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AN EXAMINATION OF THE FACTORS DETERMINING AMERICAN FOREIGN POLICY WITH REGARDS TO GLOBAL CLIMATE CHANGE TREATIES

by

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A Thesis Submitted in Partial Fulfillment Of the Requirements for a Degree with Honors (Political Science)

The Honors College

University of Maine

May 2010

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ABSTRACT

For several decades, global climate change has been an issue addressed in both national and international debates. While much of the rest of the world has adopted a number of treaties aimed at addressing global climate change, the United States has consistently lagged behind its peers. An examination of poll responses, Senate statements, and editorials determined that a number of factors may be causing this effect. Specifically, a disconnect between the public and the scientific community, a political system that has made the question one of elites versus the masses, and a historical tendency for the federal government to prioritize security and economic issues above all others help explain the United States' policy response.

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INTRODUCTION

Over the past two decades the issue of global climate change has at various points been discussed at international political and scientific summits, election rallies, movie theatres and bookstores. Thousands of pages have been written on the topic in scientific journals, and hundreds of pages of treaties have been penned to address the issue. In 2007, The Intergovernmental Panel on Climate Change shared the Nobel Peace Prize with former Vice President Al Gore for their work in addressing climate change and making it a topic of public discourse, and Mr. Gore's film *An Inconvenient Truth* won the 2007 Academy Award for Documentary Feature.

All of this attention, particularly among mass publics in many countries, means that, unlike many other policy issues, the debate over global climate change has been watched much more closely than many other discussions over international and national policy. This creates an interesting dynamic, where all Americans feel a direct connection to the issue. While other issues have the potential to affect the nation's economy, the world's health, and global political environment, there are few cases where policy makers have used these potential effects to appeal to mass opinions.

Under these conditions, nations around the world have created a number of treaty structures aimed at reducing global emissions of gases linked to global warming. Although the United States has involved itself in a number of these systems, its involvement has been conspicuously less than that of other nations that have similar levels of development. The most significant treaty that the United States has failed to ratify is the Kyoto Protocol. America's failure to ratify the Kyoto Protocol has resulted in significant criticism from the international community, but it still lacks support among

the American people and the Senate. To date, there seems to be no clear understanding of why this is the case. This paper attempts to examine the American political system and look at how the views of its two constituent groups, the mass public and elites, have influenced the American policy making apparatus in shaping American foreign policy on global climate change. It seeks to do so by examining how these groups are in turn affected by America's history and political traditions.

I. GLOBAL CLIMATE CHANGE AND INTERNATIONAL RESPONSES

The study of Earth science, like all scientific disciplines, is a constantly changing one. As time has progressed the models used to describe the climate of the Earth have become increasingly complex. Early scientists tried to divide the study of the environment into a study of the atmosphere and the earth. Current models are based on the understanding that oceans, forests, and human activities can profoundly shape the environment. One method of attempting to understand these interactions resulted in the development of the greenhouse gas model.

The theory behind the greenhouse gas effect was first developed in the mid-to-late nineteenth century, after the 1824 observation that the atmosphere naturally had greenhouse properties (Brown 2002). Scientists observed that heat from sunlight could pass more readily through the atmosphere than other types of heat and that complex molecules like CO₂ blocked the passage of heat more than simple diatomic molecules like O₂ (Le Treut et al. 2007), and by the end of the century they began making quantified predictions on how changes in CO₂ levels could affect the Earth's temperature (Brown 2002). Increases in the average temperature of the Earth's surface have been observed over the last hundred years, and the Earth's temperature has been predicted to increase by 1.8° to 4° Celsius by the end of the century. This temperature difference has the potential to drastically change the Earth's environment, affecting sea levels, weather patterns, and animal life.

Radiation from the Sun strikes the earth. Some of this is reflected by atmospheric gases, some is absorbed by the atmosphere, and some strikes the surface of the earth,

where most of it is absorbed and some is reflected back. The energy that is absorbed by the atmosphere and the Earth can later be reemitted. The relative rates of these energy transfers determine the Earth's temperature (Kiehl and Trenberth 1997).

Certain molecules are known to absorb the energy being emitted or reflected by the Earth, and these molecules disperse that energy into the atmosphere. These molecules are capable of absorbing wavelengths of light in the infrared portion of the electromagnetic spectrum, then moving into an excited energy state, before releasing it. Although the majority of the light that strikes these molecules in the atmosphere is traveling perpendicular to the Earth's surface, the energy is dispersed in all directions rather than continuing in its normal path into space.

A number of chemicals have been implicated as being of importance in this process. Perhaps the most important and well known is carbon dioxide (CO₂). Carbon dioxide is a chemical that is a product of the oxidation of organic molecules, a process that occurs naturally in all living beings as sugar and fat molecules are metabolized for energy. It is also released in the burning of fossil fuels. Atmospheric levels of CO₂ can be affected by changes in land use. Carbon sinks are environments that can absorb large amounts of carbon, such as new growth forests. As these are created and destroyed they can affect atmospheric levels of CO₂. Global concentrations of carbon dioxide in the atmosphere have risen markedly from a pre-industrial level of 280 parts per million (ppm) to a 2005 level of 379 ppm. Ice core samples show that historically, over the past 650,000 years, concentrations have ranged from 180 ppm to 300 ppm (Le Treut et al. 2007).

In addition to CO₂, nitrous oxide (N₂O), chlorofluorocarbons (CFCs), water, and methane (CH₄), which is believed to be converted to CO₂, are all gases that can result in this process of absorbing and reemitting energy. Data from 2002 suggest that CO₂ contributes 64% to global warming, CH₄ contributes 19% to global warming, and N₂O contributes 6% to global warming. These three chemicals account for roughly 89% of global warming due to the greenhouse gas effect. N₂O is a byproduct of certain industrial processes and fertilizer use, and CH₄ is primarily an agricultural byproduct. Like CO₂ levels, atmospheric levels of CH₄ and N₂O have also risen substantially from preindustrial levels (Cushman and Jones 2002).

The idea that these gases can trap energy in the atmosphere in the form of heat is largely uncontested. In the United States, controversy still remains as to the impact that human actions have had on the climate (anthropogenic climate change) and how much of the currently observed changes in world temperatures are instead due to natural cycles of global warming and cooling. The American Association of Petroleum Geologists' (AAPG) statement on climate change, which was last revised in June of 2007, states "Certain climate simulation models predict that the warming trend will continue.... AAPG respects these scientific opinions but wants to add that the current climate warming projections could fall within well-documented natural variations in past climate and observed temperature data" (Climate Change 2007). Similarly the American Geological Institute's statement on Global Climate Change, adopted in 1999, states that "Further research is also required to evaluate the relative impact of human activity on global climate and the interaction of such activity with the underlying natural processes.

In particular, studies are needed to better understand past rapid climate change and sequestration of carbon in rock, soil, and biomass" (Global Climate Change 1999).

One of the primary arguments used to support the claim that natural cycles affect global temperatures is that using ice cores and rock samples, geologists have determined there has been a pattern of global warming and cooling in the Earth's history. Much of this pattern has been attributed to Milankovitch cycles. These cycles describe changes in the orientation of Earth's axis with respect to the sun, changes in the shape of the Earth's orbit due to the gravitation forces of other planets acting on the Earth, and the movement of the Earth's axis of rotation around the Earth. These cycles mean that at different points in time, the Earth, and particular points on it, can be closer to or farther from the sun, therefore receiving different concentrations of sunlight, which can in turn result in changes in global temperature.

These three Milankovitch cycles can take tens of thousands to hundreds of thousands of years to complete and depend on a variety of factors including the gravitational pull of other planets acting on the earth. By examining how these cycles have interacted with one another one can predict past cycles of global warming and cooling that match with data taken from ice samples on a geological time scale. Using geological evidence, it has been determined by Hays et al. (1976) that these cycles "are the fundamental cause of the succession of Quaternary ice ages." However, the authors point out that their model predicts a long-term trend towards glaciations of the Northern Hemisphere over the next several thousand years, when anthropogenic effects are ignored.

Additionally, there is evidence that suggests that the temperature of the Sun has increased over the past several decades, and deviation in temperatures seems to be correlated to solar activity (Khilyuk and Chilingar 2004). Similarly, fluctuations in the amount of solar radiation hitting the Earth's surface have been shown to have undergone a period of global dimming from 1950 to 1990, as a decreased amount of solar energy reached the surface of the earth and a period of global brightening from 1990 to 2002 as an increased amount of solar energy reached the surface of the earth (Wild 2009).

Finally, a new theory has been proposed by scientists from the University of Southern California. They note that since the early 1980s carbon release into the atmosphere due to fossil fuel burning, the primary cause of anthropogenic emissions, has hit a plateau, yet the concentration of CO₂ in the atmosphere has continued to increase. (Khilyuk and Chilingar 2004). They argue that the greenhouse gas effect is occurring, to a limited extent, but that the amount of CO₂ entering the atmosphere through human action is negligible compared to the effects of CO₂ and CH₄ entering the atmosphere through geological processes, which can release CO₂ into the ocean, where, as temperatures rise, it becomes more likely to enter the atmosphere. The increase in atmospheric CO₂ concentrations is primarily the effect of the increase in global temperatures, rather than the cause.

Scientific discussions such as these would have been unlikely to enter into the policy world, had they arisen before the second half of the twentieth century. Although America had a history of environmentalism arising in the late nineteenth century, it was not until the 1960s that the idea of invisible chemical pollution was brought to the attention of the general populace, notably through Rachael Carson's 1962 work *Silent*

Spring (Kevles 2008). The 1960s and 1970s saw this type of environmental issue become a matter of public concern, and in the late 1970s, world governments began to increasingly address issues of environmental concern. In the United States, a series of legislation was passed, notably including the Clean Air Act in 1970 and the Clean Water Act of 1977. Additionally, in 1970, President Nixon issued an executive order creating the U.S. Environmental Protection Agency (EPA) by merging together several smaller federal agencies. In 1983, the United States and Europe met to discuss regulation of chlorofluorocarbons (CFCs), which had been shown to be contributing to the depletion of the ozone layer. These negotiations lead to the 1987 Montreal Protocol which sought to phase out CFCs from use entirely.

After almost two decades of substantial advances in environmentalism, in 1988 the World Meteorological Organization (WMO), a United Nations organization, and the United Nations Environment Program (UNEP) established the Intergovernmental Panel on Climate Change (IPCC). The program was endorsed and given a mission by United Nations General Assembly Resolution 43/53 (United Nations General Assembly 1988). The IPCC is tasked with reviewing and assessing "The state of knowledge of the science of climate and climatic change"; "Programmes and studies on the social and economic impact of climate change, including global warming"; "Possible response strategies to delay, limit or mitigate the impact of adverse climate change"; "The identification and possible strengthening of relevant existing international legal instruments having a bearing on climate" and "Elements for inclusion in a possible future international convention on climate" (United Nations General Assembly 1988). Although the IPCC

performs no environmental research directly, global researchers voluntarily submit their work to the IPCC for review.

This global movement continued in 1992 at the United Nations Conference on Environment and Development (UNCED), also known as the "Earth Day Summit," in Rio de Janeiro. Here the future "international convention on climate" which the IPCC was tasked with looking into was introduced as the United Nations Framework Convention on Climate Change. The objective of the convention was to "achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" (United Nations Framework Convention on Climate Change 2002). The UNFCCC also set voluntary emission reduction targets for developed countries to achieve by the year 2000.

In addition to setting targets, the UNFCCC established a mechanism for handling future negotiations and goals. The governing body for the UNFCCC is the Conference of Parties, which has met fifteen times since 1995. Meetings of the Conference of Parties have served to set international policy on climate change and express the views of world governments on the matter. Many of the Conferences have gained international attention, from the Third Conference of the Parties in Kyoto, Japan in 1997 to the Fifteenth Conference of the Parties in Copenhagen, Denmark in 2009.

In 1997 the parties to the UNFCCC meet in Kyoto, Japan. There they adopted the Kyoto Protocol on December 11. The distinguishing aspects of the Kyoto Protocol were that it set specific targets for the reduction or limitation of greenhouse gases in 37 developed countries (Annex I countries). Specifically, the treaty sought to reduce global

emissions of greenhouse gases to 5.2 percent less than 1990 emissions levels by the year 2012. This treaty entered into force on February 16, 2005, and the first period for compliance is from 2008 to 2012. Internationally, the protocol, which has met with mixed success, has come to be seen as the standard for action on international climate change. It is important to note that the United States has not ratified the Kyoto Protocol, even though in November 1998, the treaty was signed by the acting Ambassador to the United Nations on behalf of the United States as part of an effort to endorse the "broad concepts" of the treaty and to keep the United States in the negotiation process (Executive Office of the President of the United States 1998).

Despite its large number of signatories, the Kyoto Protocol has a number of characteristics that have resulted in criticism of the treaty, both in the United States and internationally. First, the treaty did not include mandatory limitations on emissions for developing countries, something many feel is important for a successful treaty. Additionally, the 1990 date used for calculating baseline emissions under the Kyoto Protocol was viewed by some as unfair because it was seen as favoring nations that had suppressed levels of emissions following 1990, particularly those nations that had been part of the Soviet Union, where the government subsidized industry in the lead up to its collapse. Under Kyoto, these nations are allowed to significantly increase their emissions (Medelsohn 2005). Finally, many major Annex I signatories have failed to meet their emission reduction goals during the first phase of implementation of the Kyoto Protocol (Pew Center on Global Climate Change 2004).

Before the Kyoto Protocol could be sent to the Senate for ratification, the Senate passed the Byrd-Hagel resolution, by a vote of 95-0. The resolution stated that the Senate

would not ratify any treaty that would result in serious harm to the American economy, or included specific emission caps for developed countries but not developing countries (U.S. Congress 1997). Subsequently, neither the Clinton administration nor the Bush administration sent the treaty to the Senate for ratification.

In contrast, in January 2006, the United States joined with five other nations in the creation of the Asia-Pacific Partnership (APP) on Clean Development and Climate. Unlike the Kyoto protocol the APP does not involve setting binding limits on members; instead, it focuses on sharing strategies for development and clean energy reduction, and promoting technologies that could help achieve the organization's vision of "advance[ing] clean development and climate objectives, recognizing that development and poverty reduction are urgent and overriding goals internationally" (Asia Pacific Partnership on Clean Development and Climate 2007). The focus on development and recognition of different needs played favorably with the founding members of the APP, which included India and China, who, although signatories to Kyoto, have historically opposed binding emissions limits for developing countries, and Australia, who had not at that point ratified the Kyoto protocol.

In 2007, the Climate Security Act of 2007, or the Lieberman-Warner bill, was introduced in the United States Senate. This was the first serious attempt at imposing specific limitations on America's greenhouse gas emissions and was a unilateral effort. The bill proposed establishing a cap and trade system, where companies would be given a limit on the amount of greenhouse gases that they could emit and could buy any emissions that they needed to make up a shortfall from companies that did not reach their

cap. The bill's objective was to decrease annual emissions to 63 percent below 2005 levels by the year 2050. After passing through committee, the bill died in the Senate.

While many nations have been willing to sign onto a number of these international efforts, and although it has long been involved in international negotiations on the matter, the United States has a reputation for consistently lagging behind the rest of the developed world in both promoting limits on greenhouse gas emissions and ratifying treaties, particularly when any treaty involves binding caps on emissions. At the same time, three different presidential administrations have remained active in negotiations regarding global climate change treaties. In order for the United States and the rest of the world to move forward on the issue, an understanding of why the United States has opposed Kyoto-like treaties must be developed.

II. EXPLAINING AMERICAN RESPONSES

Three major theories have been espoused to explain why the United States has been historically reluctant to join the international community in setting specific targets for the reduction of greenhouse gas emissions. These theories draw on American historical and political tradition, claiming that these traditions shape modern political decisions. Richard Hofstadter comments that Americans tend to frame their debates in the language of the past, and he writes that "The range of ideas…which practical politicians can conveniently believe in is normally limited by the climate of opinion that sustains their culture" (1948). Political tradition can, therefore, be viewed as those limits on American political ideas that have been established by America's past debates and experiences, which provide common ground for political cooperation. In the discussion of global climate change policy some of these limits include a tradition of unilateralism, a tradition of limited federal government with specific priorities, and a tradition of mistrust of the elites.

In order to address these theories, a number of distinctions must be made. First, a distinction must be made between elite and mass political behavior. The first group is made up of politicians, noted academics, and senior civil servants. Elites have a direct impact on the policy making process. In contrast, mass opinion tends only to impact the nation's policy tangentially. Elite views tend to be easy to access in terms of their individual actions and statements, most notably as they apply to specific policy decisions. From what they say and do, generalizations can often be drawn. In contrast, the size and nature of the masses, and their information levels, make it difficult to directly access their

views. Instead, generalizations are most readily drawn by examining the responses of representative groups to poll questions.

Although a distinction between them will be made in order to in assist the analysis of America's responses to various treaties, these groups cannot be viewed as entirely separate. The masses can significantly influence the policy making apparatus as political leaders respond to polls and focus groups. At the same time, these leaders can shape the views of the masses by how they frame and cover the debate, as members of the public base their opinions on the views of established elites (Zaller 1992). Additionally, within each group, there are individuals with differing degrees of knowledge and interest related to a given matter (Berinsky 2009, Zaller 1992). Furthermore, even well known academics can find themselves excluded from the decision making process if the policy making apparatus chooses to circumvent them.

Members of the elite influence the masses as they give cues to the public which influence public opinion (Berinsky 2009, Darmofal 2005, Zaller 1992). These cues can come from both sides of an issue, and how cues are used by the masses is often linked to party affiliation. If both sides of an issue are vocal in expressing their opinions, members of the public tend to adopt the views of those elites that they respect or share a party affiliation with. If only one side is vocal, members who do not share a party affiliation with them tend to automatically adopt the other side of the issue (Berinsky 2009, Zaller 1992). In the United States, this can result in issues becoming polarized in the two-party system where parties incorporate view points into their ideologies in an effort to maintain or develop a majority (Key 1965, 154).

While governments and elites can influence the views of the masses, the public can also influence government action. As American leaders, and the ruling party in particular, claim to get their authority from the public, they may be compelled to act based on public opinion, and any failure to act in accordance with public opinion on a matter can result in the government facing repercussions from the public (Key 1965, 14). To an equal if not greater degree government must also pay attention to those views of the general public that are accepted and established as custom and unlike public opinion are unlikely to change rapidly (Key 1965, 12). However, public views are only effective at changing who holds power if there is a group on the outside that the masses prefer, which is capable of taking power (Key 1965, 556), returning to the issue of the two party system. The two-party system allows for groups to hold different views on issues and helps to ensure that government does not collapse when the public disagrees with the ruling majority (Key 165, 556).

It is clear that both the elites and the public can influence the process used to determine America's foreign policy decisions. The models provided also suggest that the very relationship between the elites and the masses has the potential to affect the way that the debate around global climate change treaties progresses, as partisanship plays a role in the decision making process. If people tend to readily adopt views that cross partisan lines this would be less relevant, but members of the public develop their partisan affiliations early in life and tend not to sway from them much over their lifetimes (Breninsky 2009, 67). Furthermore, the system seems predisposed to divide issues along partisan lines, suggesting a model for how the issue of global climate change might be treated by both the elites and members of the public.

Currently, a number of theories attempt to address the issue of American behavior surrounding the ratification of treaties aimed at addressing global climate change. Three primary theories will be examined here. The first revolves around the claim that this trend is an extension of American unilateralism, which can be seen across the board in America's treatment of all international agreements, not just environmental ones. The second argues that Americans view it as the role of the federal government to deal with matters of international security and the economy, and global climate change is not associated with these functions, so it is not considered a priority of the federal government. Finally, the third argument is that Americans are inherently more skeptical of what is perceived as a scientific elite than individuals are in other parts of the world. Each of these theories arises from the belief that American history and its collective past shape the nation's current actions (Hofstadter 1948).

From the earliest days in American history, there is evidence of a belief that involvement with the rest of the world is not beneficial to the American cause. Some of the earliest roots of this belief are articulated famously in Washington's Farewell Address. Although originally written in 1796, it has continued to hold a prominent place in American government and was read annually in the House of Representatives from 1862 to 1984 and has been read annually in the Senate since 1899. In this address, the retiring president urged the American people while acting "in extending our commercial relations [with foreign nations] to have with them as little political connection as possible" (U.S. Congress 2000b). These sentiments, which were echoed by many other prominent early American leaders, notably Jefferson's 1801 inaugural address which

introduced the term "entangling alliances" to America's foreign policy language, helped shape American policy through the twentieth century (Legro 2000).

This belief is evident in an American mythos which holds that during the first half of the twentieth century the nation was thrust by aggressor states into the two world wars. Although this ultimately resulted in the United States being a founding and influential power in the creation of the United Nations, during this process the United States never joined the League of Nations, even though the system came about largely through the advocacy of President Woodrow Wilson. As the century progressed, America became one of the two poles in the world power structure, as it countered the influence of the USSR. Through programs such as the Marshall Plan and the policy of containment, the United States became increasingly involved in world affairs politically, monetarily, and militarily. However, despite these moves, Wilsonian ideals seem to serve as a source of rhetoric for those who are out of office rather than those actively involved in the policy making apparatus (Thompson 1980).

Even with this addition of a new component to the American policy scene, it can be argued that the tradition of unilateralism still holds strong in the American mindset. According to a 2009 Pew report, a record high 44 percent of the American population agreed with the statement "Since the U.S. is the most powerful nation in the world, we should go our own way in international matters, not worrying too much about whether other countries agree with us or not" (The Pew Research Center For The People and The Press 2009d; hereafter Pew). This mindset can be illustrated in past American treaty involvement. Although it has been continuously active in the policy machinery that helps to develop international treaties, the United States has often decided to not sign them.

For example the Ottawa Treaty, which banned the use of land mines, has 156 parties (United Nations Treaty Collection 2010; hereafter UNTC), and while the United States has long been a leader in promoting a landmine-free world (Kitchen 2001), it is conspicuously not a signatory. Similarly, under President Clinton, the United States actively promoted the idea of an international criminal court, yet the same administration which was involved in the negotiation process decided not to submit the treaty for ratification (Wedgwood 1998), which has 111 ratifying parties (UNTC 2010). Furthermore, the United States was actively involved in creation of the Antarctic Treaty, the United Nations Common Law of the Sea, and the development of the concept Common Heritage of Mankind, yet has failed to ratify any of these policies (Brown 2002, Chayes 2008).

In a close parallel to the case of global climate change, the United States has signed non-binding treaties aimed at addressing sulfur dioxide emissions, but not treaties that contain mandated limits or timelines. Sulfur dioxide, like many greenhouse gases, is produced through a number of industrial processes. When sulfur dioxide enters the atmosphere, the nitrogen dioxide there can serve as a catalyst in the reaction which results in its conversion to sulfuric acid, which then results in acid rain. Since 1979, fifty-one nations, including the United States, have become parties to the 1979 Convention on Long-Range Transboundary Air Pollution, which recognized the problem of emissions that had the potential to have effects across national boundaries, and particularly noted the need to investigate limiting the emissions of sulfur compounds (UNTC 2010). The treaty also called for cooperation in research and sharing information.

Six years later, in 1985, the parties to the convention meet in Helsinki and adopted The Protocol to the Convention on Long-Range Transboundary Air Pollution on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at least 30 per cent. This treaty, which contained specific and binding targets, was not ratified by the United States (UNTC 2010). However, the federal government, through the Environmental Protection Agency, took action aimed at cutting sulfur dioxide emissions, primarily through the Acid Rain Program, and between 1980 and 2008, reduced sulfur dioxide emissions by 36 percent between 1990 and 2002 (U.S. Environmental Protection Agency 2009). All of these factors have led to the suggestion that the United States' unwillingness to ratify global climate change is part of a broader trend in America's foreign policy that opposes the ratification of treaties in general, and instead Americans are more likely to take action on their own. While unilateralist action is not unique to the United States, the degree to which the United States engages in unilateral activities is far greater than most other states (Chayes 2008).

Additionally, other claims as to why Americans have not ratified international climate change legislation can similarly be found by looking to American political tradition. Notably, one can look to American tradition to find the basis of the claim that the views of Americans on the role of the federal government may affect American action on climate change treaties. Looking into America's history, one can see that the first three executive departments formed were State, Treasury, and War, and the leaders of these departments, remain some of the most public in the American view and some of the most powerful. Together they hold the fourth through seventh positions in the presidential line of succession.

In addition to holding a significant degree of prestige among both the policy making community and the public at large, these leaders head programs that are traditionally well funded in the American government. The enacted 2010 federal budget includes \$683.7 billion for security agencies, with by far the most significant amount going to the Department of Defense (\$530.8 billion). Significant sums of money for security also go to the Department of State (\$50.6 billion) and the Department of Homeland Security (\$39.4 billion) (Executive Office of the President of the United States 2010).

The presence of these departments at the forefront of the American scene has the potential to affect American views regarding policy and the role of the federal government. National security, international relations, and the economy are consistently considered some of the nation's highest priorities. When processing many of these international treaties, people will be inclined to look to the federal government to prioritize the protection of the economy over the protection of the environment. If people believe that the federal government has other priorities, programs aimed at addressing environmental issues in general or global climate change specifically are unlikely to be dealt with at the federal level. If states lack the resources, authority, or motivation to take action, then no action will be taken.

However, with regards to the global climate change, there have been several cases where states have chosen to take action by themselves. The most notable actions taken by a single state have been those taken by California, which produces 6.2% of the nation's greenhouse gases. In 2006, the state passed AB 32, or the Global Warming Solutions Act of 2006. The program institutes a system of cap and trade for a number of

commercial activities. Additionally, the state seeks to decrease transportation emissions, and improve energy efficiency, all as part of an effort to reduce emissions in the state to 1990 levels, or 15 percent below 2009 levels (California Environmental Protection Agency 2008).

In addition to actions by individual states, a number of states have formed a coalition aimed at addressing greenhouse gas emissions. The Regional Greenhouse Gas Initiative (RGGI) is a program in which ten states in the eastern United States, from Maine to Maryland, have joined together to work towards the goal of reducing their combined greenhouse gas emissions by 10 percent. In addition to the member states, Pennsylvania and several Canadian provinces have signed on to the program as observers. The program uses a cap and trade system, and each state has capped emissions in the power production sector. The states then distribute a certain number of emissions allowances to those power plants within their state. This distribution is primarily done through a series of auctions held four times each year. The plants can then buy and sell emissions among themselves. Additionally, the funds raised through auctions serve to support programs that promote energy efficiency. Programs such as the California Global Warming Solutions Act and RGGI seem to suggest that Americans are more willing to have states take action on global climate change, while leaving the federal government to serve its traditional roles (Regional Greenhouse Gas Initiative 2007).

But there seems to be more influencing the American political system than maintaining a unilateralist precedent and upholding traditional power centers. It has been argued that Americans are skeptical of scientists and a scientific agenda, which is

perceived as elitist. Divisions within the scientific community are seen as signs of weakness in the authority of scientific judgment as the public views scientific debate as a sign that no absolute statements can be made on the matter. This was particularly evident following the November 2009 release of emails from the Climatic Research Unit at the University of East Anglia. Critics seized upon gaps in understanding and conversations within the community as evidence that global climate change was not occurring rather than as internal discussions among scientists (Johnson 2009).

Furthermore, the views of scientists come under inherent scrutiny because of their role as an elite segment of society, particularly because as a demographic, scientist tend to be white middle class males (Jamieson 1996). Recent debates over breast cancer screening, vaccines, and epidemic preparedness, demonstrate that American anti-elitism plays a role in congressional and public discourse, as reports of bodies of experts have been disregarded or attacked as being out of touch with the views and needs of the masses, regardless of their scientific validity. It has been determined that journalists view "antiestablishment" scientists as more trustworthy than their mainstream counterparts (Rothman and Lichter 1987). In dealing with nuclear power, it was determined that members of the public are willing to believe that the threats that they face are due to the actions of government and industry, suggesting that they believe that governmental and economic elites are actively pursuing projects that work against them (Horowitz 1967). This mistrust has the potential to undercut the governing ability of those in power and prevent any action from being taken on an issue (Damico, Conway, and Damico 2000).

Skepticism of scientific results comes from two places, the first being a general mistrust in the American elite, most clearly manifested in distrust of American

governmental leaders. Since the mid-twentieth century, there has been an underwhelming amount of trust placed in political leaders and institutions by the American people (Damico, Conway, and Damico 2000). According to an April 2010 Pew Survey, 52 percent of Americans feel that the governmental system works, but that the people who are part of it are a problem (Pew 2010). In a bid to gain office and political capital, leaders in the party out of power seek to distance themselves from the ruling party and make themselves appear as "outsiders," individuals who are uninfluenced by the perceived scheming of Washington and who understand the true needs of the people. This makes sense as only 27 percent of the population feels that most members of Congress should be reelected (Pew 2010). The easiest way to achieve this goal is by challenging the view of those perceived to be part of the elite class that is out of touch with the people. This was particularly evident in the December 2009 debates on breast cancer screening legislation. Senators on both sides of the aisle repeatedly stated that they did not want "experts" making health care decisions for individuals who knew what was best for them (Congressional Record 2009).

Arguing that a significant portion of popular views stems from cues given by elites, both those in and out of power, authors have presented the idea that when political leaders challenge expert opinion, the general public is significantly more likely to question these views (Darmofal 2005). Looking at the speeches of Senator James Inhofe of Oklahoma, the senior Republican member of the Senate Committee on Environment and Public Works, organizations such as the IPCC have been repeatedly linked to "elite circles" such as the Obama administration (*Congressional Record* 2005b, 2006). Comments like this reshape the discussion of global climate change from one about

science to one about political power and change the perception of researchers from trusted scientists to untrustworthy elites.

These three major theories draw on historical examples and political parallels to come up with explanations for why America has failed to sign or ratify many of the treaties that have come out of the UNFCCC. In addition to these three theories, there are a number of other proposed explanations. These tend to point to very specific aspects of American culture, which tend not to be popularly discussed, such as America's culture of consumption and the tendency of Americans to oppose nuclear power. Other cases assume that a number of individual aspects of American society have helped shape American policy decisions. Although the validity of these theories will not be assessed in depth, in large part because of the difficulty of obtaining empirical data, one in particular is worth addressing.

From the development of the mass-produced Model T to the modern era, the American public, political culture, and economy have been inexorably tied to the automobile. As suburbs grew the need and desire for an automobile became the more important as a suburban house and a personal car became the ultimate status symbol. Today, America has the largest number of cars in use in the world, as well as the greatest length of roadways (International Road Federation 2009). In modern America, the personal car has been romanticized and is seen as the ultimate symbol of individual freedom, according to Robert Lang, Director of the Metropolitan Institute at Virginia Tech (Hargreaves 2008). According to the Energy Information Administration, in 2008, 33.1 percent of America's CO₂ emissions came from transportation (U.S. Energy Information Administration 2009).

The American automobile industry has long been a major player in global climate change discussions, with all of the "big three" car makers represented in Kyoto (Brown 2002). Additionally, included in the testimony for the Senate Committee on Foreign Relations Subcommittee on International Economic Policy's hearings on the Byrd-Hagel Resolution was W. David Montgomery, of Charles River's Associates, a consulting firm whose clients include the American Automobile Manufacturers Association (U.S. Congress 1997). As a significant part of American culture and a major economic powerhouse, particularly in the late 1990s, the automobile industry has the potential to affect any American policy that could be related to it. The American people, who do not want to have regulations forced on their vehicles, might object to any policy that they might see as infringing on their right to drive, either directly through limiting vehicles or indirectly by affecting fuel prices.

This was made clear in a 1978 Department of Transportation survey. Even with gas prices regularly hitting record highs, Americans were still largely unwilling to change their transportation habits (U.S. Department of Transportation 1978; hereafter DOT). When asked about what type of changes they expected Americans to make over the next five year, respondents favored changes. Of those that favored changes, most favored exploration of new energy sources, while only 4 percent felt that there should be more government "controls on auto manufactures and encouragement of energy saving autos" (DOT 1978, 5). Additionally, even following a massive energy crisis, 71 percent of the population felt that Americans would rely on their automobiles either the same amount or more in the future (DOT 1978, 6).

This is simply not the case in much of the rest of the world. In March of 2008, Americans paid an average of \$3.45 per gallon of gasoline. Although this was high by America's historical standards, it was one of the lowest gases prices in the world at the time. Much of this has to do with taxes on gasoline. During the second quarter of 2005, Americans paid \$2.01 per gallon of gasoline. On average \$0.45 of this was paid as federal or state taxes. In contrast, in France at this time, an average gallon of gasoline cost \$5.53, of which \$3.77 was paid as taxes. Similarly, in Turkey buyers were paying \$4.93 in taxes alone for each gallon of gasoline that they bought (Hoo and Ebel 2005).

American views on transportation are very clear. As the Department of Transportation report states "These results make it clear how central the automobile is to the American system of transportation" (DOT 1978, 10). The elites are clearly aware of this. Under Zaller's model of elite-public interaction, this provides an example of a situation where government action is influenced by what it anticipates public response to be (Zaller 1992, 270). The government is unlikely to take any action aimed at addressing global climate change that is likely to be perceived as having an impact on Americans' cars. As transportation accounts for a large percentage of America's CO₂ emissions, this may decrease the likelihood that American elites will endorse policies that mandate CO₂ reductions. A 1998 Department of Energy Study, predicted substantial increases in gasoline prices would occur if Kyoto were implemented and the government were to limit carbon emissions (U.S. Energy Information Agency 1998). Perhaps ironically, all of their predictions were lower than the actual increase in gas prices that occurred over the next decade.

In this example, it is made clear that America's policy decisions are driven by both the views of those who directly affect the policy making process and by the mass public. Additionally, the interactions between these groups can also shape the policy making process. The remainder of this paper will seek to examine how well the three political traditions and cultural views outlined in this chapter can be said to determine the decisions made by each of these groups in determining America's foreign policy on global climate change. Although it is unlikely that any one of these factors can be held solely accountable, as over three-hundred million people contribute to the views of the nation, an analysis of there relative impacts make help future policy makers better understand how America sets its course.

III. THE MASS PUBLIC

American views on unilateralism are complicated at best as the concept of unilateralism has very different practical implications when applied to environmental issues than when it is applied to waging war. An examination of the degree to which the unilateralist tradition influences the American masses in determining their views on environmental treaties can be done in two distinct ways: first, by comparing American support for unilateral efforts to stem global climate change to their support for international efforts to achieve the same goal, and second, by examining the public's support for other comparable international measures.

A 2009 poll conducted by the Pew Research Center for the People & the Press found that 57 percent of the population felt that the Earth was getting warmer. Polls over the prior three years consistently put this number between 70 and 80 percent. Similarly, only 36 percent of the population felt that the earth was getting warmer "mostly because of human activity," compared to 40 to 50 percent over the prior three years. However, at the same time 56 percent of the population felt that "the United States should join other countries in setting standards to address global climate change," while 32 percent felt that "the United States should set its own standards to address global climate change" (Pew 2009c). This seems to indicate that on the whole, Americans would favor entering into treaties aimed at addressing global climate change, yet a minority believes that humans are causing the earth to warm.

Historically, however, this case cannot be made as strongly, as more people saw unilateralist action as a way of addressing the issue. In 1997, when the Kyoto Protocol was adopted, 55 percent of the population felt the United States should join with other

countries, and 41 percent of the population felt that the United States should set its own standards (Pew 2009c). As there were no specific treaties being popularly discussed in 2009, and there were in 1997, this data may be interpreted in several different ways. First, the influence of the unilateralist tradition has declined in the United States over the past decade. Second, the unilateralist tradition plays little if any role in determining the public's views on global climate change treaties, and they are more driven by the specifics of the treaty. Third, Wilsonian ideals of global cooperation prevail when there are no specific policy consequences, but when there is a real treaty being discussed that has practical implications, the unilateralist tradition becomes more influential.

Given that no particular objections have been made to arrangements like the APP, which do not have specific caps or limitations, and are therefore less likely to affect the industry and economy of the nation or have any direct impact on the daily lives of its citizens, it seems that unilateralism cannot be used to explain, to any substantial degree, the views of the American masses with regards to treaties aimed at addressing global climate change. However, in those specific cases, such as the Kyoto Protocol, where the United States would be committed specific policy changes, it is possible that the unilateralist threshold is passed and the public rejects the treaty.

The views of the American masses on global climate change treaties can also be assessed by comparing them to their views on other major treaties. In other cases, Americans have been less likely than their peers to approve of international treaties. The North American Free Trade Agreement (NAFTA) provides an example of this. Although ratified by the American Senate, this trade treaty, which took effect in 1994, has been opposed by large segments of the American population. A December 2008 Gallup poll

found that 53 percent of Americans felt that the treaty had had a "mainly negative" effect on the American population, while only 37 percent felt that the treaty had had a "mainly positive" effect. In contrast, in Mexico, the population was roughly split, and in Canada, the third nation involved in the agreement, a majority of the population felt that it had had a mainly positive effect (Gallup 2008).

Regardless of the influence of the unilateralist tradition, the views of the masses, with regard to the traditional roles of federal government, also need to be considered. It has already been determined that certain executive departments receive substantially more press and funding than others. Similarly, when asked to rank what they thought should be priorities for the President and Congress in 2009, respondents to a January 2009 Pew poll ranked "Dealing with global warming" at the bottom of twenty options. Only 30 percent felt it should be a top priority, compared to 85 percent who felt that strengthening the nation's economy should be a top priority and 76 percent who felt that defending the country from future terrorist attacks should be a top priority. Dealing with global climate change was first included in the list of priorities asked about in 2007, when it ranked eighteenth out of twenty. The next year, it fell to the bottom of the list. Additionally in 2009, 10 percent of the population felt that "Dealing with global warming" was something that "should not be done." These data seems to strongly indicate that the American people feel that the federal government has significantly higher priorities than addressing global warming (Pew 2009a).

Part of this may be due to risk assessment. Individuals make decisions about risks, not based on percentages, but on characteristics of the risk. If global climate change is occurring, the mechanism of the change would be understood, its effects would

be delayed, occurring well after any increased emissions occurred, and the risk would be spread largely equally throughout the population. All of these are factors that decrease public concern about this issue (National Research Council 1989). Most Americans do not believe that global climate change will have an impact within their life times, and do not view recent natural disasters as being caused by global warming. This percentage has also been increasing over the past several years as fewer Americans believe that global climate change will have effects in their life time (Gallup 2010). In contrast, people can see job loss from a recession and deaths from terrorist attacks occurring immediately. Additionally, these types of threats harm readily countable and identifiable groups. When a single group of individuals is harmed or threatened, for example autoworkers or the passengers on an airplane, the public views the risk with greater concern (National Research Council 1989). These factors in addition to historical precedence, might contribute to the greater weight placed on security issues and economic issues at the federal level. When a treaty that has both environmental and economic implications enters the public awareness, it seems that the economic implications are examined and the environmental implications are seen as secondary, as Americans are more likely than their global peers to prioritize economic growth over environmental protection (The Pew Global Attitude Project 2009).

Additionally, in allocating authority in a federal system, there is a complex system of competition to determine who exercises authority. An efficient system is one where authority on a particular matter is clearly assigned to either the federal or the state government (Volden 2005). However, in cases where states have a wide variety of needs and opinions but are not highly efficient at dealing with the issue, there is going to be

competition between state and national authorities, as each attempts to address the issue, but neither is capable of fully solving the policy problem (Volden 2005). The states cannot, because they lack the authority or resources, and the federal government cannot, because they face internal divisions that prevent a policy from being decided upon.

This seems to be the case with global climate change. States cannot deal with the issue in a highly efficient manner, because the problem is both an interstate and international one. If one state were to unilaterally ban any greenhouse gas emissions, the businesses involved would relocate to another state with less stringent guidelines. This would likely have little effect on the total international emissions, and would not help address the issue in the state that took the original action.

At the same time, different states clearly have different outlooks towards global warming. The previously cited October 2009 Pew poll found that beliefs about global climate change varied based on region. In the West and Northeast, 53 percent and 51 percent of the population respectively felt that the earth was getting warmer primarily through human activity. In contrast, in the South and Midwest, this number was 43 percent and 44 percent respectively. This is significant when one realizes that the West and Northeast are those areas where states have been taking action to address global climate change, through programs like RGGI and AB 32. These differences may be due to differences in local industries or differing demographics between regions. Areas with heavy coal production and oil production tend to view global climate change as a less serious problem, and age, education, and religiosity have all been linked to differing views on global climate change (Pew 2009b). However, political affiliation remains the strongest predictor of views on global climate change (Pew 2006).

If states were highly efficient at dealing with climate change issues, then they would hold all of the authority, and if all states had similar needs and views on the issue, the federal government would hold all of the authority. This is not the case. Instead, it seems that because American views vary based on region, and because states are unable to take effective action on a single state basis, there is ongoing competition between the federal government and state governments when it comes to setting national policy on global climate change. This is in stark contrast with issues like defense and the national economy, where historical precedent has placed power clearly in the hands of the federal government. Like global climate change, defense and economic issues are inherently challenging to address at the state level, but unlike global climate change, public views on these matters are much more aligned. Almost everyone wants a strong economy and to be safe from foreign aggression and terrorism.

It is also important to distinguish the views held in United States from those held in the rest of the world. Elsewhere, economic growth and national security are also viewed as issues to be dealt with by the federal government, but in many other states, global climate change becomes an issue under federal authority. In some cases this may simply be the result of a unitary system, as is the case in countries like France, where there is no competition between national and sub national authorities, because all authority rests with the national government. In other cases, this may be the result of differing views of national priorities. As a July 2009, Pew Global Attitudes Project poll found, 64 percent of Americans believe that "protecting the environment should be given priority, even if it causes slower growth and some loss of jobs." Although this is handily a majority, significantly more people hold this view in countries such as Germany and

Canada, where 77 and 76 percent of the population have this attitude (The Pew Global Attitude Project 2009).

All of this seems to indicate that people in the United States consider the federal government to be responsible for dealing primarily with the traditional issues of defense and the economy, while no level of government has clear authority over global climate change. Instead, due to variations in regional views and the inherent inability of state governments to deal with the issue global climate change, the issue is being dealt with by both federal and state governments, but neither clearly holds the reins of authority. If the American people as a whole decide that global climate change should be a federal matter, it is more likely to be dealt with at the federal level. However, this is unlikely to happen, because there are other policy issues that are entrenched as federal priorities in the American mindset, and the public views on global climate change differ by region, making it hard to achieve the super majority in the Senate that is necessary to ratify a treaty.

In addition to the addressing these questions about how the American political system addresses global climate change, an investigation of the role that American skepticism and mistrust of the elites play in affecting the views of Americans with regards to global climate change is needed. This will be examined by first looking at American trust in public officials, then examining their trust in the scientific community, and finally seeing if the degree of faith that Americans put into the scientific community affects their beliefs about global climate change and how science is used in the policy making and political arenas.

From the 1970s through the 1990s, less than 10 percent of the American people felt that they could trust the government to do what is right "just about always." Instead, an overwhelming and consistent majority has stated that they trust the government to do what is right only "sometimes" (Damico 2000). This fundamental lack of trust may be symptomatic of a larger distrust of the elites who are directly affecting the American policy making process.

At the same time, however, 70 percent of Americans say that scientists contribute "a lot" to society's well-being, which ranks them above medical doctors, engineers, and clergy among others. Furthermore, 84 percent of the population believes that science has a mostly positive effect on society, while only 6 percent say that science has a mostly negative effect (Pew 2009b). This seems to suggest that Americans are clearly proscience, so they would be willing to support the scientific community's views on global climate change, regardless of the tradition of anti-elitism. Problems arise with this case, however, when one compares the views of the general public with views of the scientific community. On the whole, the American public is less likely than American scientists to view the nation's scientific achievements as being the best in the world, suggesting that there is a disconnect between the values and judgments of America's scientific community and the nation at large.

This attitude is generally accepted in the scientific community, where 85 percent of scientists view it as a major problem that the "public does not know very much about science." Furthermore, media influences seem to result in the masses developing a perception of what is generally accepted as scientific authority in the scientific community, which differs significantly from what scientists themselves view as

authoritative. In fact, 76 percent of scientists feel that it is a major problem that "news does not distinguish between well-founded findings and those that ate not," and 48 percent of scientists feel that it is a major problem that "news media oversimplify scientific findings" (Pew 2009b). Furthermore, studies of journalistic reporting on nuclear power have found that reporters are more likely to interview scientists who disagree with the established scientific community (Rothman and Lichter 1987).

When dealing directly with the scientific community, it seems that the public has generally positive feelings about it, but is generally ill-informed about the scientific community's stance on issues, in part because there is no direct connection between the two groups. Instead, most communication takes place through the news media, with the possible involvement of public leaders, which raises the question of how their views and agenda's influence American's perceptions of global climate change.

However, science inherently involves a certain degree of uncertainty. Without it there can be no progress, as questions need to be asked in order to be answered and no scientific experiment can account for all variables. Yet the public is distrustful of this uncertainty, which it perceives as a lack of truthfulness or confidence. From the public's perspective, debate within the scientific community over global climate change may be seen as a sign that the issue is largely in question, or that scientific process. This seems to be the case with global climate change. The majority of the scientific community seems to agree that it is a problem, but the public as a whole does not. This was clearly illustrated in the June 2009 Pew poll which found that 84 percent of scientists thought that the Earth was warming over time due to human action, while only 49 percent of the

general public felt the same way. The same poll found that only 56 percent of the general public thought that "scientists general agree that the earth is getting warmer because of human activity," when it is clear that the vast majority of the scientific community agrees with that assessment (Pew 2009b).

This perceived uncertainty gives rise to two different methods of addressing an issue. One view says that an action should not be taken if it may cause significant harm, and the other says that an action should not be prohibited unless it can be shown to cause significant harm (Jamieson 1996). In the debate over global climate change this is clear, as some argue that the potential destruction of humankind that could result makes action necessary, and others claim that this is not yet clear, so no action should be taken to address global climate change that would cause harm to other aspects of human life, notably, the economy.

This may be accentuated by the role that policy makers play in influencing mass opinion. Most citizens do not have the time or background knowledge necessary to make independent assessments of major policy issues. As a result they often rely on the opinions expressed by elites in order to develop their views on these issues. When political leaders disagree with expert opinion, the masses are likely to follow, and in cases where one or both of the major political parties make exaggerated claims, people are more inclined to follow the cues of the party that they trust more (Darmofal 2005). This is clearly the case with the debate over global climate change. There is a definitive party divide when Americans are asked about whether they think humans are causing global warming and when they are asked to examine global climate change as a priority for government. In 2006, 54 percent of Democrats believed that global warming is

occurring and is due to human activity, and only 24 percent of Republicans felt the same way (Pew 2006).

What this seems to indicate is that, although Americans place an enormous amount of trust in scientists, they have a distorted image of what the scientific community believes in. This is due in part to a lack of education on scientific matters, and a media that seeks to highlight controversy rather than accentuate agreement. Furthermore, the issue of global climate change seems to have become a political one, resulting in a questioning of experts, who endorse the theory of anthropogenic climate change.

When taken as a whole, this examination of the views of the masses with regards to global climate change and America's role in treaties aimed at addressing global climate change presents an interesting picture. It seems that Americans want to approach these treaties with a Wilsonian attitude, leading the world through engagement, but when presented with a specific treaty that has clear limits on emissions, the unilateralist tradition becomes dominant. In addition to this, it seems that America's regional divisions with regards to global climate change prevent it from becoming a federal priority. It is possible that this is due to the federalist nature of the American government. All of these factors suggest that while political tradition and culture may play some role in shaping the American public's views on involvement in global climate change pacts, it seems that no single factor can be held entirely responsible.

IV. THE ELITES

Views of the American elite on global climate change can be assessed in a similar manner. However, they also can be more directly addressed by examining speeches and prominent opinion pieces written by leading figures in the debate. As has been mentioned several times previously, the relationship between the views expressed by political and societal leaders have a complex relationship with the views of the masses, both influencing them and being influenced by them. Additionally, it is important to note the distinction between those members of the elite who are directly involved in the political process and those who are not.

In the same manner as the masses, America's elite have made decisions about their views on global climate change and America's involvement in treaties aimed at addressing the issue. A number of key leaders are involved in the process, each of whose views can be examined in different ways. As the United States Senate is responsible for ratifying all treaties, of particular importance are the leadership of the Senate Committee on Foreign Relations, which has jurisdiction over treaties, the Senate Committee on Energy and Natural Resources, and the Senate Committee on Environment and Public Works. Additionally, there are members of the executive branch and outspoken journalists and scientists who have made their views on global climate change treaties known. In seeking to understand why these treaties are opposed, the following will focus primarily on opponents of global climate change treaties.

With the exception of a few groups that are generally seen as out of the mainstream, it seems that few members of the elite have centered their arguments against global climate change treaties in the tradition of unilateralism. However, members of the

foreign policy elite have been shown to have an even stronger belief in American exceptionalism than the public as a whole. According to a 2009 Pew survey, 92 percent of the members of the Council on Foreign Relations (CFR), a cross section of America's foreign policy elite, felt that America should have a shared leadership role in the world, but 62 percent of the total felt that America should be the most assertive nation in that system of shared leadership. Additionally, less than 1 percent of the members of the CFR felt that the United States should have no leadership role, while 11 percent of the general public held that view (Pew 2009d). This does not, however, translate into isolationism or unilateralism. In stark contrast with the general public, 88 percent of the members of the CFR felt that free trade agreements where a good thing for the United States, and members of the CFR were significantly more likely to list climate change as a top priority for American policy (Pew 2009d). This seems to suggest that in general, members of the foreign policy elite believe that the United States should work with other nations to address issues like global climate change, but the United States should lead the discussion.

As the former chair and now ranking member of the Senate Committee on Environment and Public Works, Senator James Inhofe (R-OK) has been one of the most vocal critics of treaties aimed at addressing global climate change. His views on how the United States should interact with the international community to address global climate change differ significantly from those suggested by the Pew data. Occasionally he mentions possible ulterior motives behind the treaty, often going back to a November 20, 2000 speech given by then French President Jacque Chirac, who in an address to the Conference of Parties to the Sixth Conference of the Parties to the UNFCCC referred to

the Kyoto Protocol as "the first component of an authentic global governance." In both January of 2005 and September of 2006, Senator Inhofe referred to the speech in floor statements given to criticize proponents of global climate change, arguing that it serves as a clue to why the international community supports the Kyoto Protocol (*Congressional Record* 2005, 2006). In doing so, he links the Kyoto Protocol to a system of global governance, which in the context of the speeches is an inherently bad proposition. Although this never seems to be the primary case made by the Senator, it frequently serves as an ancillary argument.

Senator Inhofe also builds on this distrust of other nations, by framing the Kyoto Protocol as an opportunity being used by other nations to take advantage of the United States. Prior to the most recent recession, he argued that Europe saw the Kyoto Protocol as a way of holding back the American economic machine, so that European countries would have a change to compete. To back up this view, the Senator turned to remarks made by former European Commissioner for the Environment Margot Wallström, and he stated in the January 4, 2005 statement on the floor of the Senate, that:

To her, Kyoto is about "leveling the playing field" for businesses worldwide-in other words, we can't compete, so let's use a feel-good treaty, based on shoddy science, fear, and alarmism, and which will have no perceptible impact on the environment ... to restrict America's economic growth and prosperity. (Congressional Record 2005a)

This argument also seems to appeal to the American tradition of unilateralism, as Senator Inhofe argues that the treaty is really an attempt by other nations to harm the United States, suggesting that Americans are best to act alone as they cannot trust the intentions of other nations. Other prominent Senators have raised the issue of America's own actions in less dramatic ways. In a 2005 hearing before the Senate Committee on Environment and Public Works, Senator George Voinovich (R-OH) criticized the Kyoto Protocol for not including specific limits for developing nations and argued that America was taking action to address global warming domestically. He then praised the AAP as an example of American action (U.S. Congress 2005). His comments, and similarly phrased ones, seem to suggest that members of this school of thought are more likely to support domestic programs, or international efforts headed by the United States, while opposing efforts that are perceived as being favorable to other nations while holding back the United States. This, rather than Senator Inhofe's fears of an international anti-American agenda, seems to be more common as many individuals support groups like the AAP which are American-led international collaborations, yet do not put real limitations on America's domestic actions, perhaps blending the Wilsonian concept of American leadership with the unilateralist tradition of President Washington.

Although the idea of American independence has been brought up in discussions of the global climate change treaties, much of the commentary of Senator Inhofe, as well as other prominent writers and speakers, tends to focus on other issues, the foremost of these being the government's obligation to the economy. This is a popular view expressed by both politicians and other commentators, and seems to match well with the views held by the public.

Although climate change treaties may have economic implications, these implications tend to be portrayed as negative. As a result, once the federal government has determined that a treaty has negative economic implications, it can be rejected, as

environmental issues are not a federal priority. This stance was articulated in the Byrd-Hagel Resolution, which stated that "the United States should not be a signatory to any protocol…which would…result in serious harm to the economy of the United States" (U.S. Congress 1997). No exceptions are provided to this rule, making it clear that regardless of any other benefits, once a treaty has failed the economic test it is not a federal priority.

In the previously mentioned January 4, 2005 floor statement, Senator Inhofe attacks "Kyoto-like policies" on the grounds that they "harm Americans, especially the poor and minorities, causing higher energy prices, reduced economic growth, and fewer jobs," and more recently in a general attack on claims that a green economy will help America, journalist Robert J. Samuelson wrote of the "practical difficulties" of "wean[ing] the U.S. economy from today's fossil fuels" in an April 27, 2009, opinion piece in the *Washington Post* (Samuelson 2009). While these individuals clearly place economic concerns over concerns related to global climate change, it is important to note that both of these individuals also challenge the claims that global climate change can be accepted as a scientifically verified threat to humanity, so this prioritization alone cannot lead to the unequivocal claim that American elites oppose global climate change treaties on the grounds that addressing environmental treaties is not a traditional role of the federal government.

In the 2000 hearing on Kyoto, Senator Frank Murkowski (R-AK), then chair of the Committee on Energy and Natural Resources, argued that when Kyoto first was negotiated, predictions of its potential impact on the American consumer "disturbed" him and his staff (U.S. Congress 2000a). In a similar hearing five years later, Senator

Thomas Carper (D-DE), who believes that global climate change is a serious threat, also argued that the Kyoto Protocol was unrealistic, and that to protect the American economy, slower action must be taken (U.S. Congress 2005). Unlike the previous two commentators, both of these individuals accept the risk of global climate change and accept human responsibility for that risk. It can be readily claimed that protecting the American economy is the driving motivator behind their statements.

At the same time, however, Pulitzer Prize winning journalist Nicholas Kristof points out in an opinion piece in the *New York Times* on October 31, 2006, that "spending on energy research and development has fallen by more than half, after inflation, since 1979" (Kristof 2006). A believer that action must be taken on global climate change, Kristof also expresses his opinion that action is not being taken because, "Melting glaciers and corroding pteropods¹ aren't as sensational as a Congressional page scandal, or as urgent as the Iraq war." In his mind, scandal and security issues dominate the American political scene, eliminating the environment from the list of Washington's priorities.

Moving beyond political priorities, opponents of global climate change treaties very actively raise the issue of uncertainty in the scientific process. This argument has been popular both in the Senate and among writers of opinion pieces. As has been previously mentioned, in September of 2000, a joint hearing was held by the Senate Committee on Foreign Relations and the Senate Committee on Energy and Natural Resources to examine the Kyoto Protocol three years after its negotiation. Presiding over the meeting, Senator Chuck Hagel (R-NE), remarked in his opening address that since the initial negotiations on Kyoto new scientific information had come out calling the early

¹ A type of sea snail

predictions of global climate change inaccurate. He then took note of the "uncertainties and complexities of the climate change question" (U.S. Congress 2000a). Senator Inhofe has also regularly raised this argument. In numerous floor statements, he has argued that the uncertainty in the models means that there cannot be a consensus in the scientific community (*Congressional Record* 2003, 2005a, 2005b, 2006). He has instead claimed that the scientific community and the media have been "flip-flopping between warming and cooling scares" (*Congressional Record* 2006)

This opposition on the grounds of uncertainty has over time come from both sides of the aisle. In the 2000 hearing on Kyoto, Senator Jeff Bingaman (D-NM) argued that there was no consensus as to the extent of the impact of human activity on global climate change (U.S. Congress 2000a). On his website, Senator Mike Crapo (R-ID) states that "but the underlying cause of these climactic shifts is ultimately not well-understood and is a matter of vigorous debate" (Crapo 2008).

Elsewhere in government, Paula Dobriansky, Under Secretary of State for Global Affairs during the second Bush administration, and head of the American Delegation to the 10th Conference of Parties held in Buenos Aires in 2004, has been quoted by Senator Inhofe as saying, "Science tells us that we cannot say with any certainty what constitutes a dangerous level of warming, and therefore what level must be avoided" (*Congressional Record* 2005a). This has been taken by some, including Senator Inhofe, to mean that no action should be taken. Since leaving government Dobriansky has been active in promoting alternative methods of addressing global climate change including reforestation as a method of carbon sequestration.

Outside of government, prominent writers have expressed the same opinion. Robert Samuelson writes in his previously mentioned opinion piece that "...no one involved in this debate really knows what the consequences or costs might be. All are inferred from models of uncertain reliability" (Samuelson 2009), and Emily Yoffe, a writer for *Slate*, writes in the January 25, 2007, *Washington Post* that, "There is so much hubris in the certainty about the models of the future that I'm oddly reassured. We've seen how hubristic predictions about complicated, unpredictable events have a way of bringing the predictors low" (Yoffe 2007).

There are of course those who argue that the uncertainty is acceptable and the models on the whole can be accepted, such as Thomas Homer-Dixon, of the Centre for International Governance Innovation Chair of Global Systems at the Balsillie School of International Affairs, who in an October 4, 2007, opinion piece in the *New York Times* argued that scientists can be trusted to do a good job at making these predictions, even if the models are not yet perfect (Homer-Dixon 2007). Similarly in 2001, Senator John Kerry (MA-D) argued that waiting to take action until the science was certain could mean waiting until any damage done was irreversible (*Congressional Record* 2001). On the other side of the aisle, in a 2006 statement, Senator John McCain (R-AZ), stated "that the science we are relying upon is wrong," but he expressed his support for taking action on global climate change, because even if the models were not perfect, global warming could still be occurring, and limiting emissions and promoting new technologies had the potential to improve air quality and the economy, regardless of the status of global climate change (McCain 2006).

However, those members of the elite who support models of global climate change that result in disaster for humanity tend not to be those who are opposing treaties aimed at addressing the problem. Additionally, looking to the motivation behind these decisions, it is important to note that making the claim that the science being used to justify anthropogenic climate change is uncertain is different from attacking the science because it is being espoused by a segment of the population that is perceived as elitist. In most of these cases, the attack being made is not overtly about scientists being part of an elite group that is out of touch with the public.

Yet, in addition to attacking the uncertainty in the global climate change model, opponents have attacked advocates of the model for both being overly political and for being out of touch with the population at large. In an October 4, 2004, floor statement by Senator Inhofe, he states "Today's environmental groups are simply Democrat political machines with millions of dollars in contributions and expenditures each year for the purpose of raising more money to pursue their agenda." Three months later he stated, "I called the threat of catastrophic global warming the "greatest hoax ever perpetrated on the American people," a statement that, to put it mildly, was not viewed kindly by environmental extremists and their elitist organizations." (*Congressional Record* 2004) These statements seem to indicate that the Senator, and possibly other members of the policy making apparatus, feel that climate change treaties and the concept of global climate change as whole, are being perpetuated by an elite group within society that is furthermore tied to a particular political body.

While this may at first seem like a purely rhetorical attack, it may have some actual grounding. According to the previously mentioned June 2009 Pew survey, while

64 percent of Americans view scientists as being neither politically liberal or politically conservative, 56 percent of scientists view their demographic as being politically liberal. Furthermore, 55 percent of scientists identify themselves as being affiliated with the Democratic Party, and 81 percent say that they are either Democrats or lean towards the Democratic Party (Pew 2009b). This presents a complicated situation. On one hand, Senator Inhofe's arguments may appear to be strengthened by this, as it seems likely that on particularly political issues, scientists may have a party bias. On the other hand, it could be that scientists move away from the Republican Party because they perceive it to be intolerant of their work, a fact that is hinted at in the same survey, where 77 percent of scientists believed claims made during the Bush administration about government scientists not being able to report results that conflicted with the administration's stance were true.

V. LOOKING TO THE FUTURE

After decades of debate, the issue of global climate change policy is still a complex one, particularly in the United States, where policy has been determined through a system that involves members of the masses, state government, federal government, and the scientific community. It is clear that within each of these groups there is at least some division on what policy the federal government should pursue as it works with other nations to address the issue of global climate change. However, understanding how these groups affect each other and what aspects of American political history affect various segments of the population may help future policy makers set a course for America and the rest of the world.

From its earliest days, America has been reserved in entering complex treaty systems, particularly when they are developed by other nations. Although this has clearly affected the debate surrounding global climate change treaties, it is unlikely that it has been a determining factor in preventing American ratification. While Americans appreciate the nation's unilateralism, other factors seem to raise passions much more effectively and are cited far more frequently by the elites. However, tied as it is to the tradition of American exceptionalism that traces to the founding of the republic, the unilateralist tradition is a powerful if latent influence in this debate.

In addressing the role that the federal government plays in dealing with issues related to global climate change, it is clear that, unlike many other issues, it does not have absolute authority in a practical sense. Although the federal government has the authority to address international and interstate relations, neither federal leaders nor the masses view addressing global climate change as a priority. For action to be taken, both the

masses and the elites need to come to view the question as an economic or national security one. When global climate change treaties are framed as economic questions, significant members of both the masses and the elites often frame it as being harmful to the American economy. Although some individuals have tried to frame global climate change treaties as ultimately benefiting the American economy (*Congressional Record* 2001, McCain 2006), to date this has not been done effectively with global climate change, and the masses and the majority of the elites view treaties like the Kyoto Protocol as threatening some of the established priorities of the federal government, notably economic ones.

Finally, although it is clear that Americans distrust those that they perceive as being members of the elite, this distrust does not necessarily apply to scientists. Instead, it seems that Americans are skeptical of the scientific consensus on global warming not because they mistrust scientists, but instead because there is a disconnect between the scientific community and the masses. This disconnect seems to be due in part to a media bias that tends to focus on divisions in the community rather than those areas where there is general agreement.

Although American anti-elitist sentiment does not seem to be affecting the debate through scientists, anti-elitism still plays a role in the debate, but it is in a very different context. Opponents of global climate change treaties, particularly Republicans, have sought to use the debate as a way of attacking those interests that they oppose politically. By framing the issue as one where Democrats and their elitist allies are trying to manipulate the American people using flawed science, they have made global climate change a political issue, playing off bias that views government and industry as working

without the best interests of the people in mind. This may be an extension of the relationship between the masses and the elites, which tends to polarize issues and force parties to take opposing stances on issue.

All of these factors will play a role in influencing America's future decisions regarding international treaties aimed at addressing global climate change. President Obama's administration has made it clear that it would like to take action to address global climate change, which the administration considers to be a real threat facing America. At the same time, speaking at the December 2009 United Nations Climate Change Conference in Copenhagen, which also served as the Fifteenth Conference of Parties to the UNFCCC, President Obama made it clear that he does not consider a simple extension of the Kyoto Protocol to be acceptable. Like many before him he points to the failures of European states to meet their targets, and he argues that developing countries need to be more involved in the process, stating "It's not enough just for the developed countries to make changes," while acknowledging that both sides in he developing country discussion have legitimate points (Executive Office of the President of the United States 2009).

Out of the Copenhagen Conference came the highly controversial Copenhagen Accord. This American-led proposal, which was noted but not adopted by the Conference of Parties, focused on technological advancements, reforestation, and aid to developing nations to help them decrease their emissions. It holds no legally binding status, and has been opposed by many nations for being too slow and not setting any real targets for emissions cuts (Copenhagen climate summit held to ransom - Gordon Brown 2009; hereafter Copenhagen). Additionally, the Accord was developed by only a small

group of countries present at the Conference, and many European countries that were not involved in its development view it as a step backwards in the global community's attempt to address climate change (Copenhagen 2009).

Given these facts and the nature of American's political system, certain conclusions can be drawn about the nature of the treaties aimed at addressing global climate change that the United States is likely to ratify. Many of the characteristics of a treaty likely to be ratified by the United States are seen in the Copenhagen Accord, which suggests that such a treaty will be a controversial one globally and will be unlikely to develop the global support held by the Kyoto Protocol.

Any treaty ratified is likely going to be initiated by the United States. Americans seem to prefer programs that they develop. This could be because they like to maintain the feeling that they are leading the world, or it could be because they share the view of Senator Inhofe, and believe that any treaty developed by foreign powers has a hidden anti-American agenda and will benefit other nations at the expense of the United States. Additionally, at this point, most European nations have moved beyond the type of treaties that the United States is comfortable with. Although they might be willing to sign an American initiated treaty, they are unlikely to propose some of the measures that would be needed to get American approval. Similarly, many of the developing nations that have become influential in the world political arena have demonstrated that while they are willing to become involved in political mechanisms, like Kyoto and the APP, they have no interest in initiating them themselves.

Notable among the American requirements for a treaty aimed at addressing greenhouse gas emissions would be a lack of binding emissions caps. At the federal

level, binding caps are perceived as harmful to the American economy. Instead, it seems that the elites who have successfully prevented America's entrance into any treaty with binding caps have favored non-binding emissions targets and technological efforts aimed at reducing emissions.

In the event that targets are proposed, the system devised must be viewed as fair. Developing a system for setting levels of reduction for emissions that can be universally accepted proves a unique challenge. A balance must be found between the demands of developing nations who feel that they should face less stringent limits on emissions because the rest of the world has already polluted at their expense, and they should be given the opportunity to expand, and nations like the United States who are opposed to putting caps on some nations but not others. Additionally, a system of targets must not be seen as biased toward any group of nations.

Finally, for a treaty to receive American approval, it cannot contain explicit acknowledgment of anthropogenic climate change. In the United States, discussions of the science behind climate change have become highly politicized, with the sides tending to break down along party lines. For a treaty to succeed, it must bypass this discussion. Instead, a treaty ratified by the United States would most likely base itself in economics and technological innovation, giving minimal word space to environmental issues. These are ideas that are prioritized by Americans and are widely accepted by the public as reasons for change. This may be the reason behind the success of programs like the APP, which focus on technological innovation rather than emissions.

Given the different demands of nations at the negotiating table, it is unlikely that another treaty will emerge that holds the same international weight symbolically or

politically as the Kyoto Protocol has. Instead, it is likely that groups of nations will develop systems for addressing global climate change that are suited to meet the demands of the group, rather than the global community, as no global consensus seems to be emerging, particularly as developed nations put more pressure on their developing counterparts to agree to binding limits on emissions.

In time, the true nature of global climate change is likely to be revealed, and action will likely be taken with or without American involvement. If the United States wants to retain its status as a global leader, American policy makers must understand what is driving the nation's decisions and must effectively convey the people's concerns and needs to the global community. At the same time, the United States must not destroy the ties that it has to other nations and must be willing to reach a compromise on matters that the world sees as important. Hopefully an improved understanding of how America is making its decisions on global climate change treaties will help to mediate that process.

REFERENCES

- Asia Pacific Partnership on Clean Development and Climate. 2007. Charter. Accessed: 10 December 2009 < http://www.asiapacificpartnership.org/pdf/resources/ charter.pdf>.
- Brown, Donald A. 2002. American Heat: Ethical Problems with the United States' Response to Global Warming. New York: Rowman & Littlefield Publishers, Inc.

Berinsky, Adam J. 2009. In Time of War. Chicago: Chicago University Press.

California Environmental Protection Agency. California Air Resources Board for the State of California. 2008. Climate Change Scoping Plan: A Framework for Change. California Air Resources Board.

Chayes, Antonia. 2008. International Security 33: 45-81.

Climate Change. 2007. American Association of Petroleum Geologists. Accessed: 12 February 2010 < http://dpa.aapg.org/gac/index.cfm>.

Congressional Record. 2001. 107th Cong., 1st sess., vol. 147, pt 81.

Congressional Record. 2003. 108th Cong., 1st sess., vol. 149, pt 113.

Congressional Record. 2004. 108th Cong., 2d sess., vol. 150, pt 123.

Congressional Record. 2005a. 109th Cong., 1st sess., vol. 151, pt 1.

Congressional Record. 2005b. 109th Cong., 1st sess., vol. 151, pt. 37.

Congressional Record. 2006. 109th Cong., 2d sess., vol. 152, pt. 125.

Congressional Record. 2009. 111th Cong., 1st sess., vol. 155, pt. 177.

- Copenhagen climate summit held to ransom Gordon Brown. December 22, 2009. BBC News. Accessed: 14 April 2010 http://news.bbc.co.uk/2/hi/uk_news/politics/8423831.stm>.
- Crapo, Mike. 2008. Climate Change. Accessed: 14 April 2010 < http://crapo. senate.gov/issues/energy/ClimateChange.cfm>.
- Cushman, Robert M. and Sonja B. Jones. 2002. Environmental Management 29: 360-372.
- Damico, Alfonso J., M. Margaret Conway, and Sandra Bowman Damico. 2000. Polity 32: 377-400.
- Darmofal, David. 2005. Political Research Quarterly 58: 381-395.
- Executive Office of the President of the United States. Office of Management andBudget. 2010. Budget of the U.S. Government: Fiscal Year 2011. Washington:U.S. Government Printing Office.
- Executive Office of the President of the United States. Office of the Press Secretary. 1998. Statement by the Press Secretary on the Kyoto Protocol. Accessed: 13 January 2010 < http://clinton6.nara.gov/1998/11/1998-11-12-statement-by-thepress-secretary-on-the-kyoto-protocol.html>.
- Executive Office of the President of the United States. Office of the Press Secretary.
 2009. Remarks by President Obama on Copenhagen Agreement. Accessed: 14
 April 2010 http://www.america.gov/st/texttrans-english/2009/December/20091219124446ptellivremos0.5465052.html>.
- Gallup. 2008. North American Free Trade Agreement.
- Gallup. 2010. America's Global Warming Concerns Continue to Drop.

Global Climate Change. 1999. American Geological Institute. Accessed: 12 February 2010 < http://www.agiweb.org/gapac/climate_statement.html>.

Hargreaves, Steve. 2008. "U.S. Gas: So Cheap It Hurts." CNNMoney.com. Accessed 14 April 2010 http://money.cnn.com/2008/05/01/news/international/usgas price/>.

Hays, J. D., John Imbrie, and N. J. Shackleton. 1976. Science 195: 1121-1132.

- Hofstadter, Richard. 1948. The American Political Tradition and the Men Who Made It. New York: Alfred A. Knopf.
- Homer-Dixon, Thomas. October 4, 2007. A Swiftly Melting Planet. The New York Times.

Hoo, Sonya and Robert Ebel. 2005. Tax Notes 1565.

Horowitz, Irving Louis. 1967. International Studies Quarterly 11: 32-62.

- International Road Federation. 2009. IRF World Road Statistics. Accessed: 14 April 2010 http://www.irfnet.org/files-upload/stats/2009/wrs2009_web.pdf.
- Jamieson, Dale. 1996. Annals of the American Academy of Political and Social Science 545: 35-43.

Johnson, Ruth. November 23, 2009. Climate Emails Stoke Debate. Wall Street Journal.

Kevles, Daniel J. 2008. Dædalus Spring 2008: 80-95.

Key, Jr., V. O. 1965. Public Opinion and American Democracy. New York: Alfred A. Knopf.

Khilyuk, L. F. and G. V. Chilingar. 2004. Environmental Geology 46: 970-979.

Kiehl, J. T. and Kevin E. Trenberth. 1997. Bulletin of the American Meteorological Society 78: 197-208.

Kitchen, Veronica. 2001. International Journal 57: 37-55.

Kristof, Nicholas D. October 31, 2006. Scandal Below The Surface. New York Times.

- Le Treut, H., R. Somerville, U. Cubasch, Y. Ding, C. Mauritzen, A. Mokssit, T. Peterson and M. Prather. 2007. "Historical Overview of Climate Change." In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, ed Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller. New York: Cambridge University Press.
- Legro, Jeffrey W. 2000. International Organization 54: 253-289.
- McCain, John. 2006. Address to Symposium on Climate Change. Accessed: 5 January 2010 <http://www.mccain.senate.gov/public/index.cfm?FuseAction=PressOffice. Speeches>.
- Medelsohn, Robert O. 2005. An Economist's View of the Kyoto Climate Treaty. Accessed: 10 November 2009 http://www.npr.org/templates/story/story. php?storyId=4504298>.
- National Research Council. Committee on Risk Perception and Communication. 1989. Improving Risk Communication. Washington: National Academy Press.
- Pew Center on Global Climate Change. 2004. The European Union Emissions Trading Scheme (EU-ETS) Insights and Oppertunities.

The Pew Global Attitudes Project. 2009. 25-Nation Pew Global Attitudes Survey.

- The Pew Research Center For The People & The Press. 2006. Partisanship Drives Opinion.
- The Pew Research Center For The People & The Press. 2009a. January 2009 Political Survey.

- The Pew Research Center For The People & The Press. 2009b. Scientific Achievements Less Prominent Than a Decade Ago.
- The Pew Research Center For The People & The Press. 2009c. October 2009 Political Survey.
- The Pew Research Center For The People & The Press. 2009d. America's Place in the World: An Investigation of Public and Leadership Opinion About International Affairs
- The Pew Research Center For The People & The Press. 2010. People and Their Government: Distrust, Discontent, Anger and Partisan Rancor.
- Regional Greenhouse Gas Initiative. 2007. Overview of RGGI CO2 Budget Trading Program. Accessed: 5 January 2010 http://rggi.org/docs/program_summary_10_07.pdf>.
- Rothman, Stanley and S. Robert Lichter. 1987. The American Political Science Review 81: 383-404.

Samuelson, Robert J. April 27, 2009. Selling The Green Economy. The Washington Post. Thompson, Kenneth. 1980. British Journal of International Studies 6: 111-124.

- United Nations Framework Convention on Climate Change. 2002. United Nations Framework Convention on Climate Change. Accessed: 10 December 2009 http://unfccc.int/resource/docs/convkp/conveng.pdf.
- United Nations General Assembly. 1988. Protection of Global Climate for Present and Future Generations of Mankind. 6 December. A/RES/43/53. General Assembly-Forty-third Session, p. 143.

- United Nations Treaty Collection. 2010. Multilateral Treaties Deposited with the Secretary-General. Accessed: 2 March 2010 < http://treaties.un.org/Pages/ ParticipationStatus.aspx>.
- U.S. Congress. Senate. 1997. 105th Cong., 1st sess., S. Rept. 105-54.
- U.S. Congress. Senate. 2000a. 106th Cong., 2d sess., S. Hrg. 106-808.
- U.S. Congress. Senate. 2000b. 106th Cong., 2d sess., S. Rept. 106-21.
- U.S. Congress. Senate. 2005. 109th Cong., 1st sess., S. Hrg. 109-1016.
- U.S. Department of Transportation. Office of the Secretary. 1978. A Survey of American Attitudes toward Transportation. Washington: Department of Transportation.
- U.S. Energy Information Administration. Office of Integrated Analysis and Forecasting.1998. Impacts of the Kyoto Protocol on U.S. Energy Markets and Economic Activity. Washington: Department of Energy.
- U.S. Energy Information Administration. Office of Integrated Analysis and Forecasting.2009. Emissions of Greenhouse Gases in the United States 2008. Washington:Department of Energy.
- U.S. Environmental Protection Agency. National Center for Environmental Assessment.2009. Indicator: Sulfur Dioxide Emissions.

Volden, Craig. 2005. American Journal of Political Science 49:327-342.

Wild, Martin. 2009. Journal of Geophysical Research 114.

Wedgwood, Ruth. 1998. Foreign Affairs 77: 20-24.

Yoffe, Emily. June 25, 2007. Gloom and Doom in A Sunny Day. The Washington Post.

Zaller, John R. 1992. The Nature and Origins of Mass Opinion. New York: Cambridge University Press.

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