Media, Politics and the Portrayal of "Climate-gate" by CNN and Fox News

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MEDIA, POLITICS AND THE PORTRAYAL OF “CLIMATE-GATE”

BY CNN AND FOX NEWS

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A Thesis

Presented to

The Faculty of Arts and Humanities

University of Denver

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In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

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by

Jennifer Renee Hill

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Abstract

Mere days before the Copenhagen Climate Summit, the main server of the Climate Research Unit of the University of East Anglia was illegally hacked and over 3,000 documents were downloaded and released onto climate change blogs with excerpts of emails exchanged between climate change scientists that discussed manipulation of data, faulty observation techniques, and their frustration over their inability to provide solid proof that global warming was occurring. The release of these emails set off a firestorm of debate and the incident was quickly coined “Climate-gate.”

This study examines the ensuing media coverage by CNN and Fox News and seeks to understand the narrative of the event that was provided to the American public. An analysis of the coverage of Climate-gate by two major American news media organizations offers new and interesting insight into the nature of the partisan-based divide that characterizes public opinion regarding the issues of global warming and climate change in the United States.
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Chapter One: Introduction

In November 2009, a hacker with a Turkish IP address broke into the University of East Anglia’s Climate Research Unit and retrieved 1,079 emails exchanged between climate change scientists and approximately 2,000 other related research documents and released them onto the Internet. The emails discussed suppression of evidence, attempts to elude Freedom of Information Act requests, manipulation of data, faulty observation techniques, and climate change scientists’ acknowledgements that there were significant gaps in the data that supported the idea that global warming was currently occurring (Revkin “Hacked”; Delingpole “Climategate”). The release of these emails set off a firestorm of debate as the documents were first discussed on an assortment of climate change blogs and then the major media began to take note. The timing of the release of these emails was uncanny as it occurred immediately before the 2009 United Nations Climate Change Conference, or what is commonly known as the “Copenhagen Summit,” which was predicted to lead to a treaty or agreement between 192 countries to reduce CO$_2$ emissions.

The conversations and data contained within these emails and documents led to worldwide skepticism and controversy as journalists, bloggers and the general public began to question the validity of the science behind global warming and climate change science. The term “Climate-gate” was coined on the U.K. *Telegraph* blog by a writer named James Delingpole and quickly began to be adopted as the word that was used by
some media outlets such as Fox News to describe the release of the hacked information (Booker “Climate Change”). Climate contrarians referred to the emails as the “smoking gun” evidence of a hoax that was cleverly designed to fool the American public while scientists and environmental activists argued that the emails had been taken out of context. The following months of news coverage were fraught with controversy as journalists, scientists, skeptics and the general American public sparred over the repercussions of the incident vis-à-vis the case of human-caused global warming and its credibility in the public eye.

This study specifically examines the way that coverage regarding Climate-gate was framed in the news stories of CNN and Fox News. In conducting this study, all of the news stories written by Fox and CNN from the outbreak of “Climate-gate” in late November 2009 to August 1, 2010 regarding the incident were analyzed and coded for specific frames. In addition to these news stories, all associated pictures or graphics and transcripts of television coverage of the incident were analyzed. While most framing analysis studies simply draw from a sample, this study examined all articles, pictures (and graphics), and transcripts of television clips from these two news outlets that focused on Climate-gate. All articles, pictures and transcripts were examined because of a) the briefness of the articles, the small number of pictures and graphics used and the manageable number of transcripts and b) to guarantee comprehensiveness. These two networks were specifically chosen because they have often been accused of presenting news with a particular slant. A study of Fox News by Groeling & Baum revealed that “the outlet’s news coverage showed a consistently pro-Republican slant” (Iyengar 22).
Additionally, analysis by Iyengar and Kahn revealed that the coverage by CNN “more closely matched the preferences of Democrats than the content provided by Fox” (24).

A part of framing analysis focuses on the impact of media framing or the presentation of issues on public perceptions of these issues by positing that frames structure or inject a type of organizing schema into the presentation of information. This study will identify the specific themes or frames that characterized the presentation of Climate-gate to the public in Fox News and CNN accounts. In doing so, it will seek to correlate these frames with the public’s subsequent declining belief regarding the existence of global warming in early 2010 and the increasing belief that global warming has been exaggerated in the news. This correlation is shown by way of supporting Gallup poll data from 2009 through early 2010.

The topics of climate change and global warming hold particular interest in light of the fact that over the past few years, “global warming” and “climate change” have become international buzzwords in scientific communities and media channels and the topics of international policymaking and debate. The issues are comparable to other environmental issues that have dominated the public sphere such as the diminishing ozone layer and air and water pollution, in that climate change and global warming have experienced cyclical popularity in the media. The issues gained and then lost media attention in the early 2000s, and then regained popularity in 2007 and 2008 (particularly in the United States) with the support of championing political elites such as Al Gore and President Obama who aggressively highlighted their importance to social discourse and policy initiatives. The terms are often used interchangeably by numerous media outlets and communication scholars. However, it is important to understand the differences
between the two terms. In ideal form, global warming refers to an overall planetary warming trend that is often presumed to be at least partially caused by human emission of greenhouse gases while climate change refers to long-term changes in the earth’s climate as a result of the increase of greenhouse gases but doesn’t presume this increase is necessarily caused by humans (Conway). Yet, many people, including mass communication scholars and news outlets, often do not adhere to these distinctions and use the terms interchangeably. This can lead to confusion. In this study, I use the terms “climate change” and “global warming” separately and as distinguished by the definitions previously given. This study clarifies when scholars and journalists who are being cited or analyzed are using the terms interchangeably and not using “global warming” and “climate change” in the way I have defined above. Additionally, this study specifically examines whether CNN and Fox News used the terms interchangeably in their news articles and news clips.

This study attempts to understand whether the news stories, pictures/graphics and video clips on FoxNews.com and CNN.com regarding Climate-gate and the associated environmental topics of global warming and climate change were negatively, neutrally or positively framed for American consumption by examining the tone, quotes, sources selected, cause and effect relationships, and language of the stories. By analyzing the news stories, pictures/images and news clips and identifying frames in Fox News and CNN’s coverage of Climate-gate, the study seeks to answer the following research questions:
1. What types of frames are used by CNN and Fox News to present the Climate-gate controversy to the American public? And, which frames appear more frequently than others in each news outlet’s coverage?

2. As media coverage of Climate-gate progressed, do the number of scientific sources decrease and the number of political and advocacy claims makers increase?

3. Does either Fox or CNN emphasize scientific conflict/disagreement more than the other?

4. By analyzing the evolution of the news discourse and the political sources quoted over the selected time period, does there appear to be a shift in coverage over time which might be said to be related to the influence of the political sources interviewed in terms of shaping coverage of climate change and climate-gate by CNN and Fox?

5. Is there evidence of risk perception frames? If so, does Fox or CNN emphasize a greater risk perception (employ a risk perception frame) more than the other?

6. What sort of correlation is there between the news frames surrounding Climate-gate in Fox News and CNN and some public opinion polls surveying Americans on their attitudes toward global warming and their attitudes toward media coverage of global warming in general?

7. If there is a correlation between major news frames about Climate-gate in Fox News and CNN coverage of this event/issue, what might this mean in terms of the potential impact of specific news frames about global warming on public opinion regarding global warming?
In order to further clarify question No. 4, this study attempts to identify whether a “trickle-down” effect occurred (from political elites through the mass media to the American public) by examining the news stories over a set period of time to determine if journalistic framing of the issues of climate change and global warming evolved to reflect the views of the political sources cited in the stories. It is important to acknowledge that this trickle-down process is a dynamic, interactive process in which different societal elites draw from, and affect, one another’s views and perspectives. This process will be discussed in greater depth in the literature review. In sum, this study examines the trickle-down effect of political elites into mass media coverage and attempts to correlate its effects on mass media to the change in public opinion toward global warming and climate change. However, it does not seek to establish the “original” source of particular frames, which in some cases might be scientific and intellectual elites, rather than the political elites whose discourse this study examines. In addition, in order to assess the origination point of particular frames, it might be necessary to refer to the specific pieces of legislation or particular speeches by political elites. However, that research is beyond the scope of this study. Rather than seeking to establish origination points – a task which, given the circular nature of social life, is fraught with difficulty, this study focuses on the discourse of political elites and the ways in which this discourse frames, and is framed by, and within, media discourse on global warming, climate change and Climate-gate. This focus on political elites is consistent with the focus of much of media framing analysis research.

Theoretically, the study draws heavily on framing research and the research and writings of Erving Goffman and Robert Entman and specifically applies Entman’s theory
of framing to understanding frames used by media to explain Climate-gate and the
broader socially-laden environmental issues of climate change and global warming. In
conducting this study, past research of news coverage of similar environmental issues
was reviewed. These studies have revealed that certain types of frames are recycled and
used to present environmental issues to the public. Issue-specific frames that have
historically been used in environmental news coverage are call-to-action frames and
value frames with story overtones that emphasize the existence of disagreement among
climate change scientists regarding the source(s) or existence of climate change. In
addition, past research has indicated that there are considerable gaps in the average
American’s conception of science and environmental issues and that most information
Americans do possess about science and the environment has been provided through the
filter of a journalistic lens (Corbett 129). This study highlights the informative function of
mass media and posits a correlation between mass media framing of Climate-gate and
public opinion regarding climate change and global warming and public risk perception
of the phenomena.
Chapter Two: Literature Review

Framing theory, as developed by sociologist Erving Goffman, is employed by this study as it seeks to understand the schemata or structures by which we “classify, organize, and interpret our life experiences to make sense of them” (Pan and Kosicki 56). Framing tells us “how to think about some objects and which object attributes are important and which ones are not” (Baran and Davis 282). It is noted that “the construct of framing has been linked to second-level agenda-setting, which suggests that media coverage may move beyond the issues we think about to influencing how we think about that issue” (Christie 523). Both framing and second-level agenda setting theory call attention to the way communication is structured to construct specific perspectives toward a topic within an audience. According to Maxwell McCombs, second-level agenda setting tells us “how to think about some objects” and tells us “which object attributes are important and which ones are not” through the process of highlighting certain features of a story (qtd. in Baran and Davis, 282).

The concept of second-level agenda setting is firmly based on the idea that the media contribute salience or importance to certain issues. In contrast, “framing is based on the concept that subtle changes in the wording of the description of the situation might affect how audience members interpret this situation” or in regards to this study, could influence public opinion on a particular issue (282). While there is notable ambiguity and disagreement regarding a standardized definition of framing, Robert Entman defines
framing as “the process of culling a few elements of perceived reality and assembling a narrative that highlights connections among them to promote a particular interpretation” (Entman, “Framing Bias” 164). Entman further notes that framing occurs at four levels: “in the culture, in the minds of the elites of professional political communicators, in the texts of communications and in the minds of individual citizens” (Entman, Handbook 176). The secondary definition of framing specifies what frames particularly do, especially in regards to issues: “this includes defining problems, making moral judgments, and supporting remedies” (qtd. in 176). This second definition lends inspiration for an evaluation which will be made at the end of the study, after analyzing all texts, as to whether the uncovered frames fall into these specific categories.

According to the basic tenets of framing theory, the effects of highlighting and selecting information can often lead audiences to interpret a situation in a certain way. This effect is particularly pronounced when the frames are repeated and the presumed effect is that individuals, when repeatedly exposed to a certain frame, begin to preclude certain interpretations or thinking of issues/situations, etc. in a way other than the frames they were previously provided with. The act of selecting and highlighting bits of information to be woven into a comprehensive narrative presents the information to the public much like a story from which the audience is expected to interpret and draw conclusions predetermined by the author. J. A. Kuypers and Stephen Cooper note, “In short, when journalists frame, they construct a particular point of view that encourages the facts of a given situation to be interpreted in a specific way (2). In addition, frames can also “limit and shape the range of interpretive possibilities by telling us what is
important, what the range of acceptable debate on a topic is, and when an issue has been
resolved” (Spielvogel 551). Entman’s view is similar. He further defines the importance
of frames as instrumental in “making connections” as to “promote a particular
interpretation, evaluation, and or solution” (Entman, Projections 5). In essence, frames
determine the boundaries of interpretation and provide audiences with an organizing
structure upon which to construct reality.

It should be noted that while the power of frames lies in their ability to define an issue
to an audience, there are several factors that should be considered which can mitigate or
enhance their effect. These mitigating or enhancing factors are an audience’s need for
orientation, obtrusive issues and competing frames or news stories. While these factors
were originally examined in conjunction with the agenda-setting function of the media,
the factors have equal relevance in regards to framing effects. According to Coleman,
McCombs, Shaw and Weaver, “need for orientation is defined in terms of two lower-
order concepts—relevance and uncertainty” (Coleman 152). Relevance refers to how
important an issue is to an individual while uncertainty is generated when an individual
does not feel informed regarding a specific topic (152). The effects of framing can be
mitigated when these two factors are low in that if an individual has a low desire for more
information regarding the issue or feels that the topic has little personal relevance, they
are less likely to be affected by the frames present within the discourse (152). However,
when these factors are high, in that the individual has a strong desire to obtain more
information regarding the issue from the media and the issue has strong personal
relevance, framing effects are presumed to be much stronger. Also intriguing, is the
discovery that orientation is linked to education in that “higher education typically increases interest in public issues, and those with more education are more likely to mirror the media’s agenda” (153).

The obtrusiveness of an issue can also influence an audience’s reception of framing effects by mitigating or enhancing these effects through the intermediate variable of personal experience. Coleman notes, “Unobtrusive issues, those with which people have little or no experience, are the ones most likely to become important to people if they are high on the media’s agenda” (153). This factor is particularly relevant in relation to the issues of climate change and global warming. Most individuals have little or no personal experience with the issues, though, some may feel that they have witnessed the effects of climate change first-hand during droughts, flooding, heat waves, etc. Data regarding climate change and global warming is obtained second-hand through the information that is provided by the media. The unobtrusiveness of global warming and climate change gains depth in light of the understanding that climate change, in particular, is looking at a long-term effect on weather patterns, etc. and is not a phenomenon that is typically physically and concretely apparent to the non-scientific observer. An audience’s lack of experience with these issues could lend the issues of climate change and global warming an unobtrusiveness that enhances framing effects as media mediate an audience’s only “first-hand” experience with the issues. However, as noted previously, there are many people who have experienced a weather event that they mentally attribute to global warming, yet, are unable to prove the connection. In this case, the media do not provide a
first-hand experience of the issues, but explain the causes and in many cases, provides and interprets solutions.

Another factor that can mitigate or enhance framing effects is competing frames. It should be considered that during the time that the Climate-gate story broke, the issue of high importance to the American public was the state of the economy and the topic had both the apparent qualities of personal relevance and obtrusiveness. As Entman stated succinctly and powerfully: “Competition complicates matters considerably” (Entman, *Handbook* 186). This study looks in particular at whether the issues of climate change and global warming were presented to the public in terms that implied that efforts to combat them would negatively affect the economy. The competition of frames within the news stories would presumably add a level of complication to audience reception. While these observations cannot be absolutely proven because of the qualitative nature of the study and the lack of a controlled environment to concretely establish cause and effect, the effect of frame competition is an acknowledgement that must be made in explaining potential framing effects. Entman summarizes a key flaw of framing analysis by noting that, “Literally hundreds of different conditions might be required to construct an experiment that truly replicates framing in the real world.” To complicate things even further, “individuals are free to accept different parts of framing communications and combine them in idiosyncratic ways” (186). The complexity is deepened with the realization that an audience can accept a particular definition of a problem but reject the suggested remedy or solution offered by a frame.
In understanding framing, it is important to understand the sociological influences that can impact frame origination and development. While journalist and editor ideologies can often influence the way information is presented to the public, journalists’ slant is often merely the result of the larger culture in which they operate and is also often unintentional. This contrasts with the ideologies of political sources who may be cited in a story that often have a particular slant. Thus, while “mainstream news organizations contend that they treat competing frames equivalently, ensuring that their reports do not slant, slanted news is not, as journalists tend to insist, the rare exception” (Entman, “Framing Bias” 165). It is by comparing frames through analysis that their existence is often made known. These frames are often skewed to protect the interests of the more powerful individuals in society or what researchers label the elites (Entman, Projections 4). Researchers, Daniela Dimitrova and Jesper Stromback note, “Multiple factors contribute to the selection of media frames, including journalistic norms and routines, individual schemas of reporters, and political ideology” (qtd. in 406).

While this framing may be conscious or unconscious, many researchers agree that “the national political elite impacts media framing” (Dimitrova and Stromback 406). Olausson agrees with this idea and notes, “Media frames do not develop in a political vacuum, but are shaped by competing stakeholders such as politicians, organizations and social movements” (423). Carragee notes, “A frame’s ability to dominate news discourse depends on complex factors, including its sponsor’s economic and cultural resources, its sponsor’s knowledge of journalistic practices, and a frame’s resonance with broader political elites” (216). In his influential book, Projections of Power, Entman defines what
he calls the “cascading network activation model” that he “designed to help explain how thoroughly the thoughts and feelings that support a frame extend down from the White House (and associated political elites) through the rest of the system” (10). This cascading process is particularly applicable in understanding this study’s research questions in that it provides a possible organizational model for making sense of the frames that were used in disseminating information by the media about climate change to the American public (See Chart 1 on following page):
In Chart 1, the effects of framing could be seen as being transmitted by a one-way communication process from political elites to a passive audience. However, it is important to understand the function of existing audience schemas that cause a type of “resonance” in response to journalistic framing of information and infuse the process with feedback that is filtered back to political elites through the media. “Mass media
actively set the frames of reference that readers or viewers use to interpret and discuss public events and at the same time, people’s information processing and interpretation are influenced by preexisting meaning structures or schemas” (Scheufele 105). Entman notes that just “as with real-world cascading waterfalls, each level in the metaphorical cascade also makes its own contribution to the mix and flow (of ideas)” (Projections 10).

This “mix and flow of ideas” can also be understood as the interactive process between mass media, political elites and the public. Part of this process will be explored in this study, which is significantly inspired by Entman’s research which focuses on the trickle-down of ideas from political elites to mass media to the public. While Entman acknowledges the interactivity of the process, he does not analyze this aspect in depth. However, he does contend: “Framing messages can affect elites’ perceptions of public opinion, their assessments of the political environment and the calculations of political benefits and threats that shape their rhetoric and decisions” (Entman, “Nature” 186). Entman does not definitively identify the origination point for elite views, but notes that it is an interactive, multi-layered process. As this study is based theoretically in part on the cascading network activation model, it also does not attempt to analyze the original source of the frames that trickle down from political elites to mass media. Instead, it focuses on determining whether political elites influenced the evolution of frames over the cycle of the Climate-gate news story.

The theory of framing rests on the premise of an audience that is actively processing information and heuristically constructing meaning according to individual schemas in response to media frames. This phenomenon, called “priming,” refers to “activating an
association between an item highlighted in the framed text and an audience’s thinking about a related concept” (Entman, *Projections* 27). Entman describes the process: “A good match between a news item and habitual schemas pulls a frame into people’s thoughts with virtually no cognitive cost or costly searching of memory for meaning or relevance” (15). It is important to understand the ways that audiences interact with frames and the importance of this connection to the research questions. By understanding the types of frames that the American public was presented with (or the metaphorical “lenses” and mental shortcuts it was provided) to view the issues of climate change and global warming and the incident of Climate-gate, a better explanation can be formulated for understanding the change in public opinion that occurred from 2009 to 2010.

Recently, many communication researchers examining the intersections between media, climate change, global warming and public opinion have focused on American levels of knowledge regarding these issues and, in particular, the level of concern that the American public has assigned them (Bell 1995; Zehr 2000). However, there is a lack of research regarding how politically-charged media frames have helped craft specific public opinions that are split along partisan lines. Some studies have focused on the types of themes that dominate policy conflict. One study, conducted by Nam-Jin Lee and Douglas McLeod, focused on how journalists often cite the concept of “issue dualism” when defending the tone of a news story, a concept which involves balancing a news story by citing sources from both sides of the presented issue. While their study examined the effects of media coverage in developing public opinions regarding stem cell research and immigration, it is relevant to understanding media coverage of Climate-gate. This is
because their research analyzed how frames evolved by choosing certain types of sources. The evolution of frames is also analyzed throughout this study by examining the types of sources chosen for citation throughout the news cycle in order to determine whether the frames evolved and began to match the views of the sources or remained unchanged.

Lee and McLeod argue that the journalistic practice of issue dualism leads to “news stories that adopt a conflict frame and are organized around various parties in contention over issues of public concern” (Lee 700). This type of frame is particularly effective in creating a “clash of values” or a “strategic battle between competing actors” (700). Lee and McLeod specifically highlight the importance of these two frames within public policy discourse and note that the strategy frame often creates a horse-race-style type of coverage where the conflict is painted in winner/loser competition terms. In contrast, value frames involve “value choices” and “typically depict policy debates as clashes of moral principles or basic values” or in essence involve a struggle over the legitimacy of claims.

Lee and McLeod hypothesized that value frames would amplify partisanship and issue positions. While their study did not provide enough evidence that this relationship was strengthened, the researchers did discover that value framing did not suppress the use of partisanship in formulating opinions. In addition, they discovered that an individual’s need for a certain level of cognition determined the level of deviation from a specific political position. “In particular, those individuals who were not predisposed to conduct thorough and careful processing tended to align their opinion with other relevant
alternatives” and weren’t as motivated to extend mental effort beyond a few limited opinion options (713). This study is particularly useful in understanding the types of frames that characterize public policy discourse because it shows that public policy issues are often presented in terms of conflict and values. The study also provides an understanding of how partisanship and an individual’s need for cognition plays a role in forming opinions. This is especially important to this study in terms of analyzing the news story discourse and correlating the coverage with Gallup public opinion polls that reflect public opinion toward global warming and climate change in early 2010.

Another study that is useful to the analysis conducted here was performed by Craig Trumbo in 1996 during one of global warming and climate change’s “high issue cycles.” Trumbo’s study analyzed the headlines and lead paragraphs in the *Washington Post* during a specified period of time in order to understand the life cycle of the news stories that focused on climate change. Unlike the definition of climate change laid out in the introduction of this study, Trumbo’s study presumed that “at the heart of climate change is the proposition that human activities are altering the composition of the planet’s atmosphere” (273). Trumbo’s study sorted the stories among four different types of categories:

1. Define problems: impacts of climate change. These stories deal with what will happen as a consequence of this phenomenon.
2. Diagnose causes: evidence as to the reality of climate change as a problem. These are typically presentations of scientific findings that support the idea that there is a problem.
3. Make moral judgments: action statements. These stories present general statements calling for action or reporting action taken.
4. Suggest remedies: provide specific information about how solutions should be implemented (Trumbo 272).
Of particular relevance, in terms of Trumbo’s study, is the discovery that as media coverage progressed, the number of scientific sources decreased and the number of political and special-interest claims-makers increased. In addition, in those stories in which politicians and special-interest claims makers were cited as sources, the content contained an overwhelming majority of “judgment themes” or calls for action.

Trumbo’s research is beneficial for two reasons: a) it provides foundational categories upon which to formulate the categories that are used in this study and b) it emphasizes the importance of sources in the evolution of a story. Trumbo cites the significance of sources: “A good deal of the journalistic discretion that goes into shaping media coverage of an environmental issue occurs by way of deciding which sources to use and how much overall attention to give the issue” (281). This study took Trumbo’s observation into account when analyzing news stories for frames and also categorized the sources that were used in developing news stories, according to whether they were scientists (general), scientific experts in the fields of climate change and global warming, politicians, advocates (scientific and non-scientific) or special-interest individuals.

Another factor that numerous researchers have brought up is the complexity of climate change and global warming as issues (Whitmarsh, 2008; Zehr, 2000; Bell 1994; Trumbo, 1996). It should be noted again that these terms are often used interchangeably by media outlets and scholars alike, and this could obviously create confusion. However, researchers note that the innate complexity of global warming and climate change, both as empirical objects and as analytical categories, is exactly what makes their representation in the media so muddled. While the environmental issues of global
warming and climate change have been increasingly present within the media (which has significantly raised public consciousness), Kohler specifically contends that “reporters tend to be knowledgeable about general aspects of global warming but are widely ignorant of specific causes and effects and it is possible that media coverage has been oversimplified, and possibly even inaccurate” (404). Bell pinpoints two distinctive dimensions of media miscommunication—misreporting by the media and misunderstanding by the audience (260). In addition, he also notes that the news cycle is 24 hours at most, while the “cycle of scientific research is often years” (Bell 260). Bell’s study, which is relevant to this research in terms of fleshing out the issues of miscommunication by the media, examined New Zealand’s news coverage of climate change during a six-month time period in order to gauge the accuracy of news articles. Unlike this study, Bell’s strategy involved sending “accuracy questionnaires” to the sources quoted in the news clips and asking them to gauge the accuracy of the story.

Bell specifically identified six types of reporting inaccuracies (of climate change) in his study: scientific technical inaccuracies, technical terms misused, wrong figures given, stories with significant omissions, exaggerations, distortions of emphasis, and scientific facts confused (262). These errors, which Bell attributes to a short time cycle in journalistic writing, are a sharp contrast to the scientific process in which results are reviewed and replicated, a lengthy process that it would be impossible to replicate in journalism as a journalist’s story would quickly become outdated before it was published (260). Additionally, in Bell’s particular sample, in only 14% of stories did journalists check back with sources for accuracy. Ultimately, the complexity of explaining an issue
is exacerbated by journalistic time constraints (or laziness), short news cycles, and assorted other challenges and problems that can skew public perceptions and leave readers with erroneous impressions. In examining the data pool for this study, it is important to acknowledge the effect of these types of inaccuracies on new stories and that errors due to journalistic misunderstandings could result in unintentional frames or skewing of scientific data.

Maxwell Boykoff asserts that journalists often not only provide the public with an uninformed picture of the causes and effects of global warming and climate change, but also create frames that emphasize the conflict between political elites and scientists and successfully create a narrative of the phenomenon fraught with uncertainty. Boykoff notes that scientists have remained relatively silent during the recent controversy (of global warming and climate change as a whole) and are likely to qualify their statements more. Boykoff asserts that in doing so, they often contribute unknowingly to the aura of uncertainty that surrounds the issues of global warming and climate change because of innate cautiousness in making statements that are still being verified by hard scientific data. This uncertainty is what most media channels have focused on.

Additionally, media channels have presented the issues of global warming and climate change in conflict terms that have become increasingly politicized as climate contrarians have joined the debate. Boykoff makes a particularly pointed assertion when he argues that the U.S. mass media have “served to perpetuate this construction of non-problematicity, creating the appearance of greater debate and conflict where there is scientific convergence” (486). The effects of the creation of “conflict frames” particularly
when they are divergent and differ in “interests, beliefs and values” can result in what Deborah Shmueli deems an intractable conflict (like the controversy surrounding global warming and climate change). Shmueli explains that intractable conflicts often involve events with “risky or uncertain consequences” much like the Climate-gate event (213).

As conflicts become intractable, frame differences often exacerbate communication difficulties, polarize parties, and escalate strife and in turn polarization is reflected in the parties’ frames, feeding stakeholders’ sense that they are in the right and should not compromise (209).

The potential consequences of divergent conflict frames are that “parties in conflict take on identities derived from the interplay” between interests and group affiliations (211). The idea of derived identification holds particular weight to this study in that it seeks to understand not only the types of frames employed by Fox and CNN, but also examines the polarization and politicization of the issues encouraged by some of the sources.

The effect of controversy on the media’s framing of global warming and climate change was also explored in research performed by Corbett and Durfee. In their study, test subjects were exposed to four different types of articles that discussed the melting of the Arctic ice shelf. The researchers hypothesized whether controversy would influence perceptions of certainty regarding the topic of climate change and the study revealed that subjects who read articles that incorporated thematic elements of controversy were more likely to feel uncertain about the relevance of climate change to everyday life and were much more skeptical about the importance of the issue to public consciousness (Corbett 144). Corbett further speculated that uncertainty was generated by omitting scientific context, using a single source or sources that were characterized as “fringe” or non-
scientists and “focusing on novel research” (135). Their study and this aspect of framing is particularly applicable to analyzing the news frames employed by CNN and Fox and in understanding the shift in public opinion that occurred after the Climate-gate story “broke”.

**Poll Data:**

Gallup polls from 2009-2010 regarding attitudes toward global warming provide the foundational basis for public opinion in this study. In examining poll data, it must be noted that it is unknown how the term “global warming” was defined to those who were polled. A 2007-08 Gallup poll that sought to measure international awareness and concern revealed that the U.S. ranked number three in the world at 97% in concern and awareness regarding the issue (Pelham). However, a similar Gallup poll in 2009 revealed that U.S. public opinion was distinctly split along partisan lines with 66% of Republicans believing the issue of global warming was exaggerated versus 22% of Democrats. While the United States appears to possess strong awareness regarding the issue (97% in 2008), a March 2010 Gallup poll (the most recent poll that Gallup performed regarding these issues) showed that 48% of Americans think the seriousness of global warming in the news was exaggerated, a figure that increased 7% from March of the prior year (Watts).

The poll results from 2008 (on the next page) show a significant skew along political orientation regarding the question of whether the effects of global warming have already begun.
**Results Published in 2008:**

*Percentage Saying the Effects of Global Warming Have Already Begun*
by Party ID* 

![Graph showing percentage of Republicans and Democrats expressing the belief that global warming has already begun.](graph_image)

* Results for political independents not shown

**GALLUP POLL**

Results of a different Gallup Poll published in 2009 showed that again Republicans and Democrats were distinctively split on the issue:

**Results Published in 2009:**

*Percentage Saying News of Global Warming Is Exaggerated, by Party ID*

![Graph showing percentage of Republicans, Independents, and Democrats who think the news about global warming is exaggerated.](graph_image)

**GALLUP POLL**

These poll graphs illustrate a sharp division of opinion between Republicans and Democrats and the level of concern/legitimacy that each political group assigns the issue of global warming. In addition, the poll also notes that the number of Republicans who
place “legitimacy” on, or believe in global warming, has significantly decreased over the last decade (since 1998). The poll also notes that political orientation played a more significant role in determining attitudes toward climate change during that time period than it did in the past. There is a distinct change in public opinion between 2009 and 2010, as evidenced in the following two poll graphs:

**Results from 2009-Gallup News**

*Thinking about what is said in the news, in your view is the seriousness of global warming -- [generally exaggerated, generally correct, or is it generally underestimated]?*

<table>
<thead>
<tr>
<th>Year</th>
<th>% Exaggerated</th>
<th>% Correct/Underestimated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>33</td>
<td>64</td>
</tr>
<tr>
<td>2009</td>
<td>38</td>
<td>66</td>
</tr>
<tr>
<td>2010</td>
<td>35</td>
<td>64</td>
</tr>
</tbody>
</table>

From 2009-2010, public belief intensified that the seriousness of global warming was exaggerated as did the belief that global warming did not threaten an individual’s way of life:
Results from 2010—Gallup News

Thinking about what is said in the news, in your view is the seriousness of global warming -- [ROTATED: generally exaggerated, generally correct, or is it generally underestimated]?

- % Generally exaggerated

![Graph showing percentage of people who think global warming is exaggerated, correct, or underestimated.]

GALLUP®

Do you think that global warming will pose a serious threat to you or your way of life in your lifetime?

- % Yes
- % No

![Graph showing percentage of people who think global warming will be a threat in their lifetime.]

GALLUP®

The most intriguing finding of the 2010 Gallup poll and that most applicable to this study is that 36% of individuals polled believe that scientists are unsure whether global warming is occurring and 52% believe that scientists believe global warming is occurring. This change is remarkable in light of the fact that 2 years ago, 65% of
Americans were sure that scientists believed global warming was currently occurring (questions regarding whether scientists are unsure were not asked the year prior so there is no benchmark for past opinion regarding this question). However, *Gallup News* staff writer, Frank Newport notes in his article:

> The last two years have marked a general reversal in the trend of Americans’ attitudes about global warming. Most Gallup measures up to 2008 had shown increasing concern over global warming on the part of the average American, in line with what one might have expected given the high level of publicity on the topic.

Newport continued to highlight the significance of 2009 in shifting public opinion and writes, “The public opinion tide turned in 2009, when several Gallup measures showed a slight retreat in public concern about global warming. This year (2010), the downturn is even more pronounced.”

**Results Published in 2010—Gallup News:**

*Just your impression, which one of the following statements do you think is most accurate -- most scientists believe that global warming is occurring, most scientists believe that global warming is NOT occurring, or most scientists are unsure about whether global warming is occurring or not?*

<table>
<thead>
<tr>
<th>Year</th>
<th>% Is occurring</th>
<th>% Not occurring</th>
<th>% Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>48</td>
<td>39</td>
<td>7</td>
</tr>
<tr>
<td>2000</td>
<td>61</td>
<td>30</td>
<td>4</td>
</tr>
<tr>
<td>2002</td>
<td>65</td>
<td>29</td>
<td>3</td>
</tr>
<tr>
<td>2004</td>
<td>65</td>
<td>26</td>
<td>7</td>
</tr>
<tr>
<td>2006</td>
<td>65</td>
<td>26</td>
<td>7</td>
</tr>
<tr>
<td>2008</td>
<td>52</td>
<td>36</td>
<td>10</td>
</tr>
<tr>
<td>2010</td>
<td>56</td>
<td>36</td>
<td>10</td>
</tr>
</tbody>
</table>

What is particularly interesting about the poll data is that the shift in opinion, especially regarding the decrease in the public’s belief regarding the seriousness of global
warming as an environmental issue, seemingly also demonstrates a corresponding decrease in public perception of the associated risk. The implications of this shift in public perception are explained by Corbett who notes that public uncertainty and the lack of immediate risk that global warming poses to the public welfare all serve as undermining factors in assigning legitimacy to taking action or pressuring policy makers to formulate an immediate solution (133). While Corbett acknowledges that public awareness of global warming and the danger of climate change is high, he notes that the general public has a vague understanding of the phenomenon and little interest in a media landscape in which “individuals need to be motivated to obtain information” (133). Riley Dunlap also acknowledges this lack of motivation in his study and states, “It seems unrealistic to expect the lay public to become highly interested in and informed about technically complex issues like global warming and climate change” (Riley 490). This study specifically seeks to understand risk perception frames and the decline in the public’s risk perception in research question #5 which asks:

Question #5: Is there evidence of risk perception frames? If so, does Fox or CNN emphasize a greater risk perception (employ a risk perception frame) more than the other?

In utilizing the Gallup poll results for this study, it is important to note that the wording of the questions regarding the “seriousness of global warming” and “exaggeration” by the news media could have skewed the results more negatively toward the issues. Yet the benefit of the wording to this study is that the questions ask respondents to directly link their perceptions of global warming to news coverage. This is
particularly helpful in that this study seeks to correlate news coverage of Climate-gate with the change in public opinion toward the issue of global warming. These polls provide data that show a reversal in opinion between 2009 and 2010 and this reversal comes specifically when respondents are asked to link their perceptions of the issues with media coverage. Climate-Gate, by its very name, was a controversial time period for climate change science and the case for global warming, after which public opinion in the U.S. toward the issues became much more skeptical. By applying the studies and incorporating Gallup poll data, it is hoped that a correlation will be established between specific frames used in media coverage and the shift in public opinion. In conducting this study and by establishing this correlation (if any), it is acknowledged that public opinion can be triggered by a myriad of variables and that this correlation is just that—a correlation. It does not assume to definitively establish any direct causality.
Chapter Three: Method

Theoretically, this study depends on framing analysis and seeks to identify specific frames present within CNN and Fox News media coverage of Climate-gate. Framing analysis was chosen because it specifically examines the “selection and salience of certain aspects of an issue by exploring images, stereotypes, metaphors, actors and messages” that are used to create interpretations or mental shortcuts (Entman, Handbook 180). Framing analysis operates on the premise that frames construct schemas of interpretation for the audience which, after repeated exposure, can cause lasting interpretations because of quick access to certain cognitive structures that an audience has been repeatedly presented with. There is a heated debate among some research communities as to the similarities of framing analysis and second-level agenda setting. However, each theory focuses on the attributes and tone that news media ascribe to the substantive dimensions of a news story (Coleman 150). Framing analysis was specifically chosen for this study because it examines the media’s choice of specific words, images, metaphors and sources that are used to construct a particular interpretation of an issue or news story. In contrast, second-level agenda setting is based on the idea of salience and examines the particular aspects of a news story that are highlighted and excluded. Framing analysis theory examines the role of heuristics or mental triggers that certain words, metaphors or images can employ in creating and accessing interpretive structures or mental shortcuts within an audience. Repetition of frames can lead to faster mental
accessibility. Inversely, the repetition of frames can also presumably create an inability to access competing schemas that do not fit into previously accepted interpretive structures.

This study’s units of analysis are specific news stories (posted on CNN and FOX News websites) or news clips, accompanying photographs, images or graphs and transcripts of news clips with particular attention paid to the headline of the news story, the types of sources used to support the story, political orientation of the sources, presentation of the images or graphs and the overall tone of the article. In evaluating the images, camera angles, lighting, subject matter and captions were examined as these all help to create frames. This study analyzes all articles, associated pictures and transcripts of news clips from when the Climate-Gate story first “broke” in late November of 2009 to August 1, 2010, which is almost one year from the date that the story was first reported. This time period was selected because it allowed me to examine the frequency of the stories and the evolution of the content over the period of the news cycle.

In establishing the data pool, two academic databases were used (Lexis Nexis and Access World News), in addition to the CNN and Fox News web sites, which supplied news clips that weren’t available on either of the academic databases for unknown reasons. The data pool was then cross-checked for accuracy. Research using the search terms “climate-gate, clagetime, climate gate and East Anglia” generated a data pool of 106 news articles (with and without pictures), transcripts of video clips and web stories with video clips which did not have associated transcripts. The words “climate change” and “global warming” were not used because the study specifically focuses on the Climate-gate incident.
Additional search terms such as “Climate Research Unit” or “CRU” were also used in conducting research in order to ensure that all articles that discussed or referenced Climate-gate were included in the data pool. The data pool was sorted through to locate texts in which the content was devoted exclusively to Climate-gate or to a topic that referenced or held particular significance to the event, such as the associated topics of the credibility of global warming and climate change. It is worth noting that that the content of the articles selected typically followed a similar format in which Climate-gate was first discussed and then the incident’s significance to climate change and global warming science was discussed. From there, the news clip or article would often conclude with a controversial assessment of the credibility of the science behind climate change and global warming. This particular format will be discussed in depth in the Results section.

The core group of 106 CNN and FOX News web articles, news clips and news transcripts contained approximately 500 to 900 words each on average (web articles and transcripts), while some were admittedly shorter (around 200 words) and the news clips were usually less than 2 minutes in length. Content from CNN and Fox News was chosen for two reasons: the outlets’ vast viewership and often noted affiliation with a particular partisan slant. The issue of slant in regards to CNN and Fox News was explored in a study by Shanto Iyengar and Kyu Hahn. In the study, the researchers examine the advent of politically biased media while also examining the issue of selective exposure based on partisan affinity. They attribute the “fragmentation of the information environment” to the advent of cable television and “the explosion of media outlets” (20). Iyengar and Hahn acknowledge that “Fox News has staked out a distinctive
reputation for delivering a pro-conservative perspective on issues and events” (22). They conclude that, as a result, Republicans are more likely to seek out Fox News in order to reduce cognitive dissonance and downplay information that doesn’t sync with their beliefs. Iyengar and Hahn’s study also concluded that Democrats shied away from Fox News and tended to prefer such news outlets as MSNBC and CNN, a phenomenon that Iyengar and Hahn attributed to the desire to seek out points of view which were less out of sync with currently held beliefs.

Viewership was also a consideration in selecting these two news outlets. According to a news report by The Huffington Post, Fox News was the number one watched network in America 100 months in a row as of April 2010 with 1.92 million viewers alone in the month of April (Shea). Public Policy Polling noted in early 2010 that 74% of Republicans trusted the network as compared to 30% of Democrats (“Public Policy”). Tagging behind Fox News in viewership for the first quarter of 2010 was MSNBC in second place with 785,000 viewers and CNN in third place with an average of 596,000 viewers (Shea). According to Nielsen ratings for the second quarter 2010, Fox News claimed the “top 10 programs in cable news” (Huffington Post). According to Iyengar and Hahn, Fox’s partisan slant explains its vast viewership in that Republicans actively seek out a media outlet that reflects and confirms their own beliefs. Iyengar noted, “The availability of Fox News makes it possible for Republicans and conservatives to seek out a more sympathetic perspective and, conversely, to avoid exposure to discordant points of view” (22).
To review, in order to discover and examine the frames used in CNN and Fox News coverage, this study seeks to answer the following research questions:

**Research Questions:**

1. What types of frames are used by CNN and Fox News to present the Climate-gate controversy to the American public? And, which frames appear more frequently than others in each news outlet’s coverage?

2. As media coverage of Climate-gate progressed, do the number of scientific sources decrease and the number of political and advocacy claims makers increase?

3. Does either Fox or CNN emphasize scientific conflict/disagreement more than the other?

4. By analyzing the evolution of the news discourse and the political sources quoted over the selected time period, does there appear to be a shift in coverage over time which might be said to be related to the influence of the political sources interviewed in terms of shaping coverage of climate change and climate-gate by CNN and Fox.

5. Is there evidence of risk perception frames? If so, does Fox or CNN emphasize a greater risk perception (employ a risk perception frame) more than the other?

6. What sort of correlation is there between the news frames surrounding Climate-gate in Fox News and CNN and some public opinion polls surveying Americans on their attitudes toward global warming and their attitudes toward media coverage of global warming in general?
7. If there is a correlation between major news frames about Climate-gate in Fox News and CNN coverage of this event/issue, what might this mean in terms of the potential impact of specific news frames about global warming on public opinion regarding global warming?

In organizing the data, the study draws on Craig Trumbo’s method of organizing texts and sorts the news articles according to the following four frame dimensions:

1. Attitude that implies acknowledging/denying existence of the phenomenon.
2. Informational/scientifically based news stories/articles.
3. Advocating an attitude (positive, negative or neutral) toward the presence of global warming and climate change.
4. Advocating a policy approach to the issue

The study also identifies what other frames were present and notes the sources (political affiliation etc.) that the news networks used in their stories. In answering research question #4, the texts (and/or pictures, images) are examined to determine if, over the news cycle, the frames or overall tone of the texts began to align with the views cited by the political sources quoted early in the news cycle. In addition, the study notes whether a news story’s tone is positive, neutral, or negative toward the issues of global warming and climate change. Appendix A shows the coding sheet used. This coding sheet was designed to code for the specific frames that the research questions sought to uncover. Reliability measures were employed through inter-coder reliability and approximately 10% of a randomly selected number of articles. News clips and news transcripts were picked from the data pool and analyzed both by myself and a second trained coder in
order to ensure the reliability of the study. In training the coder, a glossary of terms was provided in order to clarify any ambiguous terms. This glossary is also provided in Appendix A.

Gallup poll data provides the public opinion data for correlating a shift in public opinion with the coverage of Climate-gate. By identifying specific frames used by Fox News and CNN in their coverage of Climate-gate, the study seeks to correlate the coverage with the split in public opinion, as evidenced by 2008-early 2010 Gallup polls that measured a) the public’s belief in global warming b) the amount of importance the U.S. public places on the issue and c) the belief that Americans hold regarding scientists’ beliefs that global warming is occurring. It should be noted that the most recent Gallup poll seeking to measure American public opinion regarding these issues was performed in early 2010. Since then, no Gallup polls have measured American attitudes toward these specific environmental issues. While there are other polling organizations to draw from that may supply more recent public opinion data, this study is specifically interested in public opinion toward these issues directly after the Climate-gate incident. The aim of this study is to attempt to establish a correlation and it is also hoped that identifying the frames that characterized media discourse surrounding Climate-gate and correlating the coverage of Climate-gate by two major American news outlets will offer more general insight into the interplay between media coverage and public opinion of environmental issues as well.

This study took the findings presented in previous research into account when crafting the coding sheet and also when analyzing the CNN and Fox news stories, news
clips, images and transcripts of video clips. Conflict, strategy, and value frames have historically been heavily used in social issues that involve policy-making. This study seeks to determine if these types of frames were present within the coverage of Climate-gate by analyzing the themes and topics of each news article, clip or transcript and noting which sources were presented and in what order.

Sources are highly influential in shaping the tone of a news story and this study examines whether an article let a “source have the floor” per say or if the article or news clip employed the journalistic “balancing trick” of including sources that were engaged in active rebuttals regarding the topics of Climate-gate, climate change and global warming. Particularly in Fox News coverage, political sources, such as Senator James Inhofe (R), Oklahoma, were allowed to have “the floor” for often the entirety of the article. In contrast, CNN typically actively employed a rebuttal structure, as opposing political sources were engaged in an argument that often continued until the very end of the article, news transcript or news clip. While CNN did not let sources “have the floor” as much, it was noted that it did allow Al Gore the entirety of a lengthy one-on-one interview. The presence and number of active rebuttals were measured with the coding sheet in an attempt to understand the level of conflict that characterized a particular news story. In addition, analysis focused on stylistic issues such as choice of quotations, choice of words, rhetoric, and how cause-and-effect relationships were presented and constructed within the stories.

I used the coding sheet to measure the number of political, special interest, non-scientific advocate/activist and scientific advocate/activist sources in addition to scientific
expert, scientific (non-expert) and fringe scientist sources. One source in particular was difficult to code as he didn’t fit exclusively into one category and spanned categories. For example, Al Gore could have been coded once as a political source because of his noted affiliation with the Democratic party and then coded once again as a non-scientific advocate source because he a) lacks any type of official scientific background but is b) a noted advocate for climate change legislation and dedicated to fighting and raising awareness of the dangers and potential consequences of anthropogenic global warming. However, as all coding categories must be mutually exclusive, I determined that while Al Gore was a noted political figure in the past, his identity in the public eye has shifted from that of a politician to that of a global warming activist and thus he was coded in the non-scientific advocate/activist category.

In contrast, a source like Rajendra Pachauri, the head of the IPCC (Intergovernmental Panel on Climate Change) who was a key player in the Copenhagen Summit was coded as a non-partisan, special interest source because he had a special vested interest in the outcome of the controversy in that part of the results and information included in the latest IPCC report were based on data that was provided by the Climate Research Unit of the University of East Anglia. Additionally, he was coded as non-partisan because he is a) an international source and b) not officially affiliated with a particular political party. It was noted during the stories that while the Climate Research Unit (CRU) of the University of East Anglia came under heavy fire, other organizations like NASA and the IPCC came under scrutiny as well. IPCC received the strongest criticism because some of the East Anglia scientists and Michael Mann (a
scientist from the emails) and a Penn State professor, supplied data for an IPCC report. Other individuals coded as special interest sources were Dr. Phil Jones, the head of the Climate Research Unit (CRU), who stepped down during the investigation after the scandal, and Mann, whose data and infamous “hockey stick graph”, a reconstructed millennial temperature graph, was featured in scientific articles and the IPCC’s third Assessment Report. It was also the focal point of controversy because one of the scientists alluded to using his “trick” to hide the decline in temperatures while constructing temperature data sets (see Appendix B for this graph and background information and Appendix C for excerpts of emails that reference it). As Jones and Mann each had a personal vested interest in the public credibility of climate change science (i.e. academic reputations and funding for research) and the validity of global warming, they were coded as special interest sources, and while not representing a group, could be considered a type of lobbyist for the environmental issues because of association and the fact that they were subjects of the controversy. Finally, a source associated with the National Science Foundation was also coded as a special interest source because the organization was a key funder for research into global warming science.

Examples of scientific advocacy sources were Greenpeace and the Union of Concerned Scientists, a non-profit scientific advocacy group. They were coded this way because of each association’s noted scientific background and roots. Examples of non-scientific advocacy groups are the Heartland Institute and Cato Institute. Both are Libertarian organizations that advocate for free-market policies and oppose government regulation, and, in regard to the topic at hand, are especially opposed to EPA regulation.
of greenhouse gases. These sources were specifically coded as non-scientific because their emphasis was not primarily on scientific or environmental concerns and their organization did not possess a noted scientific background. The sources that were quoted representing these think tanks were coded as “Other” politically and then specifically designated as Libertarian. Their political leaning was derived from the political organization or think tank that they represented and with which they were directly associated with in the news articles and transcripts. Sources were coded twice in order to ensure accuracy and to be sure that they adhered to the descriptions provided in the glossary of the coding sheet (See Appendix A). I recorded the political orientation of each source with the coding sheet and while the majority of political sources had a noted political affiliation next to their name, additional research was occasionally required to determine the political orientation of some of the think tanks that were repeatedly represented by a myriad of sources throughout the news cycle.

Sources were key in determining the overall tone of the article or news clips in that the final quote often determined a reader’s final impression or imbued the article with an overall tone. For example, often in an article characterized by heavy rebuttal, the final quote or last person chosen to speak by the moderator concluded the tone of the article or news transcript. As described previously, often CNN or Fox News would give a source (often political) “the floor” of the article and this had a heavy influence in setting the overall tone of the article. For example, Fox News gave Senator James Inhofe the entire space of several articles to express his opinion regarding the Climate-gate scandal and CNN gave Al Gore the length of several news clips and web articles to express his
opinion of the controversy without dissent. Ironically, the Fox articles and transcripts noted that Gore wouldn’t even return their calls. Finally, each article’s tone toward global warming and climate change was assessed after reading the article and coded as positive, negative, neutral or indeterminate (unable to be determined).

I also used the coding sheet to record the number of times that the words “global warming” and “climate change” were mentioned and also noted whether the terms appeared to be used interchangeably by the news outlets. This was important to the study because it was assumed that news outlets using the terms interchangeably, could lead to public misunderstanding regarding the distinction between the terms “climate change” and global warming.” The study additionally seeks to measure whether global warming or climate change were defined as problems within the news article or transcript or whether their existence was denied or portrayed in a particular manner—positive, negative, neutral or if it was unable to be determined. Additionally, I used the coding sheet to determine the presence of interfering frames by asking whether it appears that the “problem” of solving climate change and global warming” is represented as being an obstacle to the economy or to economic growth and recovery.

Finally, I designed the coding sheet to record the main problem outlined within an article or news transcript (if any), the reason for this problem, whether the issue is moralized with value terms, (e.g. good vs. bad, jobs for hard working Americans pitted against jobs for the undeserving Chinese and the environmental responsibility to “go green” etc. vs. the American government’s responsibility to its hardworking citizens not to squander money by investing in uncertain science), and also whether any
recommendations or solutions are proposed and, if so, what these solutions are. This overview measurement is incorporated into the coding sheet in order to give an analysis of the recurring problems, remedies and solutions defined and employed by Fox News and CNN when interpreting the Climate-gate scandal to the American public. This analysis also provides an overview of the frame(s) employed by each outlet and an overall assessment is made of the research in its totality as to how most of the articles were framed, what is defined as the problem or the cause of the problem and whether a moral evaluation is made or a solution proposed for the problem. This evaluation will be made while considering the total body of the news article sample and will also assess whether these aspects changed over the period of the news cycle.

As discussed previously, reliability was established by selecting a second coder who independently coded a random selection of approximately 10% of the data pool. The second coder was trained on every aspect of the coding sheet in order to ensure a thorough understanding of the operational definitions. However, the content allowed a certain level of coder interpretation particularly when assessing risk and answering some of the other questions such as:

1. Does the article advocate a particular attitude toward the existence of global warming and climate change?
2. Is human attention to the problem emphasized as being important?
3. Does the article advocate a specific policy approach to global warming or climate change?
Intercoder reliability was calculated using Holsti’s formula:

\[ \text{Reliability} = \frac{2M}{N^1 + N^2} \]

Reliability was calculated at 76.1% where \( M \) (the number of coding decisions on which two coders agree) was 328 for the randomly selected sample of 11 units of analysis or approximately 10.4% of the data pool coded by the independent coder. The total number of coding decisions for the 11 units was 431 which was the value for \( N^1 \) and \( N^2 \) respectively. The number of coding decisions for each unit of analysis was not the same as each unit was different in the components of the coding sheet that could potentially apply (for example, not all articles had pictures and captions; thus, these sections did not apply to the coding decisions). The reliability of this content analysis study is lower than a study in which little coder judgment is needed to place units into categories (such as counting the number of words in a sentence) or a study in which the coding is much more basic and mechanical (Wimmer and Dominick 169). Most of this study was interpretive in nature and the coder was required to summarize the tone and attitude of an article and code the outlet’s treatment of multiple aspects of global warming and climate change.
Chapter Four: Results

Before the specific research questions of this study are examined, this section will first provide an overview regarding some of the generalities of the data. Among them: the number of stories for each outlet, what section the coverage for each outlet was assigned to, type of story, whether the news coverage was adapted from another news outlets, and whether Climate-gate was the focus of the coverage. As stated previously, the final data pool consisted of approximately 106 web articles, transcripts and news clips from CNN (42) and Fox News (64).

As expected, the majority of the news articles, clips and transcripts were placed in the news category. The data regarding assigned sections, type of stories and information
regarding whether the story was adopted from another outlet or whether Climate-gate was the focus of the coverage is as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>CNN</th>
<th>Fox News</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assigned Section</strong></td>
<td><strong>69% News</strong></td>
<td><strong>12.5% News</strong></td>
</tr>
<tr>
<td></td>
<td>2.4% Opinion</td>
<td>34.3% Opinion</td>
</tr>
<tr>
<td></td>
<td>2.4% Politics</td>
<td>14.1% Politics</td>
</tr>
<tr>
<td></td>
<td>7.1% Science</td>
<td>39.1% Science</td>
</tr>
<tr>
<td></td>
<td>14.3% Science/Tech</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.8% World</td>
<td></td>
</tr>
<tr>
<td><strong>Type of Story</strong></td>
<td>14.3% Multimedia</td>
<td>20.3% Web stories (text only)</td>
</tr>
<tr>
<td></td>
<td>2.4% Web stories (text only)</td>
<td>48.4% Web stories (with photo)</td>
</tr>
<tr>
<td></td>
<td>14.3% Web stories (with photo)</td>
<td>28.1% News transcript</td>
</tr>
<tr>
<td></td>
<td>69% News transcript</td>
<td>3.1 Web stories (with graphic)</td>
</tr>
<tr>
<td><strong>From Other Outlet</strong></td>
<td>0%</td>
<td>98.9% adopted from other outlet</td>
</tr>
<tr>
<td><strong>Focus of Article</strong></td>
<td>81%--Yes</td>
<td>67.2%--Yes</td>
</tr>
<tr>
<td></td>
<td>19%--No</td>
<td>32.8%--No</td>
</tr>
</tbody>
</table>

In examining the “type of story” category in the chart above, it is seen that the Fox News coverage contained significantly more opinion stories regarding Climate-gate than CNN. However, in analyzing these results, it is necessary to point out that these categories were provided by the news outlets themselves and when you combine the Science, Politics and News categories together for Fox News, the total is 65.7% which is close to CNN’s total of 69% for their News category. As expected, the majority of the coverage focused on the Climate-gate incident. However, both outlets devoted a significant amount of coverage to the related issues of climate change and global warming. These stories were included in the data pool because they referenced the Climate-gate incident and the reference held particular significance to the tone or content of the article as a whole.
Another striking feature of the data is that Fox News used significantly more pictures in its coverage than CNN. A sample of some of these photos can be found in Appendix D of this study, which also includes photos from CNN’s coverage as well. The pictures/graphics and captions were coded for number and tone in addition to the text. As noted previously, news stories, transcripts and news clips were pulled from the academic databases, Access News and Lexis Nexis, and the CNN and Fox News web sites. Only news transcripts were pulled from the academic databases as these results did not pull pictures and the structure of the transcripts involved a moderator interviewing multiple sources. The academic databases also extracted some of the stories that were available on the news outlets’ web sites. However, these duplicate stories were deleted from the data pool during a cross check in order to ensure that the web stories’ pictures, graphics and accompanying news clips were preserved with the content. Only 14.3% of the total CNN data pool contained associated pictures with captions while 48.4% of the Fox News pool had an associated picture or graphic.

Of these photos, approximately 33.3% in the CNN coverage were coded as negative toward the issues of climate change and global warming, 16.7% were positive and 50% were neutral with 20% of the captions coded as negative and 80% as neutral. Of the Fox News photos, 22.6% were coded as negative, 74.2% as neutral and 3.2% as indeterminate.
CNN and Fox News Photos

<table>
<thead>
<tr>
<th>News Outlet</th>
<th>Positive</th>
<th>Negative</th>
<th>Neutral</th>
<th>Indeterminate</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNN</td>
<td>16.7%</td>
<td>33.3%</td>
<td>50%</td>
<td>0%</td>
</tr>
<tr>
<td>Fox News</td>
<td>0%</td>
<td>22.6%</td>
<td>74.2%</td>
<td>3.2%</td>
</tr>
</tbody>
</table>

Some examples of these photos can be found in Appendix D. A web story, transcript, news clip or photo was coded as negative if it alluded to climate change or global warming in a negative or skeptical manner. Neutral coverage and pictures did not seem to take a stance for or against the environmental issues. Positive tone was assessed in terms of whether the coverage or picture appeared to embrace the idea that climate change or global warming was currently occurring and a risk that deserved human attention or had relevance.

**Research Question #1:**

The first research question examined the types of frames used by CNN and Fox News to explain Climate-gate to the American public and sought to understand which frames appeared frequently.

*RQ1*: What types of frames are used by CNN and Fox News to present the Climate-gate controversy to the American public? And, which frames appear more frequently than others in each news outlet’s coverage?

As this question is more overview-oriented, it will be answered later in this section in great detail. I will also conduct an analysis of how the problem of Climate-gate was
defined, whether the issues were moralized and the remedies or solutions that were offered by each news outlet at that time.

**Research Question #2:**

The second research question sought to understand whether the issue politicized as it evolved over the news cycle.

*RQ2:* As media coverage of Climate-gate progressed, do the number of scientific sources decrease and the number of political and advocacy claims makers increase? In order to answer this question, the 2009-2010 data set was broken down into three categories by months—November through January, February through April and May through August. The number of political, advocacy (scientific and non-scientific) and scientific expert sources for each time period were tallied and the results were reconstructed and represented in the following graphs for CNN and Fox News:

**Graph 1: CNN Source Data from November-August 1, 2010**

![Graph showing CNN Sources](image)
Contrary to what was anticipated when developing the research question and in light of Trumbo’s study, which noted an increase in political sources over the news cycle, the number of political sources and advocacy claims makers decreased as the story of Climate-gate evolved, see Tables 1 and 2 below, and in fact for Fox News, the number of sources from May to August 1, 2010 was 0. In considering these results, it is also interesting to note that the total number of sources for all categories dropped and the type of coverage that appeared later in the news cycle was not only brief but often placed into the opinion sections of CNN and Fox News. It is unknown why the total number of sources for each outlet dropped so dramatically, but one could speculate that once the East Anglia scientists were cleared of all wrongdoing by an independent review committee, many sources may have wanted to no longer associate their names with the story. Again, this is speculative, however, an idea that merits consideration in light of the observation that sources for both outlets dropped dramatically.
Table 1: CNN News Sources by Time Period and Type of Source

<table>
<thead>
<tr>
<th>Source Type</th>
<th>Nov-Jan</th>
<th>Feb-April</th>
<th>May-Aug</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political, Non-Sci/Sci. Adv Sources</td>
<td>59</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Scientific Expert</td>
<td>17</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Results by Percentage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political, Non-Sci/Sci. Adv Sources</td>
<td>53.2%</td>
<td>25%</td>
<td>30.7%</td>
</tr>
<tr>
<td>Scientific Expert</td>
<td>15%</td>
<td>50%</td>
<td>38.4%</td>
</tr>
</tbody>
</table>

Table 2: Fox News Sources by Time Period and Type of Source

<table>
<thead>
<tr>
<th>Source Type</th>
<th>Nov-Jan</th>
<th>Feb-April</th>
<th>May-Aug</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political, Non-Sci/Sci. Adv Sources</td>
<td>28</td>
<td>29</td>
<td>0</td>
</tr>
<tr>
<td>Scientific Expert</td>
<td>7</td>
<td>26</td>
<td>0</td>
</tr>
<tr>
<td>Results by Percentage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political, Non-Sci/Sci. Adv Sources</td>
<td>53.8%</td>
<td>39.2%</td>
<td>0%</td>
</tr>
<tr>
<td>Scientific Expert</td>
<td>13.5%</td>
<td>35%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Note: The remaining sources for each outlet were special interest sources.

In understanding how the number of sources could be 0 for Fox News during the third time period of May to August, it is important to remember that opinion articles were also included in the sample and that the majority of stories later in the news cycle were placed into the opinion category. In addition, the number of articles regarding Climate-gate obviously experienced a peak during early to mid December for both outlets, so the sample pool for both outlets from May 1, 2010 to August 1, 2010 was significantly lower than in the previous two time periods (see the following frequency chart).
You can see clearly from the chart above that Fox News continued to publish a high number of stories past February, while the number of stories for CNN for the same time period dwindled significantly. However, in general, Fox News published significantly more articles than CNN on the Climate-gate story.

**Research Question #3:**

In answering research question number 3, I used the coding sheet to numerically record patterns of conflict or disagreement and analyzed if a rebuttal structure was present in the news articles, clips and transcripts that were coded. This data was analyzed in answering the research question below:

*RQ3:* Does either Fox or CNN emphasize scientific conflict/disagreement more than the other?

The coding sheet was used to record whether competing sources were quoted in an argument style (rebuttal quotes). Rebuttals were counted each time a competing source interjected an opposing opinion into the dialogue within the news transcript, news clips or web news story. For example, see the unedited exchange below that was pulled directly
from one of the CNN news transcripts from December 16, 2009 entitled

“Schwarzenegger vs. Palin; President Obama Writes Letter to North Korean Leader; Iran Defiant”:

Rep. Marsha Blackburn (R), Tennessee: You know one of the things we have learned, especially recently after the Climategate with the e-mails, is this is an unsettled science. And one of the items that we should seek to accomplish while we are at Copenhagen is to get to the bottom of what happened with Climategate, what took place with those e-mails. Look at how we moved forward…

Wolf Blitzer (CNN): So you’re not convinced that the Earth is warming up?

Blackburn: No, I am not. When it comes to climate change, climate change is cyclical. That is something that we know. But we are on a trajectory toward global warming that is not reversed? No, indeed we’re not.

Blitzer: And you have no doubt about that, do you Congressman?

Rep. Ed Markey (D), Massachusetts: I have no doubt about it. Alaska is now six degrees warmer in the winter than it was 50 years ago. The glaciers are melting in the Himalayas and the Alps.

The type of rebuttal exchange above was common for many of the news transcripts and web articles and was coded and counted in each outlet’s coverage. It is acknowledged that the excerpt above was pulled from a Wolf Blitzer transcript in which rebuttals form the core of the show. However, this type of rebuttal exchange was common in most of the transcripts from each outlet. Also, while the news articles did not have the active exchange above, analysis of the news articles from Cnn.com and Fox News.com, showed that journalists selected quotes from opposing sources that contradicted each other and placed them into a rebuttal structure that mimicked the type of exchange commonly found in the news transcripts. This can be seen in the text excerpted from the December 2, 2009, CNN.com news article entitled “Climate head steps down over e-mail leak”: 
The e-mails also caused controversy on Capitol Hill where a congressional hearing on global warming was under way on Wednesday. Rep. James Sensenbrenner of Wisconsin said the e-mails in question poke a hole in the conclusion that the question of human influence on climate change is settled. The Republican said the e-mails “read more like scientific fascism than scientific process.”

Rep. Ed Markey, a Democrat from Massachusetts, called the focus on the e-mails a distraction from the “catastrophic” threat to our planet.”

As the excerpt above illustrates, the journalist who wrote the story arranged the quotes so that they read like rebuttals, mirroring the same rebuttal structure employed in the CNN transcripts. A December 9, 2009 Fox News article entitled “Sensenbrenner to Tell Copenhagen: No Climate Laws Until ‘Scientific Fascism’ Ends” demonstrated a similar structure:

Sensenbrenner is just the latest lawmaker to jump into the fray over "Climate-gate," a growing scandal over the release of thousands of e-mails written by global-warming scientists that show an effort to manipulate data and prevent publication of opposition research. More than 1,000 e-mails and 2,000 other documents from the Climate Research Unit at the University of East Anglia in Great Britain were released just weeks ahead of the Copenhagen conference.

In his letter to Pachauri, Sensenbrenner noted an e-mail from Pennsylvania State University researcher Michael Mann that proposes warding other scientists off of "Climate Research" journal because it published scientific studies counter to the conclusions of the IPCC’s contributors.

"The e-mails, however, demonstrate that a cabal of supposed 'cream-of-the-crop' climate scientists were indeed successful in getting editors of journals that had published contrarian views fired and that they conspired to boycott journals that did not bend to their wishes -- therefore ensuring that such views would not be adequately represented in IPCC Assessment Reports," Sensenbrenner wrote.

But supporters of putting curbs on fossil fuel emissions say that despite the questionable nature of the e-mails, they don't undermine the science, and point to the latest data from the very agencies wrapped up in the scandal.
"Global warming deniers are trying to say this is all a trick, but the truth of the matter is that our world is getting hotter, faster," said Rep. Edward J. Markey, D-Mass., chairman of the Select Committee on Energy Independence and Global Warming and a co-author of legislation to limit greenhouse gas emissions.

This structure was also employed in the Fox News transcripts and web stories alike. While both types of stories contained a similar rebuttal structure, it must be acknowledged that the traditional news stories interspersed rebuttals with more general background information from the story while transcripts from shows (like Wolf Blitzer’s) contained more of a pronounced rebuttal structure with less background information. Overall, it was intriguing how the journalists who wrote the traditional news stories for both outlets interwove the quotes so that they duplicated the general rebuttal structure present in the television transcripts.

While CNN published approximately 22 fewer articles (web stories and transcripts) on Climate-gate than Fox, CNN employed the rebuttal structure within its coverage 39% more than Fox News. There were 89 rebuttals counted within CNN’s 42 stories, while the number counted within Fox News’ 64 stories was 64 as well with an average of approximately one rebuttal per story. In examining the CNN and Fox News coverage, it must be noted that opinion articles were also included in the data pool and often these articles did not include any sources. This fact must be taken into account when examining the number of rebutting sources present in each outlet’s articles. In examining the articles, as previously stated, it was noted that the CNN stories were marked by much more contention than the Fox News stories as opposing political sources were pitted against each other in a “he said”/“she said” fashion. This was true for both the
web stories and the transcripts as previously noted. While the web stories did not have the active dialogue of opposing sources responding to each other, the quotes by opposing sources were often directly juxtaposed against each other and accentuated the conflict surrounding Climate-gate and the issues of global warming and climate change. The news articles would often close with a “clincher quote” that would summarize a view from particular source that the issues of global warming and climate change were still out for debate.

This rebuttal pattern created an aura of disagreement and repeatedly the news clips and transcripts (especially by CNN) would conclude with a statement by the moderator that summarized the topic as being far from settled, as evidenced by the discord in the dialogue. Nearly always, the individuals in the debate were from opposing political parties, with Republicans pitted against Democrats and Libertarian advocacy groups pitted against scientific experts or environmentalists. The rebuttal structure inevitably reduced everything to politics as scientists and political advocacy groups were granted the same measure of credibility and the environmental issues of global warming and climate change are overshadowed by a political debate that convolutes the scientific facts at stake. As discussed previously in the literature review, this rebuttal technique is often employed in order to imbue news coverage with the element of journalistic balance. However, the result of this balancing technique is that the topic of discussion becomes overlaid with a controversy frame. Most significant to this study is that by presenting the environmental issues of global warming and climate change within a controversy frame that concludes that “the matter is far from settled,” in essence these environmental issues
can become inextricably mentally linked with this summation. The impact of this mental linkage is crucial in that a frame “links two concepts, so that after exposure to this linkage, the intended audience now accepts the concepts’ connection” (Nisbet 17).

The coverage by Fox News did not employ the rebuttal structure as much, however the sources used in the articles were often strongly opposed to the idea of climate change and anti-global warming science. While the story itself was often presented in an informational manner, often the sources used in the Fox News stories and opinion articles would, after the story was presented, question the credibility of climate change science and its relevance to the public agenda during a time when the American economy was obviously in crisis. This type of questioning by sources created an obvious aura of disagreement and contention around the topics as the validity of global warming and climate change science underwent strict scrutiny by the media.

**Research Question #4:**

Research question #4 specifically sought to understand if a trickle-down effect occurred from political sources into the coverage of Climate-gate by Fox News and CNN.

**RQ4:** By analyzing the evolution of the news discourse and the political sources quoted over the selected time period, does there appear to be a shift in coverage over time which might be said to be related to the influence of the political sources interviewed in terms of shaping coverage of climate change and climate-gate by CNN and Fox?

This question was partially answered by the results generated with regard to the second research question. It was shown that the number of political, scientific and non-scientific
advocacy sources decreased over the news cycle of the story of Climate-gate (see Graphs 1 and 2 provided previously). This is an implied aspect of research question #4 which specifically seeks to understand whether political sources shaped the coverage. However, to clarify, the question specifically seeks to understand whether the content of the coverage began to reflect the concerns and opinions of political sources and scientific and non-scientific advocacy sources.

I did not use the coding sheet to measure whether the dialogue matched the agendas or concerns of the political sources quoted throughout the news cycle. As noted earlier, this is beyond the scope of this study and it would have been necessary to turn to specific legislation and speeches in order to access a politician’s agenda and specific political platform. However, the concerns raised in the articles (specifically in later coverage from January through February) begin to match the concerns raised by political sources during their interviews early in the news cycle (early December), specifically the concerns raised by Senator James Inhofe, (R) from Oklahoma in some of the Fox News coverage. While he casts climate change and global warming as being “the greatest hoax” perpetuated on the American public, he and some of his Republican associates also raise the issue of the correctness of the American government funding a controversial field of science.

In addition, some Democratic political sources such as Sen. Dick Durbin (D), Illinois and Sen. Ed Markey (D), Massachusetts, brought up the concern of America lagging behind the rest of the world (particularly the Chinese) in developing “green technology.” This topic was introduced early in the news cycle in December 2009,
shortly after the story first broke. As the story progressed in both outlets, the story evolved from being merely about Climate-gate to reflecting the political concerns that were raised by the political sources quoted early in the news cycle. In the CNN coverage, the story shifted its focus from Climate-gate and the future of climate change science and whether scientists had tried to “pull one over” on the American public to one that focused on more global concerns of where America stood in leading the way with green technology and technologically beating the Chinese. In contrast, the Fox coverage began to focus on whether the EPA has the right to regulate greenhouse gases and label them as “hazardous” in light of the Climate-gate incident and what some sources maintained had been revealed as potentially shaky science behind climate change and global warming theory.

As one moves toward the end of the time frame selected, concerns over the economy began to surface in both outlets’ coverage as politicians, Republican and Democrat alike, sought to understand the economic impact of funding climate change science and establishing legislation that would increase taxes on U.S. companies and utilities. As noted in the literature review, specific frames can be mediated by competing frames. In this case, the alternate story or frame was the state of the American economy and the importance of the economy as compared to the issues of global warming and climate change in the public eye.

I used the coding sheet to determine the presence of an alternate frame (the American economy) and whether it was juxtaposed with the frames used to present Climate-gate, climate change and global warming to the American public. An
examination of the data revealed that the CNN coverage presented the issues of global warming and climate change as an obstacle to the economy in approximately 11.9% of the articles (web stories, transcripts and news clips). The issues of climate change and global warming were not presented as an obstacle in 83.3% of the articles, while it was not possible to establish whether this was the case with 4.7% of the articles. The Fox News results are moderately close to the results of the CNN data pool. Approximately 20.3% of the articles present the issues of climate change and global warming as obstacles to the economy and economic growth and recovery. In contrast, 76.6% of the Fox News articles do not present the issues as “at odds” with the issues of climate change and global warming while 3.1% of the articles were labeled indeterminate.

<table>
<thead>
<tr>
<th>News Outlet</th>
<th>Issues Presented as An Issue to the Economy</th>
<th>Issues Not Presented as An Issue to the Economy</th>
<th>Indeterminate</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNN</td>
<td>11.9%</td>
<td>83.3%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Fox News</td>
<td>20.3%</td>
<td>76.6%</td>
<td>3.1%</td>
</tr>
</tbody>
</table>

While both outlets generally did not present the environmental issues as an obstacle to the economy, some of the coverage noted that future funding of uncertain science seemed cavalier in light of the current economic crisis. With respect to the Gallup poll data (as related to the issues of global warming and climate change), it was also noted that no other Gallup polls regarding public opinion toward the issues of climate change and global warming have been performed since the polls used in this study. In fact, recent
polls have mainly revolved around economic issues and American confidence in the economy.

The second facet of an alternative frame that this study examines, according to the categories proposed by Trumbo, is whether a particular policy approach was advocated by either outlet toward the issues of global warming and climate change. Out of the pool of 42 CNN articles, only one news transcript appeared to advocate a specific policy approach: It lobbied for America to “implement green technology.” The majority of the articles analyzed did not mention a specific approach or were categorized as indeterminate. Out of the Fox News data pool of 64 articles, approximately 8 opinion/news articles advocated a specific policy approach. These are summarized as follows:

1. No cap and trade
2. No regulation of emissions by the EPA
3. More research before increasing the budget to fund climate change and global warming science

Fifty-five of the Fox News articles did not advocate a specific policy approach and one article was coded as indeterminate.

Research Question #5:

This study also seeks to determine whether a risk frame was employed by CNN and Fox News when explaining the story of Climate-gate and discussing the associated issues of climate change and global warming. I designed the coding sheet to specifically measure whether climate change or global warming was defined as a risk by either news
outlet and sought to establish whether the news outlet acknowledged or denied the existence of global warming or climate change (or if it did neither of the two). The sheet also sought to establish whether the news outlet appeared to hold a particular attitude (positive, negative, or neutral) toward the existence of global warming and climate change. Finally, if the risk of climate change and global warming was emphasized in the article, the study examined if this risk was defined as imminent, immediate, and currently occurring and if human attention was emphasized as being important. The following research question specifically sought to examine the level of risk attributed to climate change and global warming:

*RQ5*: Is there evidence of risk perception frames? If so, does Fox or CNN emphasize a greater risk perception (employ a risk perception frame) more than the other?

The data from the coding sheet were analyzed to answer this research question and the questions that specifically analyzed dimensions of risk (as outlined above). The analysis showed that overall the risk of climate change and global warming was emphasized in approximately 14.2% of the CNN articles and 0% of the Fox articles. Additionally, CNN did not emphasize the risk of climate change and global warming in approximately 42.8% of its articles and Fox News did not emphasize the risk in approximately 95.3% of its articles during the entire time period of analysis. The representation of the risk of climate change or global warming was unable to be determined, or coded as indeterminate, in approximately 42.8% of the CNN articles and 4.6% of the Fox News articles.
CNN and Fox News: Emphasis of Risk

<table>
<thead>
<tr>
<th>News Outlet</th>
<th>Emphasized Risk</th>
<th>Did Not Emphasize Risk</th>
<th>Indeterminate</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNN</td>
<td>14.2%</td>
<td>42.8%</td>
<td>42.8%</td>
</tr>
<tr>
<td>Fox News</td>
<td>0%</td>
<td>95.3%</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

Additional data regarding the data pool for the time period analyzed is as follows:

CNN Web Stories, Transcripts and News Clips (Dimensions of Risk Frame)

<table>
<thead>
<tr>
<th>CNN Articles</th>
<th>Yes</th>
<th>No</th>
<th>Ind.</th>
</tr>
</thead>
<tbody>
<tr>
<td>If risk emphasized, risk defined as imminent</td>
<td>50%</td>
<td>0%</td>
<td>50%</td>
</tr>
<tr>
<td>Risk immediate</td>
<td>2.4%</td>
<td>4.8%</td>
<td>92.8%</td>
</tr>
<tr>
<td>Issues defined as long-term</td>
<td>4.8%</td>
<td>7.1%</td>
<td>88.1%</td>
</tr>
<tr>
<td>Global warming/climate change currently occurring</td>
<td>7.1%</td>
<td>61.9%</td>
<td>31%</td>
</tr>
<tr>
<td>Human attention to the issues emphasized</td>
<td>14.3%</td>
<td>45.2%</td>
<td>40.4%</td>
</tr>
<tr>
<td>Acknowledge existence</td>
<td>23.8%</td>
<td>19.1%</td>
<td>57.1%</td>
</tr>
<tr>
<td>Deny existence</td>
<td>2.4%</td>
<td>35.7%</td>
<td>61.9%</td>
</tr>
<tr>
<td>Particular attitude toward the issues advocated</td>
<td>71.4%</td>
<td>16.7%</td>
<td>11.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Positive</th>
<th>Negative</th>
<th>Ind.</th>
</tr>
</thead>
<tbody>
<tr>
<td>If particular attitude emphasized</td>
<td>13.3%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Fox News Web Stories, Transcripts and News Clips (Dimensions of Risk Frame)

<table>
<thead>
<tr>
<th>Fox Articles</th>
<th>Yes</th>
<th>No</th>
<th>Ind.</th>
</tr>
</thead>
<tbody>
<tr>
<td>If risk emphasized, risk defined as imminent</td>
<td>n/a†</td>
<td>n/a†</td>
<td>n/a†</td>
</tr>
<tr>
<td>Risk immediate</td>
<td>0%</td>
<td>32.8%</td>
<td>67.2%</td>
</tr>
<tr>
<td>Issues defined as long-term</td>
<td>0%</td>
<td>20.3%</td>
<td>79.7%</td>
</tr>
<tr>
<td>Global warming/climate change currently occurring</td>
<td>0%</td>
<td>92.2%</td>
<td>7.8%</td>
</tr>
<tr>
<td>Human attention to the issues emphasized</td>
<td>0%</td>
<td>93.7%</td>
<td>6.3%</td>
</tr>
<tr>
<td>Acknowledge existence</td>
<td>3.1%</td>
<td>87.5%</td>
<td>9.4%</td>
</tr>
<tr>
<td>Deny existence</td>
<td>50%</td>
<td>29.7%</td>
<td>20.3%</td>
</tr>
<tr>
<td>Particular attitude toward the issues advocated</td>
<td>59.4%</td>
<td>28.1%</td>
<td>12.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Positive</th>
<th>Negative</th>
<th>Ind.</th>
</tr>
</thead>
<tbody>
<tr>
<td>If particular attitude emphasized</td>
<td>0%</td>
<td>97.4%</td>
</tr>
</tbody>
</table>

†This is marked n/a because none of the articles in the Fox news data pool emphasized the risk as imminent.
The results for CNN and Fox News displayed above show unique differences, particularly in regards to difference in attitudes toward global warming and climate change. Fox News coverage was distinctly more negative while CNN was much more ambiguous in its attitude toward global warming and climate change. This was also true for the headlines for CNN and Fox News. Approximately 34.4% of the Fox News headlines were coded as negative in tone toward acknowledging the reality of climate change and global warming, 37.5% as neutral and 1.6% as positive, while 26.6% were coded as indeterminate. In contrast, approximately 2.4% of CNN’s headlines were coded as negative, 33.3% as neutral, 2.4% as positive, and 62% as indeterminate. The CNN coverage and headlines were admittedly much more difficult to code in that often no attitude regarding the issues appeared present. This could have been because CNN had more coverage that appeared more informational/scientifically based and lacked obvious commentary by the writers and commentators. 52.3% of the CNN articles, transcripts and news clips were coded as informational/scientifically-based coverage versus 14% of the Fox News coverage. In addition, while the results for CNN’s coverage were much more split, 47.6% was not coded as informational/scientifically-based; the results of the analysis of Fox News coverage were much more skewed to one side in that 82.8% was not coded as informational/scientifically-based.

*Research Question #6:*

In answering the sixth research question, it is necessary to refer back to the March 2010 Gallup poll data which was provided in the literature review section.
**RQ6**: What sort of correlation is there between the news frames surrounding Climate-gate in Fox News and CNN and some public opinion polls surveying Americans on their attitudes toward global warming and their attitudes toward media coverage of global warming in general?

As stated previously, this study does not attempt to construct a solid cause and effect relationship but it does attempt to establish a correlation between the potential relationship between the news coverage of CNN and Fox News and plummeting public opinion regarding the credibility of global warming and climate change and the issues’ importance to the public agenda. Additionally, this study seeks to understand and comment on the potential relationship between mass media coverage of Climate-gate and the public’s declining belief in scientists’ beliefs in global warming and climate change and the public’s belief that the issues have been exaggerated in the media.

In reviewing the Gallup data, as noted before, it is apparent there was shift in public opinion particularly from 2008-2010 and specifically from 2009-2010 where the public began to increasingly question whether global warming would pose a serious threat to the American way of life. In reviewing the first Gallup chart below, it can be seen that the American public began to question the level of confidence that scientists had regarding whether global warming was currently occurring.
Results Published in March 2010—Gallup News:

Just your impression, which one of the following statements do you think is most accurate -- most scientists believe that global warming is occurring, most scientists believe that global warming is NOT occurring, or most scientists are unsure about whether global warming is occurring or not?

This change occurred at the same time as the controversy spurred by the Climate-gate incident. The Climate-gate emails, which were released onto countless blogs, showed scientists questioning evidence, professedly using “tricks” to create temperature graphs and stating that they wished climate change would occur so the science could be proved right. In addition, the emails showed scientists attempting to elude Freedom of Information requests and deleting emails that they didn’t want released (See Appendix B). In light of these damaging emails, many of which were taken out of context by news outlets, it is unsurprising that American opinion toward scientists’ confidence in global warming began to drop.

American opinion toward the risk of global warming also dropped during the same time period, as demonstrated in the following Gallup chart:
In examining the shift in public opinion regarding the risk of global warming, it is important to note that these data were published by Gallup in March 2010. The data were published nearly four months after the Climate-gate scandal broke and after the majority of the news articles (November 2009-February 2010) by both outlets had already been published. The poll results do not separate the results into political categories. However, in analyzing the poll results, it is interesting to consider the fact that this study’s analysis of Fox News coverage showed it did not emphasize the risk of the environmental issues in 95.3% of its articles while CNN did not emphasize this risk in 42.8% of its articles.

These results are unsuprising in light of the following chart from the Pew Research Center for the People and The Press which shows that public concern for global warming (in regards to public policy priorities) has steadily dropped since 2008, much like opinion toward the risk of global warming in the Gallup poll.
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(*Economy Dominates*)
**Research Question #7:**

In answering research question # 7, it must be noted that the impact of frames on public understanding of issues, particularly issues as complex as global warming and climate change, has complicated consequences. Research question number 7 reads:

*RQ7:* If there is a correlation between major news frames about Climate-gate in Fox News and CNN coverage of this event/issue, what might this mean in terms of the potential impact of specific news frames about global warming on public opinion regarding global warming?

Nisbet notes in his article “Communicating Climate Change, Why Frames Matter for Public Engagement”:

Research concludes that opinion intensity is a central driver of participation on policy issues, predicting whether a citizen calls or writes to his or her elected official; discusses the issue with friends or coworkers; attends or speaks up at a public meeting; joins an advocacy group; or participates in a public demonstration.

Frames tell a story and, in doing so, define problems and outline solutions. In regards to the story of Climate-gate, frames also inherently communicate the level of risk the American public should assign the environmental issues of global warming and climate change. In the following two charts, both from The Pew Research Center for The People & The Press, it can be seen that “global warming” and the “environment” is ranked much lower than the economy, which ranks number 1 in each chart.
By analyzing the two charts above, the potentially damaging consequences of juxtaposing the environmental issues of climate change and global warming with the economy can be seen particularly in regards to the priority of climate change science within the public eye. On a larger and more political level, this lower assignment of priority could potentially affect future efforts at passing legislation that would substantially curb greenhouse emissions.

In light of the conflict frames employed by each outlet and the general low level of risk assigned by each outlet, it is unsurprising that Copenhagen was publicly considered a failure and cap-and-trade legislation has been shelved in favor of other legislation such as
healthcare and programs designed to inspire economic recovery. Researcher Matthew Nisbet points out the role of public support in legislation:

The efforts of recent administrations to pass health care, welfare, or immigration reforms have depended on generating widespread public support and mobilization and when these conditions are not met, presidents have suffered policy defeats (“Communicating” 14).

From 2009-2010, public confidence in the scientific community’s belief in climate change faltered while the issues of climate change and global warming were assigned lower risk priority than other issues in the public consciousness.

Finally, in considering the Gallup poll below, it appears that the American public became increasingly skeptical of the media’s portrayal of global warming from 2008-2010.

Thinking about what is said in the news, in your view is the seriousness of global warming -- [ROTATED: generally exaggerated, generally correct, or is it generally underestimated]?

% Generally exaggerated

GALLUP

Public opinion’s low point (30%) in 2006 was also the same year that Al Gore’s Oscar winning documentary, *An Inconvenient Truth* was released in 2006 amid a firestorm of
controversy. That same year, a 2006 Time magazine cover “featured a polar bear on melting ice with the headline, “Global Warming: Be Worried, Be VERY Worried” (Nisbet “Communicating” 19). From 2006-2010, public skepticism toward the media’s presumed exaggeration of global warming steadily rose to 48% in early 2010. The reason for this rising skepticism is unknown and this study does not assume to identify its exact cause. However, in seeking to answer the seventh research question of this study, it is intriguing to consider the effect that the Climate-gate incident might have had on an audience’s perception of portrayals of the risks of global warming and climate change in media outlet coverage. It certainly seems plausible that skepticism, coupled with a low emphasis on risk in regards to the environmental issues and the Climate-gate scandal, reinforced public perceptions that climate change and global warming were definitely not a priority, particularly in comparison with the economic crisis—a problem that had much
more evident and tangible repercussions for individuals than the complex and somewhat intangible issue of climate change.

*Research Question #1:*

In addressing my broadest research question, which was actually the first research question posed by this study, it was important to consider the overall problems and remedies outlined by the news coverage of CNN and Fox News on Climate-gate. The first research question asks:

*RQ1:* What types of frames are used by CNN and Fox News to present the Climate-gate controversy to the American public? And, which frames appear more frequently than others in each news outlet’s coverage?

As noted before, in order to fully answer this question, it was necessary to evaluate the Fox News and CNN news coverage as a whole and to also determine if frames that have historically been used in environmental coverage were also used in telling the story of Climate-gate. In doing so, the text and structure of each web article, news transcript and video clip was analyzed in order to provide an overview of frames in this study. In review, the types of frames often used in environmental coverage are conflict and value frames and the analysis focused on whether either of these frames was present, and if so, which frame (if any) was predominant. Research question #1 is two-fold in that it seeks to understand the types of frames used by the outlets and also asks which frames were used more than others. I designed the coding sheet with a section that specifically coded for this by asking what was defined as the main problem by the article and whether any remedies or solutions were proposed in the news coverage.
In analyzing the types of frames used in either outlet’s coverage, despite what was expected, the study discovered that CNN’s coverage was characterized by much more conflict-driven than the Fox News coverage. As stated before, the CNN coverage including all transcripts, web stories and news clips, contained 39% more rebuttals than the Fox News coverage. Additionally, the structure of the CNN news transcripts often seemed to follow a set pattern in which opposing political sources would argue on-air over the credibility of global warming data and whether humankind was really affecting the warming of the earth. Often at the end of this verbal sparring, the mediator would step in and conclude the episode with a summation that the “issue was obviously far from settled.” This type of rebuttal structure also characterized news articles in which competing sources’ quotes were juxtaposed against each other in “volley fashion” that was left unresolved at the end of the article.

Fox News, while also containing a level of contention, tended to have the majority of its sources from one political party, whether it was Senator James Inhofe (R), an outspoken critic of global warming, or representatives of Libertarian think tanks. In essence, the conflict frame was not employed as much by Fox News when measured by source rebuttals. Yet, the sources quoted and used in the commentary in the news coverage (both in the web stories and transcripts) were much more one-sided in their political orientation and negative in their views toward anthropogenic global warming and climate change. This observation regarding conflict and source rebuttals should not be construed as a claim that Fox News was not conflictive in its presentation of climate change and global warming, as, the outlet appeared to be much more certain in its
negative summation of the incident. Many of the sources used in the Fox News coverage were quick to point out that some scientific evidence has shown that warming has been cyclical in the past, particularly during medieval times, and questioned what made this time period any different.

While value frames have historically been used in news coverage of environmental issues, this study did not reveal that Climate-gate and the associated environmental issues were particularly moralized in a good vs. bad, right vs. wrong manner. However, the news coverage that did moralize the Climate-gate incident and the associated environmental issues was fairly negative in its portrayal. Approximately 5% of the CNN coverage appeared to moralize the Climate-gate incident and the associated issues of climate change and global warming versus approximately 17% of Fox News coverage. In the CNN coverage that moralized the incident, the coverage seemed to depict sneaky scientists using trickery to advance their cause of publicly proving climate change while the Fox News coverage used words like “climate communism” and labeled the incident via a source as a “shameful day for science.” The Fox coverage also accused the scientists involved in the incident of “obstructing the scientific process” and, like CNN, suggested they were guilty of using trickery in an attempt to further their cause of convincing the public that climate change was imminent.

In each outlet’s coverage, the main problem was characterized by a similar theme—the Climate-gate scandal revealed heavy scientific disagreement over the causes of global warming and whether it was even occurring. The emails showed a distinct lack of consensus within the scientific community regarding the causes of global warming,
whether it was cyclical or caused by human emissions. Each outlet noted that the emails
demonstrated that the science behind global warming and climate change was far from
settled and that its credibility was under direct fire because of the Climate-gate incident.

As the coverage progressed, the focus of the articles for both outlets shifted from the
incident to the repercussions the incident was viewed as having on the field of science
and whether climate change and global warming research deserved continued funding in
light of the controversial emails. However, the type of coverage later in the news cycle
(May through August) appeared to diverge for the outlets. While CNN’s coverage was
brief and matter-of-fact with far fewer sources, Fox News continued to air and post
heated opinion pieces that alleged a cover-up well after the investigation by the IPCC and
Penn State had concluded and exonerated the East Anglia scientists and Michael Mann.

Some of the specific problems identified by Fox were as follows:

1. Trillions of dollars are at stake and rest on shaky climate data.
2. Climate change and global warming science is speculative, questionable, and its
   credibility is under fire.
3. Climate change and global warming science is a hoax that is perpetrated for
   money and a political agenda.
4. The unproven risks of climate change and global warming are not worth risking
   the economy or American jobs.
5. Climate change science and global warming are controversial and what appeared
to be consensus and settled science is anything but that.
6. Climate gate has cast doubt on global warming and climate change, new policies to combat global warming are “draconian” and could cripple the economy.

The main problems defined by CNN were very similar in that they also brought up the economy as a concern in pursuing technology and science that appeared to rest on shaky data, as evidenced by the Climate-gate emails. Some of the specific problems identified by CNN were as follows:

1. The climate-gate scandal has created controversy around Copenhagen and challenged climate change theories.

2. Climate change science and analysis of climate change data is questionable.

3. Climate change and global warming science is controversial and could have a detrimental impact on American economy if regulations are implemented.

4. The science behind climate change and global warming is shaky and irrevocable damage has been done to its credibility.

5. Climate change science is under fire and public opinion is declining.

6. The science behind climate change and global warming is unsettled and in the current fragile economy, every dollar is precious.

Overall, the main problem defined by each outlet was that the credibility of the case for climate change and anthropogenic global warming has been shaken by the Climate-gate incident. While CNN was notably more neutral in its treatment of the incident, both outlets emphasized the effect of the incident on the credibility of the body of science and highlighted the alleged unreasonableness of funding technology and research into science.
that appeared to have flawed data and assisting scientists who were attempting to circumvent the scientific process.

As discussed before, frames also offer remedies or solutions and it was noted that the types of remedies offered by each outlet varied significantly. However, while the types of remedies varied, the number of remedies offered, were very few, in contrast to the main problems which were identified by each outlet. Only 24% of CNN’s coverage offered any identifiable solutions or remedies and only 21% of Fox News’ coverage did the same. CNN’s coverage offered the following remedies:

1. All views must be heard and open-mindedness during this controversy is encouraged.
2. Scientific transparency should be increased and politicization of the issues decreased.
3. Americans need to find out the facts of climate change.
4. America should lead the way for green technology.

In contrast, Fox News’ remedies or solutions were as follows:

1. No regulation of greenhouse gases based on shaky science.
2. Don’t base the future of the economy on uncertain science.
3. Reconsider before regulating or passing cap-and-trade legislation and increasing funding for climate change science.
4. Transparency in climate science research.

As seen above, the solutions offered by Fox News centered more on the economy and delaying legislation and halting funding in light of the Climate-gate controversy. CNN
also considered the economy and transparency in the scientific process, but seemed to encourage Americans to remain open-minded to hearing all the facts.

This study also examined whether the words “global warming” and “climate change” were used interchangeably by either outlet. As noted previously, this could potentially lead to public confusion in understanding the environmental issues and their scientific definitions. The scientific issues of climate change and global warming have had a longstanding history of being miscommunicated to the American public (Boykoff 87). This is due in part to short news cycles vs. often very long scientific research cycles in which theories are proven through replication, as well as the lack of journalist understanding of the scientific facts, and blatant errors in fact checking and in communicating data and terms within the context that they are given by scientists.

The analysis revealed that CNN was less likely than Fox News to interchangeably use the terms “climate change” and “global warming.” Only 8% of CNN articles used the terms interchangeably within a particular unit of analysis (in articles which mentioned both the words “climate change” and “global warming”) and 33% of the Fox News coverage used the terms “climate change” and “global warming” as a synonymous term within particular articles. As noted, articles in which neither term was mentioned were not included in calculating the percentages. In addition, interchangeability was determined by the context surrounding the words used in a sentence or paragraph. Most of the news coverage did not use the terms interchangeably—89% of CNN’s articles and 63.8% of Fox News’ articles did not do so.
Chapter Five: Discussion and Summary

Frames structure reality, define problems, propose solutions and inherently provide an audience with an interpretation of an event. Nisbet notes:

Audiences rely on frames to make sense of and discuss an issue; journalists use frames to craft interesting and appealing news reports; and policymakers apply frames to define policy options and reach decisions (“Communicating” 16).

The symbiotic relationship between media, public opinion and policy has reverberating consequences for science, policy and potentially the future of our planet. As public opinion has steadily dropped and reflected decreasing concern over global warming and climate change, perhaps the most intriguing question that this study has attempted to answer is why? This study cannot definitively link the specific cause of dropping public opinion to media coverage of Climate-gate, including CNN and Fox News coverage of the incident, in part because of its limited scope and in part due to the long-running difficulty of establishing a direct cause-effect relationship between what people think and media representations of reality. However, this study has demonstrated an intriguing correlation between American public opinion about climate change and the general nature of the coverage of the Climate-gate controversy by two major American media outlets.

Unlike most framing studies that have merely examined the types of frames used in presenting issues like global warming and climate change, this study takes a bold leap and not only identifies frames but also attempts to link these frames and their potential effects with public opinion toward global warming and climate change during the same
time period as media coverage of a controversial incident. The study reveals the current state of media framing of climate change and global warming communication and its potential impact by attempting to correlate public opinion with the frames used in conveying the story of climate change and global warming. It is hoped that future studies that examine media framing of global warming and climate change can build on this research and continue to examine public attitudes toward these issues. Furthermore, this study differs from much of past framing research in that it examines how partisan attitudes can have a distinctive impact on how the issues of global warming and climate change are framed and developed in media coverage. This study also provided intriguing commentary on framing and heuristics and demonstrated that climate change and global warming were directly linked with certain ideas such as competition with the economy and the idea that the science behind each issue was deemed too uncertain to attain strong credibility in the public eye. Like other studies that have examined media coverage of environmental issues, this one has demonstrated that a strong conflict/uncertainty frame was employed by two influential mainstream media outlets in explaining climate change and global warming. However, unlike Craig Trumbo’s study in which the number of political sources increased over the news cycle, this study has shown that the number of political sources (and sources overall) decreased throughout the news cycle. However, while the number of political sources decreased for both outlets, this study has shown that the concerns and topics raised throughout the news cycles of each outlet were reminiscent of the concerns and topics raised by the political elites quoted early in the news cycles. This study has also shown Entman’s “trickle-down” theory in action as the media
coverage began to match the dialogue of the political elites cited in much of each outlet’s coverage.

One of the most important aspects this study ponders is whether the Climate-gate incident in itself changed public opinion in the U.S. or whether media coverage of the incident was the catalyst for change. The Climate-gate emails, while often taken out of context by media, were in themselves, quite scandalous as scientists joked about beating up climate change deniers and discussed avoiding Freedom of Information requests. However, one must ask if the climate-gate e-mails had never been hacked, whether the media would have had anything to magnify. It could be speculated that media focused on the innate controversy within the incident and exploited it to boost ratings. Either way, it is impossible to know whether the event or media coverage of the event prompted the change in U.S. opinion toward global warming and public confidence in scientists’ beliefs that it is currently occurring and human activities are to blame.

This study has also shown that neither Fox nor CNN emphasized the immediate or long-term risks of climate change and global warming during the same time period that public opinion toward the assessment of risk regarding these issues was dropping. Of the two media organizations, CNN was more likely to acknowledge the existence of global warming. Yet CNN still generally encouraged delaying immediate action regarding climate change and more research to clarify the facts before increasing funding for research and pursuing cap-and-trade legislation.

If scientists whose findings point to anthropogenic climate change are correct, the issues that swirl around global warming will demand public attention in the future. In
assessing the future, it is important to note that without strong public concern toward these issues, there is a lack of a “central driver of participation on policy issues” (Nisbet “Communicating” 15). The environmental issues of global warming and climate change have been acknowledged as complex, and without careful research and strategized public communication regarding these issues, it is questionable whether the American public will take the time to actually “find out the facts” as some of the CNN coverage suggested that it do.

Both media outlets emphasized contention and conflict in portraying the story of Climate-gate to the American public. However, CNN news coverage was characterized by more conflict than the Fox News coverage. However, as noted earlier, Fox News has been cited by researchers for providing slanted coverage, of which Republican viewers provide its main demographic, and the majority of its sources in the Climate-gate coverage were primarily one-sided in their convictions. In retrospect, the strong conflict frame was originally unanticipated as CNN was previously noted as having a more middle-of-the-road political stance than Fox News. As described previously, journalists often attempt to provide balanced coverage by incorporating competing and diverse sources to supply the merit of objectivity to their stories. This inevitably creates an air of uncertainty. In Corbett’s study, subjects who read articles that incorporated controversy were more likely to feel uncertain about the relevance of climate change to everyday life and were more skeptical about the importance of the issue (144). It could be proposed that a similar effect occurred with the coverage of Climate-gate. This technique of balancing coverage has resulted in what Boykoff has labeled “a form of informational
bias‖ (87). While appearing to enhance a story’s objectivity, balancing just contributes to the “misleading scenario that there is a raging debate among climate-change scientists regarding humanity’s role in climate change” (87). The strong conflict frame that was present in the coverage of both outlets emphasized scientific disagreement and perpetuated the uncertainty that has surrounded climate change and global warming science.

In light of the coverage of the Climate-gate incident, it is unsurprising that the American public has begun to increasingly feel that media coverage of global warming had been exaggerated. It is also unsurprising that American faith regarding scientists’ beliefs that global warming was occurring fell right at the same time that the Climate-gate controversy unfolded. While this study does not attempt to establish direct causality, it does insinuate a connection between CNN and Fox News’ portrayal of Climate-gate, global warming and climate change and the ensuing drop in public assessment of risk of these issues and the decline of their priority in the public eye. However, it is unknown whether media coverage of Climate-gate or the incident itself spurred the change in public opinion. It is undeniable that the incident had a significant effect on the image of climate change science and global warming. The individual impact of the scandal is unable to be measured but is inherently connected to media narratives of the event.

Framing theory rests on the proposition that frames create linkages or mental shortcuts to interpretations for faster mental processing. To review, priming occurs when an association is activated between an item highlighted in the framed text and an audience’s thinking about a related concept (Entman, *Projections* 27). It is important to
understand the mental linkages that may have been created by the frames used in explaining the Climate-gate incident and the associated environmental issues to the American public. Overall, the coverage of both outlets downplayed the risk of global warming and climate change and emphasized the conflict and uncertainty behind the science of each issue. While the study does not establish causality, it does raise a strong and interesting correlation between public opinion and the type of coverage used to narrate the Climate-gate incident by two major U.S. news outlets. Historically, news coverage of environmental issues has typically been characterized by calls to action and judgment themes. This study revealed that the “calls to action” were calls to delay action and examine all the facts before increasing funding or passing legislation. The effect of these “remedies” on an audience is unknown; however, the current state of U.S. legislation devised to decrease human emissions speaks clearly.

This study has emphasized the way politics, media and public opinion are symbiotically related. Entman’s cascading network activation model clearly outlined the interactive relationship between each of these structures of our social world and this study builds on his model and examines an incident that is truly a case study for the phenomenon he described. While past studies have merely examined the way environmental issues have been framed, this study takes media framing of environmental issues one step further and analyzes the potential effect of particular frames on public opinion and political legislation.

In looking ahead to these environmental issues and how they are likely to be viewed and addressed in the near future, it is doubtful that American public opinion will change
unless U.S. coverage is reframed. Nisbet contends that in reframing climate change and global warming, “communication can no longer remain a guessing game” and “new meanings and messengers” for the issues are necessary in order to motivate any major policy changes in the future (“Communicating” 22). At this time, the issues remain at the bottom of America’s list of priorities and the future of these issues remains, for the time being, uncertain.
Works Cited


Appendix A: Coding Glossary and Coding Sheet

Definition of Terms

Note: This glossary is being provided to clarify what could be deemed “ambiguous terms” in the coding sheet that require particular interpretation. Not all terms in the coding sheet are defined as they are considered “straightforward” and require no additional clarification.

Political source—a source with a noted political affiliation that is indicated in the article (e.g. Republican, Democrat, Conservative, Libertarian etc.). A source such as the Director of the EPA is not considered a political source unless their political affiliation is specifically noted in the article, transcript or news clip. While they hold a position within the political framework of this country, their role is not (or is not supposed to be) influenced by a particular party affiliation.

Scientific advocate/activist source—a source with a scientific educational background that speaks on behalf of an advocacy group (for or against the issues of global warming and climate change) or promotes an opinion held by an advocacy group that is scientifically based. Examples of scientific advocate sources are the Union of Concerned Scientists and Greenpeace.

Non-scientific advocacy/activist group source—a source that lacks any noted scientific expertise or background and who speaks on behalf of a cause (for or against climate change and global warming) or on behalf of an advocacy group or promotes an opinion of the advocacy group with which they are associated. E.g. Al Gore or a spokesperson representing a Libertarian think tank that has a core tenet of rejecting government regulation by the EPA or a noted history of climate contrarianism.
Special interest source—a source that is unassociated with an established lobbyist group, but a stakeholder who has a special noted and vested interest (monetary, reputational or otherwise) in the topic on which they are offering an opinion. An example of a special interest source is the head of the IPCC (Intergovernmental Panel on Climate Change). The head of the IPCC would be considered a special interest source because some of the data and reports used in the IPCC reports were supplied by the Climate Research Unit of East Anglia University. As such, the IPCC head had a specific vested interest in the events of Climate-gate. Another example of a special interest source is the National Science Foundation which has funded millions of dollars to support climate change research.

Scientific source—a source that is unaffiliated with a particular advocacy group that has a scientific background or expertise relevant to understanding the issues of climate change and global warming. An example of a scientific source is Dr. John Christy, an Atmospheric Science professor at the University of Alabama in Huntsville.

Fringe scientist—a scientific source that is associated with questionable or speculative scientific views or views that depart from traditionally held scientific theories or what has been characterized by the mainstream as “bizarre” science or an alternate scientific view. This type of scientist is typically signaled in the language of the news article or transcript.
Informational/scientifically based news episodes/articles—a news story that focuses merely on the informational/scientific aspects of Climate-gate or climate change and global warming without a particular slant (or imbedded opinion) and seeks to merely state the facts in relatively neutral language without commentary. This type of article will in essence, merely seek to give information and explain “the science” and events to the public.

Moralize—to present the issue with a particular emotional charge or judgment or with value terms (good vs. bad, etc).
## Section 1: Basic Information Regarding News Story

1. **News source:** 1-Fox  2-CNN

2. **Date of article:** ___/___/_______

3. **Headline title:**

   ____________________________

4. **Assigned section:**

   1-News  2-Entertainment  3-Opinion  4-Politics  
   5-Science/Technology  6-World  7-Other__________

5. **Type of story:**

   1. Multimedia  2. Text (only)  3. Text (with photo)  4. Text (with graphic or chart)  
   5. News clip (transcript)

6. **Adopted from other news outlet:**  1-Yes  2-No  3-Unable to determine

7. **Tone of Headline:**

   1-Negative  2-Neutral  3-Positive  4-Not applicable (news transcript)

8. **Tone of Article:**

   1-Negative  2-Neutral  3-Positive  4-Indeterminate
Section 2: Information Regarding Sources

1. Total number of sources quoted:

0  1  2  3  4  5  6  7  8

2. Number of political sources (with noted political affiliation e.g. Rep. Sensenbrenner-Republican):

0  1  2  3  4  5  6  7  8

3. Number of non-scientific advocacy/individual sources (advocating for or against climate change/global warming) sources (E.g. Libertarian think tanks—Cato Institute, Heartland Institute):

0  1  2  3  4  5  6  7  8

4. Number of scientific advocacy group/individual sources advocating for or against climate change/global warming (e.g. Greenpeace, Union of Concerned Scientists):

0  1  2  3  4  5  6  7  8

5. Number of other special interest sources (not an advocate) not counted above (e.g. Rajendra Pachauri, Chair of the International Panel on Climate Change; National Science Foundation):

0  1  2  3  4  5  6  7  8

6. Political orientation of each source (if known):

Source #1 1-Democrat  2-Republican  3-Non-partisan  4-Unknown

5-Other (specify):______________

Source #2 1-Democrat  2-Republican  3-Non-partisan  4-Unknown

5-Other (specify):______________

Source #3 1-Democrat  2-Republican  3-Non-partisan  4-Unknown

5-Other (specify):______________
Source #4 1-Democrat  2-Republic  3-Non-partisan  4-Unknown
5-Other (specify):________________

Source #5 1- Democrat  2-Republican  3-Non-partisan  4-Unknown
5-Other (specify):________________

Source #6 1- Democrat  2-Republican  3-Non-partisan  4-Unknown
5-Other (specify):________________

Source #7 1- Democrat  2-Republican  3-Non-partisan  4-Unknown
5-Other (specify):________________

Source #8 1- Democrat  2-Republican  3-Non-partisan  4-Unknown
5-Other (specify):________________

7. Any scientific expert sources (expert in a particular field of science)

1-Yes  2-No  3-Indeterminate

If yes:

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

If no:
Source (expert in a field other than science) ____________________________

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

8. Scientific sources (total):

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

9. Fringe scientists used as source:

| 0 | 1 | 2 | 3 |
10. Any competing sources quoted in argument style (rebuttal quotes):

1-Yes 2-No 3-Indeterminate 4-Not applicable

If yes, number of times: 1 2 3 4 5 6 7

Section 3: Specific Content Information:

1. Number of times that article mentions global warming:

0 1 2 3 4 5 6 7 8

2. Number of times article mentions climate change:

0 1 2 3 4 5 6 7 8

3. Use of climate change and global warming interchangeable:

1-Yes 2-No 3-Indeterminate 4-Not applicable (Note: If one category is 0 above, then not applicable)

4. Story of “Climate-gate” focus of article: 1-Yes 2-No

5. Climate change or global warming defined as a problem caused by humans:

1-Yes 2-No 3-Indeterminate

Section 4: Specific Content Dimensions of Text

1. Attitude that implies acknowledging existence of global warming or climate change:

1-Yes 2-No 3-Indeterminate

2. Attitude that implies denying existence of global warming or climate change:

1-Yes 2-No 3-Indeterminate
3. Informational/scientific-based news clips/articles:
   1-Yes  2-No  3-Indeterminate

4. Advocating a particular attitude (positive, negative or neutral) toward the existence of global warming and climate change:
   1-Yes  2-No  3-Indeterminate
   If yes, is the attitude: 1-Positive 2-Negative 3-Neutral 4-Indeterminate

5. Advocating a specific policy approach to global warming or climate change:
   1-Yes  2-No  3-Indeterminate
   If yes, what policy? ________________________________

6. Problem presented as an obstacle to the economy or economic growth:
   1-Yes  2-No  3-Indeterminate

**Section 5: Risk Perception Dimensions of Content**

1. Risk of climate change or global warming emphasized in the article:
   1-Yes  2-No  3-Indeterminate
   If yes, is risk interpreted as imminent:
   1-Yes  2-No  3-Indeterminate

2. Problem defined as immediate (if not discussed, code as indeterminate):
   1-Yes  2-No  3-Indeterminate

3. Problem defined as long-term (if not discussed, code as indeterminate):
   1-Yes  2-No  3-Indeterminate

4. Human attention to the problem emphasized as being important:
   1-Yes  2-No  3-Indeterminate
5. Article/text acknowledges that climate change and global warming are currently occurring:

1-Yes 2-No 3-Indeterminate

Section 6: Specific Dimensions of Images

1. Photograph  2. Chart  3. Other graphic:_____________________________

Subject of the image:____________________________________________________

How is the image presented:

1-Negatively  2-Positively  3-Neutral  4-Indeterminate

Tone of the caption of the image:

1-Negative  2-Positive  3-Neutral  4-Indeterminate  5-Not applicable

Section 7: Overview of Frames

1. According to the article, what is the main problem?

________________________________________________________________________

2. According to the article, what is causing that problem?

________________________________________________________________________

3. Is the issue moralized?

1-Yes 2-No 3-Undetermined

If yes, explain: __________________________________________________________

4. Are remedies or recommendations made for solving the problem?

1-Yes 2-No 3-Undetermined

If yes, list the remedies:___________________________________________________
Appendix B: The “Hockey Stick” Graph

The hockey stick graph as shown in the 2001 IPCC report. The blue lines are temperatures estimated from proxy indicators, red lines are temperatures from thermometers, and the gray shaded region represents estimated error bars (Pearce).

This graph was labeled the “hockey stick” graph because of the sharp spike at the end of the graph which resembled a hockey stick. This graph was a particular point of contention in the news coverage because of emails exchanged between Professor Phil Jones, head of the Climate Research Unit of East Anglia and scientists in which he referred to “Mike’s trick to ‘hide the decline’” of temperatures in creating data sets. He was referring to Michael Mann, a Pennsylvania State University Professor of Earth System Science, who created the millennial temperature graph that became the iconic symbol of climate change, first published in 1998, that was used by Al Gore in his film *An Inconvenient Truth* and prominently featured in scientific articles and cited in the second report of the International Panel on Climate Change as “evidence of the link between fossil fuel use and global warming” (Gray “Michael Mann”).
During the Climate-gate scandal, Michael Mann and his “hockey stick” graph came under heavy fire by climate contrarians and even the head of the Royal Statistical Society, Professor David Hand who stated:

The particular technique they used exaggerated the size of the blade at the end of the hockey stick. Had they used an appropriate technique the size of the blade of the hockey stick would have been smaller. The change in temperature is not as great over the 20th century compared to the past as suggested by the Mann paper (Gray “Hockey Stick”).

Hand primarily criticized Michael Mann for using multiple sources to construct his temperature graph—reliable temperature data was combined with data from hundreds of studies that used lake sediment, tree ring data, and glacier ice cores. Mann argued that his research and the study that included the graph had been reviewed by the US National Academy of Sciences, “the highest scientific authority in the United States, and given a clean bill of health," and "in fact, the statistician on the panel, Peter Bloomfield, a member of the Royal Statistical Society, came to the opposite conclusion of Prof Hand" (Gray “Hockey Stick”).
Appendix C: Excerpts of Climate-gate Emails

Emails Regarding Freedom of Information Requests

From: Phil Jones <p.jones@xxxxxxxxx.xxx>
To: santer1@xxxxxxxxx.xxx
Subject: Re: A quick question
Date: Wed Dec 10 10:14:10 2008

Ben,

Haven't got a reply from the FOI person here at UEA. So I'm not entirely confident the numbers are correct. One way of checking would be to look on CA, but I'm not doing that. I did get an email from the FOI person here early yesterday to tell me I shouldn't be deleting emails -unless this was 'normal' deleting to keep emails manageable! McIntyre hasn't paid his £10, so nothing looks likely to happen re his Data Protection Act email. Anyway requests have been of three types - observational data, paleo data and who made IPCC changes and why. Keith has got all the latter – and there have been at least 4. We made Susan aware of these - all came from David Holland. According to the FOI Commissioner's Office, IPCC is an international organization, so is above any national FOI. Even if UEA holds anything about IPCC, we are not obliged to pass it on, unless it has anything to do with our core business - and it doesn't! I'm sounding like Sir Humphrey here! McIntyre often gets others to do the requesting, but requests and responses all get posted up on CA regardless of who sends them. On observational data, there have been at least 5 including a couple from McIntyre. Others here came from Eschenbach and also Douglas Keenan. The latter relate to Wei-Chyung Wang, and despite his being exonerated by SUNY, Keenan has not changed his web site since being told the result by SUNY! [1]http://www.informath.org/

The paleo data requests have all been to Keith, and here Tim and Keith reply. The recent couple have come from McIntyre but there have been at least two others from Holland. So since Feb 2007, CRU is in double figures. We never get any thanks for putting things up - only abuse and threats. The latest lot is up in the last 3-4 threads on CA. I got this email over the weekend - see end of this email. This relates to what Tim
sent back late last week. There was another one as well - a chatty one saying why didn't I respond to keep these people on CA quiet. I've ignored both.

Finally, I know that DEFRA receive Parliamentary Questions from MPs to answer. One of these 2 months ago was from a Tory MP asking how much money DEFRA has given to CRU over the last 5 years.

DEFRA replied that they don't give money - they award grants based on open competition. DEFRA’s system also told them there were no awards to CRU, as when we do get something it is down as UEA!

I've occasionally checked DEFRA responses to FOI requests - all from Holland.

Cheers
Phil

Dear Mr Jones

What are you frightened of?

Is it that suddenly mugs like me who pay our taxes suddenly realise we are paying your wages.

Please respond to Climate Audit's valid queries otherwise I will contact my MP. Please see below.

Quote From CA

As it happens, I have experience in mining exploration programs and I can assure Phil Jones that, contray to this experience enabling me to "understand why some samples are excluded", it gives me exactly the opposite perspective. It makes it virtually impossible for me to think up valid explanations for "excluding" some samples. It's illegal in the businesses that I know.

Anyhow, CRU answered as follows:

We have checked our files and no manuals, computer code, documents or correspondence are available.

We can confirm, however, that we did not use a different Omoloya data set and therefore there is no further data to provide.
Your behaviour is absolutely outrageous.

Best regards

Stuart Harmon

At 01:48 09/12/2008, you wrote:

Dear Phil,

I had a quick question for you: What is the total number of FOIA requests that you've received from Steven McIntyre?

With best regards,

Ben

Benjamin D. Santer
Program for Climate Model Diagnosis and Intercomparison
Lawrence Livermore National Laboratory
P.O. Box 808, Mail Stop L-103
Livermore, CA 94550, U.S.A.
Tel: (925) 422-3840
FAX: (925) 422-7675
email: santer1@xxxxxxxx.xxx

-----------------------------------------------------------------
The “Trick…to Hide the Decline” Email

From: Phil Jones <p.jones@xxxxxxxxx.xxx>

To: ray bradley <rbradley@xxxxxxxxx.xxx>, mann@xxxxxxxxx.xxx, mhughes@xxxxxxxxx.xxx

Subject: Diagram for WMO Statement

Date: Tue, 16 Nov 1999 13:31:15 +0000

Cc: k.briffa@xxxxxxxxx.xxx, t.osborn@xxxxxxxxx.xxx

Dear Ray, Mike and Malcolm,

Once Tim's got a diagram here we'll send that either later today or first thing tomorrow. I've just completed Mike's Nature trick of adding in the real temps to each series for the last 20 years (ie from 1981 onwards) and from 1961 for Keith's to hide the decline. Mike's series got the annual land and marine values while the other two got April-Sept for NH land N of 20N. The latter two are real for 1999, while the estimate for 1999 for NH combined is +0.44C wrt 61-90. The Global estimate for 1999 with data through Oct is +0.35C cf. 0.57 for 1998. Thanks for the comments, Ray.

Cheers

Phil
Emails Regarding the IPCC and Validity of Global Warming Data

From: Phil Jones <p.jones@xxxxxxxxx.xxx>
To: John Christy <john.christy@xxxxxxxxx.xxx>
Subject: This and that
Date: Tue Jul 5 15:51:55 2005

John,

There has been some email traffic in the last few days to a week – quite a bit really, only a small part about MSU. The main part has been one of your House subcommittees wanting Mike Mann and others and IPCC to respond on how they produced their reconstructions and how IPCC produced their report.

In case you want to look at this see later in the email!

Also this load of rubbish!

This is from an Australian at BMRC (not Neville Nicholls). It began from the attached article. What an idiot. The scientific community would come down on me in no uncertain terms if I said the world had cooled from 1998. OK it has but it is only 7 years of data and it isn't statistically significant.

The Australian also alerted me to this blogging! I think this is the term! Luckily I don't live in Australia. Unlike the UK, the public in Australia is very very naïve about climate change, mostly because of our governments Kyoto stance, and because there is a proliferation of people with no climate knowledge at all that are prepared to do the gov bidding. Hence the general populace is at best confused, and at worst, antagonistic about climate change - for instance, at a recent rural meeting on drought, attended by politicians and around 2000 farmers, a Qld colleague - Dr Roger Stone - spoke about drought from a climatologist point of view, and suggested that climate change may be playing a role in Australias continuing drought+water problem. He was booed and heckled (and unfortunately some politicians applauded when this happened) - that's what we're dealing with due to columnists such as the one I sent to you.
This is partly why I've sent you the rest of this email. IPCC, me and whoever will get accused of being political, whatever we do. **As you know, I'm not political. If anything, I would like to see the climate change happen, so the science could be proved right, regardless of the consequences.** This isn't being political, it is being selfish.

Cheers

Phil

IPCC stuff ---- just for interest !!!

**IPCC ASKED TO COME CLEAN OVER CONTROVERSIAL HOCKEY STICK STUDIES**

The Committee on Energy and Commerce, 23 June 2005


Joe Barton, Chairman

U.S. House of Representatives

June 23, 2005

To: Dr. Rajendra K. Pachauri, Chairman

Intergovernmental Panel on Climate Change

C/O IPCC Secretariat

World Meteorological Organization

7 bis Avenue de La Paix

C.P. 2300

Ch- 1211 Geneva 2 Switzerland

Dear Chairman Pachauri:

Questions have been raised, according to a February 14, 2005 article in The Wall Street Journal, about the
significance of methodological flaws and data errors in studies by Dr. Michael Mann and co-authors of the historical record of temperatures and climate change. We understand that these studies of temperature proxies (tree rings, ice cores, corals, etc.) formed the basis for a new finding in the 2001 United Nation's Intergovernmental Panel on Climate Change (IPCC) Third Assessment Report (TAR). This finding - that the increase in 20th century northern hemisphere temperatures is "likely to have been the largest of any century during the past 1,000 years" and that the "1990s was the warmest decade and 1998 the warmest year" - has since been referenced widely and has become a prominent feature of the public debate surrounding climate change policy.

However, in recent peer-reviewed articles in Science, Geophysical Research Letters, Energy & Environment, among others, researchers question the results of this work. As these researchers find, based on the available information, the conclusions concerning temperature histories - and hence whether warming in the 20th century is actually unprecedented - cannot be supported by the Mann et. al. studies. In addition, we understand from the February 14 Journal and these other reports that researchers have failed to replicate the findings of these studies, in part because of problems with the underlying data and the calculations used to reach the conclusions. Questions have also been raised concerning the sharing and dissemination of the data and methods used to perform the studies. For example, according to the January 2005 Energy & Environment, the information necessary to replicate the analyses in the studies has not been made fully available to researchers upon request.

The concerns surrounding these studies reflect upon the quality and transparency of federally funded research and of the IPCC review process - two matters of particular interest to the Committee. For example, one concern relates to whether IPCC review has been sufficiently robust and independent. We understand that Dr. Michael Mann, the lead author of the studies in question, was also a lead author of the IPCC chapter that assessed and reported this very same work, and that two co-authors of the studies were also contributing authors to the same chapter. Given the prominence these studies were accorded in the IPCC TAR, we seek to learn more about the facts and circumstances that led to acceptance and prominent use of this work in the IPCC TAR and to understand what this controversy indicates about the data quality of key
IPCC studies. In light of the Committee's jurisdiction over energy policy and certain environmental issues in the U.S. House of Representatives, the Committee must have full and accurate information when considering matters relating to climate change policy. We open this review because the dispute surrounding these studies bears directly on important questions about the federally funded work upon which climate studies rely and the quality and transparency of analyses used to support the IPCC assessment process.

With the IPCC currently working to produce a fourth assessment report, addressing questions of quality and transparency in the underlying analyses supporting that assessment, both scientific and economic, are of utmost importance if Congress is eventually going to make policy decisions drawing from this work.

To assist us as we begin this review, and pursuant to Rules X and XI of the U.S. House of Representatives, please provide the following information requested below on or before July 11, 2005:

1. Explain the IPCC process for preparing and writing its assessment reports, including, but not limited to:
   (a) how referenced studies are reviewed and assessed by the relevant Working Group; (b) the steps taken by lead authors, reviewers, and others to ensure the data underlying the studies forming the basis for key findings - particularly proxy and temperature data - are accurate and up to date; and (c) the IPCC requirements governing the quality of data used in reports.

2. What specifically did IPCC do to check the quality of the Mann et. al. studies and underlying data, cited in the TAR? Did IPCC seek to ensure the studies could be replicated?

3. What is your position with regard to: (a) the recent challenges to the quality of the Mann et. al. data, (b) related questions surrounding the sharing of methods and research for others to test the validity of these studies, and (c) what this controversy indicates about the data quality of key IPCC studies?

4. What did IPCC do to ensure the quality of data for other prominent historical temperature or proxy studies cited in the IPCC, including the Folland et. al. and Jones et. al. studies that were sources for the graphic accompanying the Mann et. al. graphic in the Summary for Policy Makers? Are the data and methodologies for such works complete and available for other researchers to test and replicate?
5. Explain (a) the facts and circumstances by which Dr. Michael Mann served as a lead author of the very chapter that prominently featured his work and (b) by which his work became a finding and graphical feature of the TAR Summary for Policymakers.

6. Explain (a) how IPCC ensures objectivity and independence among section contributors and reviewers, (b) how they are chosen, and (c) how the chapters, summaries, and the full report are approved and what any such approval signifies about the quality and acceptance of particular research therein.

7. Identify the people who wrote and reviewed the historical temperature-record portions of the TAR, particularly Section 2.3, "Is the Recent Warming Unusual?" and explain all their roles in the preparation of the TAR, including, but not limited to, the specific roles in the writing and review process.

8. Given the questions about Mann et. al. data, has the Working Group I or the IPCC made any changes to specific procedures or policies, including policies for checking the quality of data, for the forthcoming Fourth Assessment Report? If so, explain in detail any such changes, and why they were made.

9. Does the IPCC or Working Group I have policies or procedures regarding the disclosure and dissemination of scientific data referenced in the reports? If so, explain in detail any such policies and what happens when they are violated.

Thank you for your assistance. If you have any questions, please contact Peter Spencer of the Majority Committee staff at (202) 226-2424.

Sincerely,
Joe Barton Chairman
Ed Whitfield
Subcommittee on Oversight and Investigations

cc: The Honorable John Dingell, Ranking Member
The Honorable Bart Stupak, Ranking Member,
Subcommittee on Oversight and Investigations
EDITOR'S NOTE: The House of Representatives has also written to National Science Foundation Director Arden Bement, Dr. Michael Mann, Dr. Malcolm K. Hughes, and Dr. Raymond S. Bradley, requesting information regarding their global warming studies; see "Letters Requesting Information Regarding Global Warming Studies" at [3]http://energycommerce.house.gov/108/Letters/06232005_1570.htm
Email Regarding the Medieval Warm Period “MWP”

From: Keith Briffa <k.briffa@xxxxxxxxx.xxx>
To: Edward Cook <drdendro@xxxxxxxxx.xxx>
Subject: Re: Review- confidential
Date: Tue Apr 29 13:55:38 2003

Thanks Ed

Can I just say that I am not in the MBH camp - if that be characterized by an unshakable "belief" one way or the other, regarding the absolute magnitude of the global MWP. I certainly believe the "medieval" period was warmer than the 18th century - the equivalence of the warmth in the post 1900 period, and the post 1980s, compared to the circa Medieval times is very much still an area for much better resolution. I think that the geographic /seasonal biases and dating/response time issues still cloud the picture of when and how warm the Medieval period was. On present evidence, even with such uncertainties I would still come out favouring the "likely unprecedented recent warmth" opinion - but our motivation is to further explore the degree of certainty in this belief - based on the realistic interpretation of available data. Point re Jan well taken and I will inform him
Appendix D: Sample of News Story Photos from CNN and Fox News

Headline: Global warming debate heats up in wake of record snowstorm
Caption: As snow-weary Pennsylvanians dug out, utilities struggled to restore power to thousands and crews worked to reopen closed roads after a record-breaking blizzard that dumped more than a foot of snow across the state.
Source: Fox News
Date: February 13, 2010

Headline: Global warming in last 15 years insignificant
Caption: Global warming art. The predicted temperature changes (darker red indicating greater change) due to global warming, based on data that scientists, policymakers and the public are now questioning.
Source: Fox News
Date: February 15, 2010
Headline: The distorted global warming debate
Caption: David Frum says the global warming debate has been distorted by intellectual self-ghettoization.
Source: CNN
Date: December 6, 2009.

Headline: Q&A: ‘Climategate’ explained
Caption: Climate change skeptics said the emails suggested data was being manipulated to exaggerate the threat of global warming.
Source: CNN
Date: July 7, 2010