warming pollution and stand in solidarity with our brothers and sisters around the world whose land, livelihood and lives are threatened by the global climate crisis.”²⁷

²⁶ <http://catholicclimatecovenant.org/about-us/>

²⁷ General Board of Church & Society of the United Methodist Church, statement on “Global Warming and Energy”

In 2008, the General Conference passed a Resolution on Global Warming.²⁸ Based on a review of the scientific evidence (from the IPCC and other sources), the Resolution ends:

“Now therefore, be it resolved, that as a global church community, we call on our members to reduce human-related outputs of greenhouse gases;

“Be it further resolved, that members should make an effort to learn about human production and release of greenhouse gases and evaluate their own lifestyles to identify areas where reductions in production and release of greenhouse gases can be made. There are many informative resources for learning how one can reduce his/her greenhouse-gas impact;

“Be it further resolved, that members should also work to make their own congregations more aware of the issue of global warming and create policies and practices which reduce greenhouse gas emissions from congregational infrastructure (church buildings, parsonages, vehicles, etc.);

“Be it further resolved, that members call on the nations of the world to require reductions in greenhouse emissions using the most efficient and cost-effective mechanisms;

“Finally, be it resolved, that members should also attempt to educate others outside their church communities on the need to take action on this issue.”

A year later, the UMC Council of Bishops followed up with a pastoral letter, “God’s Renewed Creation: Call to Hope and Action,” which starts:

“God’s creation is in crisis. We, the Bishops of the United Methodist Church, cannot remain silent while God’s people and God’s planet suffer. This beautiful natural world is a loving gift from God ... God has entrusted its care to all of us, but we have turned our backs on God and our responsibilities. Our neglect, selfishness, and pride have fostered: pandemic poverty and disease; environmental degradation, and the proliferation of weapons and violence. ... *God calls us and equips us to respond.*”

Such statements “at the top” are of course of great significance. The question that follows, then, is again: what, if anything, is happening “down” in the individual congregations?

Evangelicals; Southern Baptists

²⁸ <http://umc-gbcs.org/resolutions/resolution-on-global-warming-1031-2008-bor>

The mainline Protestant faiths are, today, politically liberal and have no issue, either, with science. More surprising to find green theology and green activism on the conservative side of the Christian faiths. But it is indeed there, though not without controversy. As documented by Zaleha and Szasz,²⁹ green evangelicals and Southern Baptists articulated their new theology around concepts such as “creation care” and “stewardship.” In 2006, the Evangelical Climate Initiative (ECI) issued an “Evangelical Call to Action.” The Call

“laid out four ‘claims’: 1) ‘Human-Induced Climate Change is Real and increasing international instability’; 2) ‘The Consequences of Climate Change Will Be Significant, and Will Hit the Poor the Hardest’; 3) ‘Christian Moral Convictions Demand Our Response to the Climate Change Problem’; and 4) ‘The need to act now is urgent’” (Ibid)

Years before the issue of climate change became a hot button issue for Southern Baptists, the SBC sought, through a series of resolutions passed at their annual meetings, to articulate its understanding of environmental “stewardship.”

The “Resolution on the Environment,” passed in 1970, reads like a straightforward, sympathetic appropriation of 1970-era Earth Day environmentalism with a Christian overlay. “God has created man to be a creature who needs clean air, pure water, and an environment which contributes to his general health,” but “man has created a crisis by polluting the air, poisoning the streams, and ravaging the soil.” Pollution is the newest manifestation of man’s fallenness: we are so sinful that we are destroying the conditions upon which we depend for our very survival. The Resolution ends on a positive note, urging “Christians everywhere to practice stewardship of the environment and to work with government, industry and others to correct the ravaging of the earth” (Southern Baptist Convention 1970).

²⁹ Chapter 14 in Veldman, Szasz and Haluza-DeLay, 2013.

The Resolution passed by the SBC four years later is quite similar. “God ... is the author of the universe [and He] views his creation as being very good. ... The Scripture confronts us with our responsibility to God as stewards.” But we have failed to conserve resources. We have been “selfish and nearsighted.” Christians must “assume ... responsibilit[y].” (Southern Baptist Convention 1974).

Such declarations show that notions of “creation care” and “stewardship” had been developing within the SBC for several decades. That laid the foundation, when the Evangelical Environmental Network published its Call for climate action, in 2006, for a young evangelical minister to post on the internet a document modeled on the Call, “The Southern Baptist Declaration on Environment & Climate Change.” The Declaration attracted hundreds of endorsements... and, soon, a backlash from the politically conservative leadership of the SBC.

Once again, we defer until later, below, the discussion of what happened subsequently.

Part II: What are they doing now?

A military and spies

The military and the national security agencies are doing a variety of things, as one can glean from the information offered above and the sources cited for that information. The military and the national security agencies are writing many policy papers and go to Capitol Hill, seemingly as often as possible, testifying in front of Congressional committees. They organize and participate in conferences on climate and security. Their spokesmen travel around the country presenting, with Powerpoint, their views on science, climate, security. The Navy is especially active in this area (because of its dependence on oil, the vulnerability of all its coastal facilities to oceans rising, and also because the Navy would be called if there are territorial

disputes over exploration of newly opened Arctic Ocean mining sites and to ramp up their ability to send rescue vessels when needed). The Navy pursues an active program seeking to increase its use of renewable energy sources. The CIA is cooperating with (or is, at least, declaring its intent to cooperate with) climate scientists.

B insurance industry

In this discussion I will rely on four documents: an early study done for the U.S. Department of Energy, “U.S. Insurance Industry Perspectives on Global Climate Change” (Mills, Lecomte and Pearsa, 2001); a later study by Mills, “A Global Review of Insurance Industry Responses to Climate Change” (2007); Ceres, “Climate Risk Disclosure by Insurers: Evaluating Insurer Responses to the NAIC Climate Disclosure Survey,” (2011); and Nutter’s 2013 testimony before the Senate Committee on Environment and Public Works. These documents will show that the industry has made some – but, to be blunt, very uneven – progress toward addressing the threat of climate change.

Starting in 2001:

“The words ‘Climate Change’ stir anxieties and arouse controversies among insurers. While a number have given some attention to the issue, the vast majority of individual firms and most trade organizations have not indicated an opinion ... A few have taken definitive positions that there is a material threat, while others have adopted equally strong views to the contrary. ... U.S. insurer involvement in the issue was greater in the mid-1990s than it is today, with many insurers paralyzed by conflicting reportage on the topic and skeptical about the political and scientific assessments of climate change. ... Given the potential for disruption caused by climate change, it is notable how limited U.S. insurer activities have been ... efforts to involve insurers in the climate change discussion have met with very limited success.”³⁰

A mere eight years later, Mills (2009) finds a somewhat changed world:

“Mainstream insurers have increasingly come to see climate change as a material risk to their business. ... [in 2008] Ernst & Young surveyed more than 70 insurance industry analysts around the world to determine the top-10 risks facing the industry. Climate

³⁰ Mills, Lecomte and Pearsa, 2001:8-9.

change was rated number one and most of the remaining 10 topics (e.g. catastrophic events ...) are also compounded by climate change.” (Ibid:324)

The authors write that, having reviewed hundreds of documents, they identified “643 specific activities” related to climate change. What are some of these activities? A few examples:

“Hartford will strongly advocate ... improved and more vigorously enforced building standards. The Hartford will continue to oppose subsidies and other incentives that promote development in areas most exposed to natural disasters.” (Ibid:338)

“customers with a tendency to reduce climate vulnerabilities (e.g. drivers of hybrid cars or operators of green manufacturing operations) are increasingly being seen as ‘good risks’ and are being rewarded accordingly with lower premiums.” (339)

“Insurers are offering green building products and services ... for new green buildings and upgrades to green traditional buildings.” (340)

“... bundling carbon offsets with insurance products ... providing property and liability insurance for carbon-reduction capital projects. ... financing customer-side projects that either improve resilience to the impacts of climate change or contribute to reducing emissions.” (342)

An impressive number, “643 activities.” Still, the authors write, “it no doubt represents a tiny fraction of global policies, suggesting that the overall insurance market remains considerably underdeveloped in terms of climate change products and services.” (Ibid:337) That sober assessment is echoed in 2011 in the Ceres report, which pans “this powerful industry’s sluggish and uneven response to the ever-increasing ripples from global climate change.” (Ceres, 2011:3). Ceres’s analysis of the NAIC Climate Disclosure Survey finds that

“... only 11 of the 88 companies reported having formal climate risk management policies in place, and more than 60 percent of the respondents reported having no dedicated management approach for assessing climate risk.” (Ibid)

“The survey responses paint a picture of an industry that, outside of a handful of the largest insurers, is taking only marginal steps to address an issue that poses clear threats to the industry’s financial health.” (Ibid:4)

I conclude from these documents that the industry's response, even today, is very uneven. Reinsurers more engaged than "ordinary" insurance companies; larger firms more than smaller; European more than American.

The last document I wish to cite is Franklin Nutter's (President of the Reinsurance Association of America) testimony at a recent Senate hearing. At the end of his testimony, most of which presented a compelling case for climate change presenting a huge threat to the industry, Nutter offers a list of policy suggestions. Nutter urges Congress to:

Strengthen building codes;

"Reform the National Flood Insurance Program to reflect extreme weather and climate risk in its rates." (i.e., allow insurance firms to raise rates);

Encourage retreat from coastal or river areas at risk;

"Strengthen the Coastal Barrier Resources Act;"

"Require the Army Corps of Engineers to assess climate risk for all projects;"

Fund climate and weather research;

Offer tax credits and other incentives that will encourage individuals and communities to make choices and adopt behaviors that promise to be more resilient when threatened by extreme weather events.³¹

All sensible, and could be considered concrete steps toward the reinsurance industry's professed ultimate goal, "to promote the successful conversion to a low-carbon economy and resilient society,"³² but the overall tenor of the recommendations leans toward somewhat fatalistic adaptation strategies (ones that would lower insurers' exposure) rather than support for more fundamental interventions.

C faith communities

The Roman Catholic Church in the U.S.

³¹ Nutter, 2013:20-21.

³² Liedtke, Schanz and Stahel, 2009:5.

The U.S. Catholic Bishops had expressed their desire to have Catholics care about and do something about climate change. Not much happened. The Bishops, disappointed, then conceived of a new program, appointing 24 “climate ambassadors,” geographically spread throughout the nation, who would do outreach to churches in their catchment areas.

My students and I interviewed the climate ambassador for our region (San Jose, Silicon Valley, Central Coast), an atmospheric scientist at NASA/Ames who is also deeply engaged with his faith. He showed us the Powerpoint presentation he had developed. The presentation had some basic climate science but the emphasis was on showing why good Catholics should care – Pope Benedict is quoted; one should care for Creation; climate change would hurt the poor people of the Earth first and worst. The Ambassador works by reaching out to churches in his area, offering to show his Powerpoint presentation and lead a discussion. He reported having mixed success; some churches he contacted welcomed his visit, but mostly the churches demurred and put him off. His impression was that other Ambassadors were having similar experiences.

One can find examples of Catholic communities where the reception has been better, enthusiastic, even. One local example of substantial activity is happening in San Jose, CA, The Catholic Green Initiative of Santa Clara County.³³ But even in Santa Clara the reception is uneven, as we learned in our interview with the local Climate Ambassador.

Why the mixed response? I can offer a number of possibilities: First, when it comes to big, national-level political issues, the Bishops may speak out on numerous ones, but they seem most passionate about things other than the environment or climate. Much more passion about abortion, gay marriage, resisting Obamacare requiring coverage for birth control – all things

³³ <http://www.valleycatholiconline.com/viewnews.php?newsid=805&id=10>

having to do with sex and with women's bodies. On social issues, the greatest effort goes into reform of immigration policy. Second, similar to what I sensed attending various Protestant church services, people in America go to church looking primarily to fulfill social needs, need for community, and they are not necessarily looking for guidance on political issues. Third, when the Church speaks, there is no reason to believe the faithful always and automatically listen or care what they are being told (e.g. surveys have repeatedly shown that about 2/3rds of Catholic women regularly use highly effect means of birth control).

The United Methodist Church

The Methodist Church is engaged on many levels. It participated in interfaith environment and climate coalitions. Its spokesmen have testified in Congressional hearings. It, along with its ecumenical partners, has filed *amicus* briefs in Supreme Court cases. It has used its wealth, strategically investing, globally, in businesses and in projects that build resilience and a more sustainable society.

And it has made a real effort to take the environment and climate message down into all its churches. The UMC Council of Bishops not only authored the pastoral letter, "God's Renewed Creation: Call to Hope and Action," that I quoted from above; it directed every Methodist minister to find a way to bring that letter to their "flock."

How have the ministers responded? My students and I interviewed nine Methodist ministers in California, from communities that range from the conservative (Central Valley, Sierra foothills) to the hip and liberal (Berkeley, Santa Cruz), from the poor (Watsonville) to the very wealthy (Los Gatos), from places where average level of schooling is low to places where it is very high (Livermore).

In brief, the nature of the people in the pews mattered. Every one of the ministers we interviewed knew about the Bishops' pastoral and the request to share it with their congregation. Every one of the ministers agreed with the content and thought it was a completely legitimate directive from the Bishops. But not all of them acted on it. For some it was easy. If they thought the people of their church already agreed or were largely ready to hear the message, they spoke about it. Some organized discussion groups. In other places, their feeling was that their people were concerned about other, more immediately pressing matters, or that the message wouldn't be welcome. (I heard concern that people would leave, go to the church down the street – not an idle concern when Methodists have lost several million members in recent years.) Yes, these ministers would bring up environment, bring up climate *sometime*, but they would have to do it when the time was right, carefully.

Evangelicals; Southern Baptists

There was a backlash against the green initiatives described above. When Richard Cizik, the NAE Vice President for Governmental Affairs and NAE's top lobbyist in Washington, a leader of the green movement in the NAE,³⁴ ran for President of the NAE, conservatives organized to defeated him. Ultimately he left the NAE to try to independently build a liberal / progressive Evangelical presence in Washington. Efforts to pass a climate resolution at a Southern Baptist Convention were defeated and there were efforts to isolate and intimidate the young minister who had championed that resolution.³⁵

Compared to the Roman Catholics and the Methodists, where there was unproblematic endorsement of the need for the faithful to do something about climate and where the “trouble”

³⁴ Cizik, said he had “had a conversion experience on the climate issue not unlike conversion to Christ” (Little 2005).

³⁵ All this described in detail by Zaleha and Szasz, 2013.

appears at the point where there are attempts to take the views of the national leadership down to the pews, in the conservative Christian world trouble happens at the very top. As one would expect.

Still, as Galileo is said to have whispered as he walked out of the room, having been forced to recant his heliocentric views, “And yet it moves.” There are indications that green activism among young evangelicals is alive and well, though still a minority phenomenon. Days ago Richard Cizik, now heading up an organization named the New Evangelical Partnership for the Common Good, circulated a petition to ask President Obama to discuss climate change with Pope Francis.³⁶ Still more recently, on April 4th, Young Evangelicals for Climate Action organized a “Day of Prayer and Action” on climate change at Christian colleges across the U.S.³⁷

Part III: Is there potential for greater activism?

A military and spies

Given the clear views of the military and our spies, is there potential, there, for greater activism?

Not directly; in the U.S. the military and the organs of the national security state are explicitly forbidden from an active role in the political process (although we all understand, today, that such Constitutional niceties are, ahem, sometimes ignored ...).

However, there is room for the military and the national security leadership to speak louder. It is odd to observe how conservatives in the US, who typically are so deferential to the

³⁶ Jack Jenkins, “Evangelicals Urge Obama To Discuss Climate Change With Pope Francis,” Climate Progress, March 19, 2014.

³⁷ Reported both on ClimateWire (Dehnert, 2014) and US News and World Report (Neuhauser, 2014)

military, can, in this case, pay no attention to what the military and the national security experts are saying.

As important, the American public seems completely unaware that the American military has been unwavering in support of the reality and the gravity of impending climate change. Although the Army and the Navy and the CIA couldn't (and shouldn't) ever explicitly join 350.org, there seems to be some opportunity, here, for environmental and climate crusaders to make better use, in their efforts to reach the public, of the existence of these unusual and highly respected "fellow travelers."

B insurance industry

Because the insurance industry is one of the largest "industries" in the world, one would think that it could have substantial political clout. As I have shown, above, the industry knows that it is in harm's way, but it has yet to use its potentially vast capacity to influence policy, preferring, instead, to advocate for more modest reforms that offer insurance firms better protection from exposure. That could change, if the impacts of climate change turn more severe, but I would hesitate to speculate about what that tipping point might be and when one might see it. Perhaps if and when other major players in the private sector grow more assertive (see "some new possibilities," at end of paper).

C faith communities

My impression, today, is that the major impediment for faith communities having a significant impact is that most churchgoers go to church primarily to fulfill social needs, need for community, for having a place once a week to see familiar and likeminded people, to say the same prayers together, to sing the same songs together. At least that's the impression I came away with every time I attended services, Catholic, Methodist, Lutheran, Unitarian, Reform

Jewish. Nowhere did I see much emphasis on social teachings, on political issues, ... not even much on spiritual things (except as experienced as collective effervescence in the sense that Durkheim discussed in the Elementary Forms). (NB: I suspect what I just said is true of the mainline Protestant churches and for many Catholics and far less true for the conservative Christian churches whose leaders and adherents seem to share passions about certain political issues.)

Nonetheless, that might change as environmental conditions worsen. Consider what the Southern Black churches provided, as movement infrastructure, resources, *leadership* in the critical, formative stages of the Civil Rights Movement. If things worsen considerably, if Americans see more extreme weather events, rising food prices, increasing difficulty having access to clean, potable water, if Americans see more climate-driven social conflict elsewhere in the world, they might well be more open to paying heed to what their religious leaders are saying about the connection between climate and human wellbeing. At that point, large faith communities may well become major players in national climate politics.

Postscript: Some New Possibilities

Although the politics is still stalemated as I write, certain developments in 2014 suggest the possibility of a shift that may be upon us and may, indeed, shift the balance toward action. That shift is perceivable at the heights of global capital.

Now, for some years we've seen expressions of concern from rather small and, I would say, marginal segments of the private sector that could see that they are first in line for impacts of climate change, such as ski resorts, and the wine industry.³⁸

But in the very recent past, we begin to see signs that concern about climate is becoming more widespread in the private sector. Last year the Institutional Investors Group on Climate Change surveyed asset owners and asset managers who, together, control more than \$14 trillion in assets. The IIGCC found "many investors are making decisions whether or not to invest based upon climate change considerations, while there has been a significant increase from last year in the number of respondents who are referencing the risks of climate change in their investment policy."³⁹ This year, in 2014, at Davos, where the world's most influential leaders meet, climate was a major theme.⁴⁰ The World Bank has started to speak out regularly about how climate change threatens the world's economy. The Bank now advocates a tax on carbon.⁴¹ Jim Yong Kim, current head of the Bank, warns that climate change will "lead to battles for food." Citing the benefits of activists forging alliances with scientists -- "how protesters and scientists joined forces in the battle against HIV" -- Kim "urges campaigners and scientists to work together to form a coherent plan in the fight against climate change."⁴²

³⁸ Debra Kahn, "Napa grape growers fret over their future amid severe drought," E&E ClimateWire, January 28, 2014.

³⁹ <http://www.rtcc.org/2013/08/05/fund-managers-worth-14tr-say-climate-change-influences-investments/>

⁴⁰ "Cost of climate change high on Davos agenda," Deutsche Welle, January 25, 2014.

⁴¹ Environmental News Service, "World Bank Head Calls for Carbon Pricing to Rescue Climate," January 27, 2014.

⁴² <http://www.theguardian.com/environment/2014/apr/03/climate-change-battle-food-head-world-bank>

These are all encouraging signs, for as conditions worsen – as, unfortunately, they are likely to do – the pressures for new forms of political alliance will only grow stronger.

References

(references for parts of Section I and Section IIA)

Anderegg, William R.L., James W. Prall, Jacob Harold, and Stephen H. Schneider, “Expert credibility in climate change,” *Proceedings of the National Academy of Sciences*. 107(27, July 6): 12107-12109, 2010.

Arndt, D.S., M.O. Baringer and M.R. Johnson, eds., “State of the Climate in 2009,” Special Supplement to the *Bulletin of the American Meteorological Society*, 91(6), June, 2010.

Blair, Dennis C., Director of National Intelligence, “Annual Threat Assessment of the Intelligence Community,” Senate Select Committee on Intelligence, February 12, 2009.

Boykoff, Maxwell T., “Lost in translation? United States television news coverage of anthropogenic climate change, 1995–2004,” *Climatic Change*, 86:1–11, 2008.

Broad, William, “C.I.A. Revives Data-Sharing Program With Environmental Scientists,” *The New York Times*, January 4, 2010.

Brulle, Robert. *Nightly News Coverage of Global Warming* (NBC, CBS, & ABC). Data graph courtesy of Robert Brulle, 2009.

Burke, Sharon and Christine Parthemore, “Climate Change War Game: Major Findings and Background,” Center for a New American Security, June, 2009.

Burke, Sharon, Jay Gulledge, Michael Horowitz, Christine Parthemore, Nirav Patel, “Uncharted Waters: The U.S. Navy and Navigating Climate Change,” *Center for New American Security*, Working Paper, December, 2008.

Busby, Joshua W., “Climate Change and National Security: An Agenda for Action,” Council on Foreign Relations, CSR No. 32, November, 2007.

Campbell, Kurt M., Jay Gulledge, J.R. McNeill, John Podesta, Peter Ogden, Leon Fuerth, R. James Woolsey, Alexander T.J. Lennon, Julianne Smith, Richard Weitz, and Derek Mix, “The Age of Consequences: The Foreign Policy and National Security Implications of Global Climate Change,” Center for Strategic & International Studies and Center for a New American Security, November, 2007.

Campbell, Kurt M., ed., “Climate Cataclysm: The Foreign Policy and National Security Implications of Climate Change,” Brookings Institution, 2008.

Carmen, Commodore Herbert (Ret.), Christine Parthemore, Will Rogers, “Broadening Horizons: Climate Change and the U.S. Armed Forces,” CNAS, April, 2010.

Central Intelligence Agency, "CIA Opens Center on Climate Change and National Security," CIA Press Releases and Statements, September 25, 2009.

Clark, General Wesley K., Testimony before the House Select Committee on Energy Independence and Global Warming, December 1, 2010.

ClimateProgress.org, "Silence of the Lambs: Media herd's coverage of climate change "fell off the map" in 2010," <http://climateprogress.org/2011/01/03/media-coverage-fell-off-the-map-in-2010/>. January 3, 2011.

The CNA Corporation, "National Security and the Threat of Climate Change," CNA Corporation, 2007.

Collins, Captain Al, "Humanitarian Assistance/Disaster Relief and Climate Change in USSOUTHCOM," pp. 259-268 in "Proceedings on Climate & Energy: Imperatives for Future Naval Forces," Climate & Energy Symposium 2010, Johns Hopkins Applied Physics Laboratory and CNA, March 23-24, 2010.

Dabelko, Dr. Geoffrey, "The Connection Between Climate Change and National Security," pp. 65-72 in "Proceedings on Climate & Energy: Imperatives for Future Naval Forces," Climate & Energy Symposium 2010, Johns Hopkins Applied Physics Laboratory and CNA, March 23-24, 2010.

Dunlap, Riley E., "Why climate-change skepticism is so prevalent in the USA: the success of conservative think tanks in promoting skepticism via the media, Climate Change: Global Risks, Challenges and Decisions IOP Publishing IOP Conf. Series: Earth and Environmental Science 6 (2009) 532010 doi:10.1088/1755-1307/6/3/532010.

----- and Aaron M. McCright, "Climate change denial: sources, actors, and strategies," pp. 240-259 in Constance Lever-Tracy, ed., Routledge Handbook of Climate Change and Society. London: Routledge, 2010.

Eilpenin, Juliet, "Military Sharpens Focus on Climate Change: A Decline in Resources Is Projected to Cause Increasing Instability Overseas," Washington Post, April 15, 2007.

Engel, Major General Richard, "Climate Change Impact on National Security," wiki.esipfed.org/images/c/ce/IC_challenges_Jan2010.ppt, powerpoint briefing, presented at the Federation of Earth Science Information Partners meeting, Washington D.C., January 5-7, 2010a.

-----, "The Impact of Climate Change on National Security," pp. 59-64 in "Proceedings on Climate & Energy: Imperatives for Future Naval Forces," Climate & Energy Symposium 2010, Johns Hopkins Applied Physics Laboratory and CNA, March 23-24, 2010b.

Fingar, Dr. Thomas, Deputy Director of National Intelligence for Analysis and Chairman of the National Intelligence Council, "Statement for the Record: National Intelligence Assessment on the National Security Implications of Global Climate Change to 2030," House of Representatives Permanent Select Committee on Intelligence, House Select Committee on Energy Independence and Global Warming, June 25, 2008.

Freeman, Bob, "Navy Task Force Assesses Changing Climate," American Forces Press Service, July 31, 2009.

Freudenburg, William R. and Violetta Muselli, "Global warming estimates, media expectations, and the asymmetry of scientific challenge," *Global Environmental Change* 20:483–491, 2010.

Gulledge, Dr. Jay, "Scientific Uncertainty and Security Risks of Climate Change," pp. 47-58 in "Proceedings on Climate & Energy: Imperatives for Future Naval Forces," Climate & Energy Symposium 2010, Johns Hopkins Applied Physics Laboratory and CNA, March 23-24, 2010.

Gunn, Lee F., "Statement of Vice Admiral Lee F. Gunn, USN (Ret.), President, American Security Project," Senate Committee on Foreign Relations Hearing on "Climate Change and Global Security: Challenges, Threats, and Global Opportunities," July 21, 2009.

Jacques, Peter J., Riley E. Dunlap and Mark Freeman, "The organisation of denial: Conservative think tanks and environmental scepticism," *Environmental Politics* 17(3, June):349–385, 2008.

Johns Hopkins Applied Physics Laboratory and CNA, "Climate and Energy Imperatives for Future Naval Forces," a symposium, March 23-24, 2010.

Kempf, Herve, "US Army Studies Geo-Strategic Repercussions of Climate Change," *Le Monde*, April 3, 2007.

Little, Amanda, "The Warm on Terror: Bipartisan bill calls for intelligence assessment of climate impacts," *GRIST*, April 5, 2007.

Mazzetti, Mark, "Spy Chief Backs Study of Impact of Warming," *The New York Times*, May 12, 2007.

McCright, Aaron M., "Dealing with climate change contrarians," in Moser, Susanne C. and Lisa Dilling, eds., *Creating a Climate for Change: Communicating Climate Change and Facilitating Social Change*, Cambridge University Press, 2007

----- and Riley E. Dunlap, "Challenging Global Warming as a Social Problem: An Analysis of the Conservative Movement's Counter-Claims," *Social Problems*, 47(4, November):499-522, 2000.

-----, "Anti-reflexivity: The American Conservative Movement's Success in Undermining Climate Science and Policy," *Theory, Culture & Society*, 27(2-3):100-133, 2010.

McGinn, Dennis, "Statement of Vice Admiral Dennis McGinn, USN, Retired, Member, Military Advisory Board, CNA, Hearing on "Climate Change and National Security," Senate Committee on Environment and Public Works, July 30, 2009 (2009a).

-----, "Statement of Vice Admiral Dennis McGinn, USN, Retired, Member, Military Advisory Board, CNA, Senate Committee on Environment and Public Works, Legislative Hearing on S. 1733, Clean Energy Jobs and American Power Act, October 28, 2009 (2009b).

-----, "Not Going Away: America's Energy Security, Jobs and Climate Challenges." Statement of Vice Admiral Dennis V. McGinn, USN, Retired, Before the United States House of Representatives Select Committee on Energy Independence and Global Warming, December 1, 2010 (2010a).

-----, "Energy Security, Climate Change, and National Security," pp. 375-383 in "Proceedings on Climate & Energy: Imperatives for Future Naval Forces," Climate & Energy Symposium 2010, Johns Hopkins Applied Physics Laboratory and CNA, March 23-24, 2010 (2010b).

Morello, Lauren, "Defense Experts Want More Explicit Climate Models," *The New York Times*, June 24, 2010.

National Intelligence Council, "Global Scenarios to 2025," February, 2008 (2008a).

-----, "Global Trends 2025: A Transformed World," National Intelligence Council, NIC 2008-003, November, 2008 (2008b).

-----, "Impact of Climate Change to 2030," announcement of further study of projected impacts of climate change in six countries/regions, 2008 (2008c).

-----, "Global Governance 2025: At a Critical Juncture," National Intelligence Council, NIC 2010-08, September, 2010.

Newport, F., "Americans' Global Warming Concerns Continue to Drop." <http://www.gallup.com/poll/126560/Americans-Global-Warming-Concerns-Continue-Drop.aspx>. Posted March 11, 2010.

Parthemore, Christine, with Will Rogers, "Sustaining Security: How Natural Resources Influence National Security," Center for a New American Security, June, 2010.

Pew Research Center for the People & the Press, Fewer Americans See Solid Evidence of Global Warming. <http://pewresearch.org/pubs/1386/cap-and-trade-global-warming-opinion>. Posted October 22, 2009. (2009b)

-----, "Economy, Jobs Trump All Other Policy Priorities In 2009: Environment, Immigration, Health Care Slip Down the List." <http://people-press.org/report/485/economy-top-policy-priority>. Posted January 22, 2009. (2009a)

Podesta, John and Peter Ogden, "The Security Implications of Climate Change," *The Washington Quarterly*, 31(1):115-138, Winter, 2007-08.

Powers, Jonathan, "Written Statement of Jonathan Powers, Retired U.S. Army Captain, Chief Operating Officer, Truman National Security Project, Hearing on "Climate Change and National Security," Senate Committee on Environment and Public Works, July 30, 2009.

Saad, L., "Increased Number Think Global Warming Is Exaggerated." www.gallup.com/poll/116590/Increased-Number-Think-Global-Warming-Exaggerated.aspx , Posted March 11, 2009.

Schwartz, Peter and Doug Randall, "An Abrupt Climate Change Scenario and its Implications for United States National Security," October, 2003,

Smith, Susan, "The Impact of Climate Change on National Security," report on panel discussion at GEOINT 2008, GIS Cafe, http://www10.giscafe.com/nbc/articles/view_article.php?articleid=636875

Strader, Lieutenant Colonel O. Kent, "Climate and Energy Availability Impacts on Operations in USNORTHCOM," pp. 211-222 in "Proceedings on Climate & Energy: Imperatives for Future Naval Forces," Climate & Energy Symposium 2010, Johns Hopkins Applied Physics Laboratory and CNA, March 23-24, 2010.

Strategic Studies Institute, United States Army War College, "The National Security Implications of Global Climate Change," Colloquium, The Friday Center, Chapel Hill, NC, March 30-31, 2007.

Sullivan, General Gordon R., General, US Army (Ret.), Chairman, Military Advisory Board to the CNA Report "National Security and the Threat of Climate Change," "Testimony Before the U.S. House of Representatives Committee on Energy and Commerce, Subcommittee on Energy and Environment," February 12, 2009.

Titley, Rear Admiral David, "Global Climate Change," pp. 27-43 in "Proceedings on Climate & Energy: Imperatives for Future Naval Forces," Climate & Energy Symposium 2010, Johns Hopkins Applied Physics Laboratory and CNA, March 23-24, 2010 (2010a).

-----, "The Navy's Climate Change Interests: Statement of Rear Admiral David Titley, Oceanographer of the Navy, Director, Task Force Climate Change," House of Representatives, Committee on Science & Technology, Subcommittee on Energy & Environment, November 17, 2010 (2010b).

U.S. Congress, "House, H.R. 1585: National Defense Authorization Act for Fiscal Year 2008," 110th Congress, 2007-2008. <http://www.govtrack.us/congress/bill.xpd?bill=h110-1585>.

U.S. Department of Defense, "Quadrennial Defense Review Report," February, 2010.

Wald, General Charles, "Energy and Climate Security," pp. 271-294 in "Proceedings on Climate & Energy: Imperatives for Future Naval Forces," Climate & Energy Symposium 2010, Johns Hopkins Applied Physics Laboratory and CNA, March 23-24, 2010.

Welton, Colonel James G., "Strategic Environment and Implications of Climate Change," pp. 307-321 in "Proceedings on Climate & Energy: Imperatives for Future Naval Forces," Climate & Energy Symposium 2010, Johns Hopkins Applied Physics Laboratory and CNA, March 23-24, 2010.

Werz, Michael, and Karl Manlove, "Climate Change on the Move: Climate Migration Will Affect the World's Security," Center for American Progress, December 8, 2009.

Woolsey, R. James, "Testimony of R. James Woolsey," U.S. House of Representatives Committee on Energy and Commerce, Subcommittee on Energy and Environment Hearing on "The Climate Crisis: National Security, Public Health, and Economic Threats," February 12, 2009.

Zabarenko, Deborah, "Environment Key to U.S. Security: Congress Briefing," Planet Ark, September 23, 2010.