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Abstract

This dissertation improves upon past understanding of politics, religion, and nature through a close exploration of the role Christian theology plays in opinion formation. It does so by probing the varieties of religiously motivated environmental stewardship and religious attitudes towards anthropogenic changes of nature. The dissertation also develops new methodological tools to better understand the role of faith during the Anthropocene.

The study employs a mixed-method approach which compares analysis of denominational proclamations about global warming with in-person clergy interviews and survey data collected from two American heartland states. The survey data primarily focuses on climate change, with genetically modified organisms as an additional example of humans altering the natural order. Unique to this dissertation are new measurements of Christian theologies about the human relationship with the created order, which clarify an enduring debate over religion and the environment.

In particular, theology encouraging dominion over nature has almost vanished from religious consciousness. Instead, the key theological distinction is between *stewardship as resource management* and *stewardship as preservation*. These theological distinctions help explain acceptance or resistance to anthropogenic changes to nature and they illuminate important differences in policy preferences around climate change, global warming, and other science-driven policy areas.

Chapter 1 : Introduction

“And God said: *who* shut up the sea with doors, when it brake forth, *as if* it had issued out of the womb? Who hath divided a watercourse for the overflowing waters, or a way for the lightning of thunder; To cause it to rain on the earth, *where* no man *is*; *on* the wilderness, wherein *there is* no man?

And man said: I did, actually”
(Davies 2016, 40)

Introduction:

What is the relationship between humanity and nature? How does religion conceptualize this relationship? What does this mean for politics and public policy? Over the course of the next few pages, I offer answers to these questions. Using a targeted study of a highly religious American state, I explore how religious individuals and organizations view the relationship between humanity and nature and how this spills over into scientific policy issues areas, such as environmental policy and climate change along with more practical matters such as responses to natural disaster.

At the heart of this project is a test of the claim that some religious groups oppose claims about climate change mitigation and certain environmental policy actions because of theological reasons. Yet, the imprint of human activity on the earth is hard to deny even in regional contexts. Farming practices in the plains states amplified the impacts of severe drought in the 1930s and ravaged agrarian states such as Oklahoma others in the American Great Plains and Canadian Prairies (McLeman et al. 2014; Cook, Miller, and Seager 2009). In the wake of catastrophic flooding in

Louisiana following hurricane Katrina in 2005, disaster researchers found that the levees designed to prevent flooding may have actually made the situation worse by trapping water in the city and eroding the wetlands that historically protected the Mississippi Delta (Van Heerden 2007). More recently, researchers have tracked a definitive correlation between the resource extraction technique of hydrolytic fracturing and the rise of earthquakes in states not known to have active fault-lines. In 2015, Oklahoma overtook California as the most earthquake prone state in the United States (Wines 2016; “USGS Earthquakes” 2016; “Earthquakes in Oklahoma” 2016). Whether theology allows for it or not, human impacts on nature are evident.

Thinking about the role of theology on environmental policy from a slightly different angle, the religious objection or support for scientific claims about climate and environment stem from how that religion conceptualizes the ability of humans to shape or reshape the earth. This conceptualization of the relationship between humanity and nature as informed by religious thinking can be thought of as a theology of nature. Rephrased as questions: do the adherents of a specific religious tradition believe that humans have creative or destructive power over the earth? What is the scope of that power, and what religious justifications support these opinions? Furthermore, do these religious adherents believe public policy makers should assume that humanity has entered the Anthropocene and direct political resources at solving environmental problems?

To answer these questions, it is useful to define key terms and approaches towards the study of religion and environmentalism. The Anthropocene describes the

era in human history where humanity began to alter the natural world in a significant manner. The term was created to mark a departure from what the International Geological Congresses called the Holocene, or “the recent whole”, as adopted in 1865 to describe the past ten-thousand years or so of human history. The “Anthropocene suggests that...human activities have become so pervasive and profound that they rival the great forces of Nature and are pushing the Earth into planetary *terra incognita*. The Earth is rapidly moving into a less biologically diverse, less forested, much warmer, and probably wetter and stormier state” (Steffen, Crutzen, and McNeill 2007). In other words, humans have gained agency over nature and are now able to affect major change in the natural world.

Proponents of the term often connect the beginning of the Anthropocene to the start of the industrial era when humans began the large scale use of fossil fuels such as coal and oil, somewhere in the 1800s (Crutzen 2002; Steffen, Crutzen, and McNeill 2007). As such, human impact on nature is often measured through the emission of carbon and other gases into the atmosphere and rising global temperatures as researchers strive to monitor anthropogenic climate change (“Climate Change 2014: Synthesis Report” 2014).

The claim that humans are causing global warming and climate change through their actions has reached scientific consensus but remains a deeply divisive issue with political and policy consequences among the American public. I argue that one reason for this divisiveness centers on religious understandings about the relationship between humans and the natural world. In essence, theology matters.

Building on this claim, I look at three levels of religious influence; organizational, clergy elites, and mass publics, to evaluate how religious belief influences attitudes towards scientific policy issue areas like climate change and global warming mitigation.

Theologians and philosophers have explored how religious traditions approach nature and the climate. These approaches have ranged from historical examinations of how religions have written and spoken about nature to more activist statements of how religious groups should approach the environment. Some of these, such as Pope Francis's *Laudato Si*, have been received well, while others, such as Richard Cizick's statement on behalf of the National Association of Evangelicals were roundly rejected by the communities they claimed to represent. Survey evidence after the release of *Laudato Si* suggests a "Francis Bump" in Catholic acceptance of global warming and climate change (Maibach et al. 2015). Additionally, *Laudato Si* was adapted and abridged by the United States Council of Catholic Bishops into resources for study by local congregations ("Environment and Environmental Justice Program" 2017). Richard Cizick, on the other hand, was run out of the NAE due, in part, to his comments on climate change, and NAE statements accepting climate change are opposed by other high-profile evangelical leaders and associations (Pulliam 2008). What accounts for these differences in response to claims about climate change? Why might religious adherents support or oppose their religious leaders expressing belief that the earth is warming and humans may be at blame? I argue that one of the key reasons is the relationships between humans and the

environment as expressed in theologies of nature. Yet, theology as an explanation is not the only approach social scientists have used to understand the relationship between environment and religion.

From a social science angle, scholars have sought to understand how religious believers approach nature and climate. These inquiries have ranged from views on science (Roos 2014; Ding et al. 2011), to trust in scientists (Evans 2013; Evans and Evans 2008), to specific policy proposals about environmental policy such as recycling or international climate treaties. More specific to political science, scholars have historically approached religion from an affiliation perspective and have used church membership to predict attitudes about climate (Eckberg and Blocker 1989). More recent approaches have attempted to get at religious belief systems about nature and how that might influence environmental policy attitudes (Guth et al. 1995). Scholars have also explored the power of networks on congregations and the ability of religious elites to shape attitudes (Djupe and Hunt 2009).

Yet, why does this matter for policy makers or political scientists? Several reasons stand out. First, demographically, while religious identification in the United States has been somewhat on the decline and accentuated by the rapid rise of the “nones”, those who identify as religious remains high in the United States.¹ While the

¹ Religious “nones” are typically defined as individuals who identify as atheist, agnostic, or with no religion (“Nones’ on the Rise” 2012; Kosmin et al. 2009). The reason for the rise of “nones” remains debated and is attributed to growing secularism, changes in survey methods, or the realignment of traditional denominations and religious categories (Guterman and Murphy 2016). Surveys

numbers vary across researchers, around 80% of Americans identify with a religious faith of some sort and nearly 70% are explicitly Christian (“America’s Changing Religious Landscape” 2015). This places the United States well ahead of other comparable nations, especially when ranked in terms of environmental impact. Due to the nature of American democracy, this means that religious believers will continue to be a critical part the policy process though membership in the bureaucratic apparatus, as elected officials, as lobbyists and interest groups members, and as key political constituencies.

Second, religious opinion on environmental policy, or scientific issues for that matter, is highly heterogeneous. Even though roughly 70% of Americans are Christian, there is considerable difference between and within the various factions of Christianity on how they approach politics and political engagement. Differences are also seen when religious believers are asked about their trust in science, scientists, and the ability of science to modify and improve the natural world. Better understanding of these differences will enhance the ability of policy makers and scholars to understand the political motivations of religious Americans. Religion shapes public opinion in ways that matter for a range of scientific policy issues that span from climate change, to genetically modified organisms, or manipulating human DNA.

estimate that around 20% of Americans are “nones” (“A Closer Look at America’s Rapidly Growing Religious ‘Nones’” 2015) .

Third, adding concern over religious influences in politics allows for further testing of political science theories on mass opinion and behavior. How sensitive are religious individuals to cueing from their religious leaders or interest groups (Bullock 2011; Gilens and Page 2014; Hetherington 2001)? How much does political ideology matter when religion and science conflict over an issue (A. Campbell et al. 1960; Bafumi and Shapiro 2009)? Does religion provide individuals with a coherent worldview or is it just another layer in the bucket from which they draw random opinions (Converse 1964; Zaller 1992)? Studying religion in the context of politics provides a way to understand better the political motivations of citizens and their orientation towards society along with testing theories of politics.

In this specific dissertation, I ask, what accounts for religious believers' variety of opinion about climate change and environmental policy issues? I propose that an answer can be found in theology. Specifically, I contend that theologies of nature can cut across religious communities and political loyalties to increase support or opposition to politicized issues such as climate change. Theologies of nature contain coherent stories, or accounts, of creation and destruction. They identify the relationship between humanity and the divine, humanity and nature, and hint at the limits of human creativity. Similar to other cultural worldviews or political ideologies, theologies of nature serve as the scaffolding for a political framework upon which individuals build their political identities, attitudes, and opinions.

Surveying the Landscape:

The conversation on religion and environment often begins in the present. Near to the time of the writing of this dissertation, Congress member Tim Walberg, a Republican and Christian went on record stating “I believe there’s been climate change since the beginning of time. I believe there are cycles. Do I think man has some impact? Yeah, of course. Can man change the entire universe? No....Why do I believe that?...Well, as a Christian, I believe that there is a creator in God who is much bigger than us. And I’m confident that, if there’s a real problem, he can take care of it” (Gajanan 2017). This statement is not that dissimilar from the infamous quote, among many, by James Watt during the 1980s. Watt, a Pentecostal Christian, served as Secretary for the Interior under President Ronald Reagan when he testified before Congress in 1981 saying “I do not know how many future generations we can count on before the Lord returns" as a basis for caution against future environmental planning (Martin 1982; Guth et al. 1993). Both leaders shared a common faith through Evangelical Christianity and provide face validation for Lynn White’s claims that Protestant Christian thought leads to low environmentalism. However, the history of religion and American environmentalism is far more nuanced and complicated.

During these same few decades, Christians from the similar Protestant traditions as Walberg and Watt began to sound the alarm on global warming, pollution, and climate change. Earth Day has roots in the Pentecostal turned Lutheran preacher, John McConnell Jr., who felt that it would be “a more Christ-like view be to recognize Earth as a precious gift that is our responsibility to protect and

nurture” than to believe the “earth will soon pass away” (Sparks and Rodgers 2010, 24). McConnell Jr. started Earth Day in California in the late 1960s and the idea went national when Senator Gaylord Nelson moved Earth Day from the spring equinox to April 22nd (Sparks and Rodgers 2010; Bailey 2011). McConnell was not pioneering a radical new position for Christians in America regarding environmental preservation. Rather, he was following path that had been cleared a century before him.

Historians note that the American environmental movement owes its genesis, at least in part, to the deep spirituality of early American Puritans. Traced separately by Mark Stoll and Evan Berry, American Puritans found knowledge of God in two books, the Bible and nature. Beginning with John Calvin, Stoll notes that Calvinism, which informed early American Puritans, carried a rich heritage of seeking God through Calvin’s “two means”. Stoll quotes Calvin, “we know [God] by two means: first, by the creation, preservation, and government of the universe, which is before our eyes as a most elegant book...Secondly...by his holy and divine Word” (Stoll 2015, 42). Calvin’s teaching influenced early American preachers from Cotton Mather to Johnathan Edwards and was felt in the creation of Congregational and Presbyterian churches as the New England Puritan movement faded.

Yet, it is from this New England Puritan heritage that early American conservationists and natural scientists created the east coast forestry schools at Yale and Columbia and then sojourn to the American West. In their trail, pioneers like Gifford Pinchot, Fredrick Law Olmstead, Katherine Lee Bates, John Muir, left behind municipal public parks, the National Park Service, the American conservation

movement, and the religious and intellectual foundations for future environmental efforts (Stoll 2015). Both Stoll and Barry observe a decline in religious influence as American conservationism moved from its inception in the later 1800s into more professionalization in the early 1900s during the Progressive Era.(Stoll 2015; Berry 2015). Yet, religion is not silent during this time and Protestant Christians rally behind efforts to expand national parks and to create auxiliary groups like the Sierra Club (Berry 2015). It is from these theological and intellectual roots that McConnell Jr. later draws on to begin Earth Day. It is from these same roots that Katheryn Hayhoe, a prominent member of the IPCC, began touring the country speaking to religious congregations about how her Christian faith informs her study of climate change and why Christians should care about the issue (Hayhoe and Farley 2009). In the current political climate, these theological roots have born the fruit of various advocacy networks for religiously inspired environmentalism (Interfaith Power and Light, Evangelical Environmental Network) or groups that fear an overemphasis on creation has distracted the faithful from their true religious purpose (Cornwall Alliance).

Protestants are not alone in drawing from theological roots to explore environmental action. Pope Francis of the Catholic Church issued an encyclical titled: *Laudato Si: Care for Our Common Home*. In the letter, the Pope builds on the teachings about nature from Saint Francis of Assis, his namesake, and Catholic social teachings to encourage Catholics around the world into environmentalism as both preservation of God's creation and to care for those vulnerable to potential impacts

from climate change (Francis 2015). The theological history of the environmental teachings of the Catholic Church are explored further here since the dissertation will mostly focus on Protestants for reasons explained later. However, the story of historic Protestant and Catholic environmentalism help to illustrate the theological roots of American environmentalism.

Searching for Religion in Political Opinion:

To test the political implication of theologies of nature, I embark primarily on a study of climate change opinion among religious respondents. Broadly speaking, I ask, in what way does theology influence public opinion about policy issue areas concerning anthropogenic changes to nature? This leads to a narrower question asking how does theology inform climate change opinion and perceptions of risk from climate change? Extending the Anthropocene beyond just the environment, I also briefly ask how does theology influence attitudes on similar issues of anthropogenic change such as genetic modification?

I compare the results against existing approaches to religion and public opinion through the following arguments. First, it is widely held that religious belonging, belief, or behavior predicts opinion on climate change, scientific policy, and political preferences in general. This approach uses self-identified responses on surveys to locate a respondent in a particular religious tradition, check for fundamentalist beliefs, and measure how often they practice their religion. Typical questions in this approach include “what is your religious preference?”, “are you

born-again or evangelical?”, and “how often do you attend church?” The measures have proven robust and highly useful and are included on many surveys (Wald et al. 1998; Smidt, Kellstedt, and Guth 2009; Mockabee, Wald, and Leege 2007; Kellstedt, Wald, and Leege 1990). Yet, while this approach allows for questions on belief, such as those that would indicate theological orientations, the role of deep belief systems is underutilized.

A second approach argues that religious culture and context are just as determinative as the three-Bs of believing, behaving, and belonging. Religious respondents are thought to be especially sensitive to the influences of those in their congregations and from religious leaders. In terms of culture, scholars have found within religious groups a simple divide of communitarianism versus individualism. This divide is manifest between denominations, such as Mainline Protestants and Evangelical Protestants, within denominations, and even within congregations. Considering context, scholars have found that factions within congregations can shape the political preferences of their fellow co-religionists. This pressure can come from peer groups or religious elites (Djupe and Hunt 2009; Djupe and Olson 2010; Djupe and Calfano 2013). Furthermore, religious elites are not exempt from being influenced by their peer groups or leaders (Calfano, Oldmixon, and Suiter 2014; Calfano, Oldmixon, and Suiter 2013).

Between these two main approaches lie methodological differences. Those looking at culture and context tend to employ more experimental research designs while those using the three-Bs employ traditional survey methods. This divide may be

the result of research preference rather than some deep methodological divide, as there is no reason one could not use experimental designs with elements of the three-Bs.

The final premise is built on the theory that I suggest. This study shows that theology shapes public opinion about climate change, its causes and impacts, and the trustworthiness of information about climate change. This is because climate change is a scientific issue that directly confronts theological claims about relationship between humanity and nature. In the Christian context, notions that humans can change the environment may directly challenge the narratives of the books of Genesis and Revelation where the Christian God was the sole creative and destructive power. Because of the deontological challenge brought by climate change to religious believers, I expect that theology matters in a powerful manner and similar to other deep belief systems such as political ideology. Using the analysis of surveys, written documents, and conversation, I show that opinions on scripture and perspectives on the relationship between humanity and nature are interrelated and suggest a semi-coherent theological framework used by some religious adherents to inform their opinion about climate change, global warming, or other environmental issues.

Generally, previous literature suggests there are frameworks which Christians might use when constructing beliefs about the environment: one of stewardship and one of dominion (White 1967; R. P. Jones, Cox, and Navarro-Rivera 2014). Dominion suggests that after God created the earth humanity was give rule and dominion over all created things. As Lynn White argues, this led to a resource

approach towards nature whereby all created things were at the disposal of humanity (White 1967). This narrative combines with other theological elements linked to biblical literalism, such as creationism and dispensational eschatology, to reinforce a view that God created nature for human use (Guth et al. 1993).

Briefly defined, creationism is based on a very literal reading of the early chapters of Genesis, the first book of the Bible. In this narrative, God creates the earth, flora and fauna, animals and other living things. Finally, humans are created and placed into an idyllic setting called the Garden of Eden and given the command from God to, “Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish in the sea and the birds in the sky and over every living creature that moves on the ground” (Genesis 1:28). Yet, humans are separated and removed from the Garden by God after committing the first sin (Genesis 1-3). Dispensational eschatology continues a literal reading of Christian scripture with a special emphasis on chronology and periods of time called dispensations ending with the return of humans to an idyllic, Garden-like place, after God passes judgement on humanity for sin. There is tremendous variation in the specifics of this narrative, but key for the dissertation, is the possibility that God destroys or remakes the earth in the process of restoring the relationship between humanity and God. Note passages from scripture such as Revelation 8:7 where the text reads, “A third of the earth was burned up, a third of the trees were burned up, and all the green grass was burned up,” and Revelation 21:1 in which the narrator of Revelation says, “Then I saw ‘a new heaven and a new earth,’ for the first heaven and the first earth had passed away, and there

was no longer any sea.” Taken together, these narratives present a case for a dominion approach over nature by humans.

A stewardship approach bases its theology of nature on a pre-Genesis 3 perspective. While sin has consequences, humanity should focus on living up to the ideals found in a pre-sin world. As such, nature is not a mere resource but a creation to be cared for by humanity on behalf of God. While not explicit in giving humanity more agency, this view allows that human actions have more meaningful consequence. This view is closely linked to classical progressive and social gospel movements which have an eschatology that stresses human actions to help realize the kingdom of God on earth, or as close as possible before God eventually restores the earth and humanity.

Applying these methods of studying religion and environmental policy to this dissertation, I have the general expectation that literalists will generally deny climate change and reject that it could be anthropogenic. That is, since only God can create and destroy, no action of humanity could cause or mitigate climate change, if it is occurring. It is expected that Christian non-literalists will generally accept climate change and accept that it could be anthropogenic. Other approaches have already shown sensitivity to worldview and its impacts on climate policy. For example, New Environmental Paradigm and Cultural Theory, widely used in climate studies, have good measures about approaches to nature (Dunlap et al. 2000a; Dunlap and Van Liere 2008; Dunlap 2008; Goebbert et al. 2012). However, religion has not yet been studied in the same manner.

In anticipating critiques, several things must be explored. For one, it may be unclear when theology is activated versus other known influences on public opinion such as partisanship, media and agenda setting effects, and so on. Part of this project will try to uncover the depth of theology and where it might fit in relation to these other influences. Turning towards the known influence of the three-Bs, I place theology over and against other forms of religious adherence and religiosity when studying scientific policy issues such as climate change. Based on exploratory research, I suspect that theology will cut across belonging and behavior, though it will be harder to disentangle theology from belief. This may be a measurement issue, but, I suspect that beliefs, which in climate studies have been treated independently, group into patterns that are well explained from a theological perspective. At the very least, this dissertation will show that belief should be elevated above behavior and belonging in the three-Bs approach with respect to anthropogenic climate change and similar scientific policy issue areas.

A second issue is what other religious and identity issues might explain opinion on climate change. For example, using a culture approach, high individualists may be less likely to believe in climate change while communitarians would accept the evidence of climatologists. However, I suggest that some of this could be explained by a deep view of theology. For example, literalists, who tend to be more individualistic, are less trusting of scientists in this case as climatological evidence is contrary to their theology of nature.

Nevertheless, by looking within denominations in statistical or qualitative research, I believe that differences will emerge that are explained by theology. For example, I expect that non-literalist evangelicals will push against their context of evangelical churches and agree that climate change is occurring. In this case, context matters and may color the view of climate, but a respondent's theological orientation will drive their base assumptions.

In sum, a respondent's faith is not merely shaped by the congregation they attend or how often they pray but it is also part of a deep and coherent belief system that operates widely across all issue areas. Though shaped by their interactions with their community, theological systems can help a respondent adopt or reject information on climate change, its causes, and its implications.

Locating Religion and Politics:

The study of religion and politics stands at crossroads. As survey work shows an increasing number of Americans opting to self-identify as “non-denominational”, “independent”, or “none”, traditional ways of treating religion in political science may not be fit for the task of exploring the relationship between faith and politics in the twenty-first century (“America's Changing Religious Landscape” 2015; Schwadel 2013). Longstanding categories of religious affiliation are now more permeable as individuals and groups move between and across religious denominations. Even relatively unified denominations, like Episcopalians in the Christian Tradition, are beginning to see divisions forming over theological liberalism or conservatism and

splits into Episcopalian/liberal and Anglican/conservative wings. The 2016 suspension of American Episcopalians from the Global Anglican Community stands as an example (Winston 2016). What this suggests is that focusing on theological orientation rather than religious affiliation may help in the exploration of religion and politics during this time of religious realignment.

The study of religion in the context of public opinion has seen four major approaches. The ethnoreligious approach looks at the influence of religious group identity on political decisions. In response to shifts within American culture, the second approach focuses on the restructuring of American religion and culture to values politics. The third approach is summarized by the “Three-Bs” of belonging, behavior, and belief. A fourth emerging approach examines religion using experimental methods and draws on both social network theory and political psychology. Of the four, the three-Bs is certainly the dominant approach. The following section will look at each approach in turn.

The ethnoreligious approach leans heavily on early sociologists. Emile Durkheim situated individuals within their respective groups which informed individual engagement in politics. Scholars of the United States found strong group identities and affinities by region, party, and religion (Wald and Calhoun-Brown 2014). This group identity still functions, in part, when religious groups feel threatened (D. E. Campbell 2006; Layman and Carmines 1997; Carsey and Layman 2006; Legee et al. 2002). McTague and Layman (2009) argue that in studies prior the 1980s, strong evidence was seen that religious affiliation mattered and individuals

tended to stay aligned with their group identification (Berelson, Lazarsfeld, and McPhee 1954; Sundquist 1983; McCormick 1974; Green 2007).

Alternatively, the restructuring approach situates individuals outside their ethnoreligious group. This approach has roots in Max Weber and is expressed in contemporary American scholarship through the ideas of sorting and culture wars. Due to the ability of Americans to move between previously static geographical, social, and religious borders, religious identity is less tied to ethnically defined groups and more to group self-selection. Summarizing arguments from Nancy Ammerman (1987), James Davidson Hunter (1992), and Robert Wuthnow (1987), Smidt et al (2009), they define this approach as viewing individuals and religious groups on a traditionalist-modernist spectrum into which individuals self-select. This works similar to the concept of sorting in voting behavior studies. Beyond just selecting neighborhoods, individuals now choose churches that match their preexisting belief structures increasing the likeliness of echo chambers and providing an explanation to both the rise of suburban mega-churches and congregational gentrification.

Around the 1980s theological restructuring began happening within Evangelical churches and later within other Christian traditions resulting in strong within group differences based on belief and behavior. “Contemporary political behavior, however, is not defined entirely by the traditionalist-modernist divide, because there remain noticeable discrepancies in vote choice and party ties between religious traditions” (McTague and Layman 2009, 334). In their search for *how*, *why*, and *when*, McTague and Layman argue that political activists were able to politicize

religious cleavages to the advantage of the GOP. Yet, it is entirely possible that there is sorting taking place within denominations and affiliations and the findings that affiliation matter is a second-order effect of theological realignment. That is, people have moved denominations due to doctrinal and theological preferences.

The ethnoreligious and restructuring approaches were foundational to the emergence of a third approach commonly known as the three-Bs. Building on the cleavages that surfaced during restructuring, this approach examines religious belonging, behavior, and belief through public opinion surveys. The approach was easily incorporated into large national surveys and has been alternatively called the religious commitment approach (Smidt, Kellstedt, and Guth 2009; Wald and Calhoun-Brown 2014; Djupe and Calfano 2013).

Digging a little deeper, belonging considers the religious tradition, family, and denomination or congregation with which members of religious commitment identify. Religious tradition contains major world religions along with major divisions within those religions. For example, Christianity is broken out into Catholic, Mainline Protestant, and Evangelical Protestant. Many studies now also add ethnic/racial divisions of Hispanic Catholic or Black Protestant. Families consist of groups or denominations united by common histories, such as Baptist or Methodist. Families can be further subdivided into specific denominations and congregations, such as Southern Baptists or Free-Will Baptists. These breaks occur over specific doctrinal differences or denominationally allegiances. Believing looks at the doctrinal

affirmations of religious individuals. These questions grew in popularity following the rise of neo-fundamentalism and evangelicals in the middle of the 1900s.

Key questions center on beliefs about biblical literalism, born again experience, and other specific doctrines. Behavior considers the actions of religious believers. Similar to other behavior style studies, these surveys ask about how often religious believers perform religious actions. Key questions center on how often one attends religious services, reads sacred texts, or prays (Smidt, Kellstedt, and Guth 2009; Wald and Calhoun-Brown 2014).

Not entirely satisfied with the methodology and assumptions inherent in the three-Bs, an emerging fourth approach emphasizes experimental methods (Djupe and Calfano 2013). Paul Djupe, Brian Calfano, and other others, broadly argue that the inclusion of experimental methodology into existing approaches will improve the power of studies on religion and politics. However, they move away from three-B style surveys and towards social network analysis of congregations and groups of believers or splice innovations in political psychology with religion and politics. Above all, the method of choice is experimental. This approach is the least developed of the four discussed and related to the elite-cueing hypotheses in the voter behavior and information literature.

To synthesize these various approaches, it seems the emphasis lies on whether the level of analysis is the individual, the individual within a group, or the group. If the emphasis is on the individual, attention to belief, behavior, belonging, and even identity seem most fitting. If a scholar is looking at the individual within the group

and how the individual influences and is influence by the group, networked approaches seem more appropriate. If a researcher is looking at group behavior, ethnoreligious or even interest group (Hertzke 2009, 2004, 1988) approaches will be more effective. It is striking that beyond Djupe and Calfano' s identity approach, scholarship in religion and public opinion does not seem concerned about differentiating between religion as a deep belief structure and religion and its influence on surface level attitudes. That is, it seems minimal distinction is drawn between theology, the beliefs that form a theological system, and the political implications of that system of belief.

Outside of the approaches to the study of religion and public opinion, scholars have addressed how religion influences voting behavior (McTague and Layman 2009; Green 2007), policy issues at home (Hertzke 1988, 2004; Djupe and Calfano 2013)and abroad (Seiple and Hoover 2012; Rock 2011; Johnston and Sampson 1994; Guth et al. 2005), and the construction of American society (Skocpol 2002; Wuthnow 1987; Putnam and Campbell 2010; Putnam 2000). What is clear from these studies is that religion has a powerful influence on the shape of American politics. It less clear as to the nature and magnitude of that influence when other factors, especially those that have ideological elements such as political ideology or party, are considered alongside religion. It should be noted that religion and politics scholarship seems to assume that respondents have coherent beliefs that influence attitude formation for public opinion and policy preferences. That is, contrary to Converse, respondents do not need informational constraints to make non-random decisions as their decisions

may be based on their religious belief system (Converse 1964). Additionally, opinions are not drawn at random as Zaller might suggest, if anything, religion forms the bucket from which respondents make decisions (Zaller 1992). Examples of stability in public opinion include matters of foreign policy (Hurwitz and Peffley 1987; Hurwitz, Peffley, and Raymond 1989; Aldrich et al. 2006; Knecht and Weatherford 2006; Risse-Kappen 1991; Jacobs and Page 2005) and security (Jenkins-Smith and Herron 2006). Herron and Jenkins-Smith convincingly demonstrate that following the 2001 terrorist attacks in the United States, the public did not behave in a volatile way as would be expected if the public was uniformed and irrational. In a similar manner, stability is also found in domestic politics (Stimson 1975; Stimson, MacKuen, and Erikson 1995; Stimson 1991; Erikson, Wright, and McIver 1993) and structured attitudes found in opinion on immigration policy (McDaniel, Nooruddin, and Shortle 2010). This explanation of coherence in public opinion or, at the very least, semi-coherence, needs continued improvement, but; it is useful to note that religion and politics scholars usually begin with an assumption that respondents may have coherent belief structures. I suggest that respondents may also have coherent religious beliefs which inform their opinion about climate and environmental issues.

Outline of the Dissertation:

Religious self-identification is usually a powerful indicator of political and ideological preferences. However, growing theological differences within the traditionally used categories of religion mask distinctions within these groups and

decrease the power of the categories. One way to address the conundrum is to increase the category options available to survey respondents. Yet, without knowing all the possible traditions to which Americans adhere, how are researchers to organize the emerging splits within traditional religious categories in a parsimonious fashion?

An alternative approach is increased attention to theology. Theological distinctions between and within religious traditions are complicated, nuanced, and messy. However, when carefully considered, theological traditions may bring to the surface broadly coherent, deep, and consistent belief systems that supersede religious preference. Thus, by looking for theological indicators, such as biblical literalism in Christianity, one can cut across the categories of Catholic, Mainline Protestant, and Evangelical to see common theological threads that ties members of those categories together in public opinion and potential action in civil society. Literalism and eschatology have been shown to be a powerful predictors in public opinion on climate change and foreign policy preferences (Chaudoin, Smith, and Urpelainen 2013; Gries 2015; Barker and Bearce 2013). Essentially, my approach advocates for the merging of significant theological and taxonomic work in religious studies with the powerful literatures on opinion and civil society in political studies. While each chapter uses a different approach, the general methodological thrust of the dissertation is to move beyond traditional conceptualizations of religious belonging or behavior and illuminate latent theologies of nature available in the data about religious beliefs.

Turing towards the layout of the dissertation, I use a sequential multi-method approach (Klassen et al. 2012) where the chapters cumulatively build on the findings

of the previous chapter. In this dissertation, the early chapters use qualitative analysis to help identify various theologies of nature presented by religious organizations and clergy. The subsequent chapters test these theologies at the individual level using statistical analysis of surveys addressing religion, environment, genetic modification. The specific methods are laid out below.

Chapter two uses a text-as-data approach to look at public statements by religious denominations in order to identify how they view the relationship between humans and nature. This chapter is the most direct test of the Lynn White thesis and explores if certain Christian denominations hold the dominion-over-nature theology suggested by White. The statements are analyzed using a confirmatory grounded-theory approach to identify categories and groupings in the theologies espoused by religious groups (Glaser and Strauss 2009).

Chapter three is a qualitative confirmation of the theologies discovered in chapter two. Using elite interviews and participant observation, I asked clergy in Oklahoma about the state of environmentalism in their denomination, congregation, and personal theology. These conversations include questions on political action and social engagement, such as soup kitchens or disaster response, to help tease out possible political polarization climate change. The in-person interviews overlap with the survey area for chapter four and allow for some comparison between religious respondents, statements from clergy in the area, and national denominational position papers in chapter two. The interviews of clergy also expand the data beyond the majority white and Christian sample in the surveys. Sampling for the clergy comes

from using publicly accessible lists of religious congregations and connecting to local and statewide religious clergy associations to identify ministers who are willing to join the study. The sessions follow a semi-structured approach and are analyzed using confirmatory grounded theory as in chapter two.

Chapter four uses survey data from the “Weather, Society, and Government” (WSG) survey fielded in Oklahoma which has extensive questions on climate change along with a strong bank of questions on religion to explore how theological orientations shape public opinion. The survey is a panel study with data running from 2014 through the present. The chapter begins with cross-sectional of one wave of the WSG data to lay the baseline for additional comparison. Questions on the survey ask respondents about if they believe climate change is happening both globally and in Oklahoma. Respondents are also asked about anthropogenic climate change, certainty about their opinion on global warming, scientific consensus on climate change, and related topics. Religious questions ask respondents about religious importance, frequency of attendance, religious affiliation, if they identify as born again, and biblical literalism. By indexing religious affiliation to the now standard definitions used by the Pew Forum, I create a variable that differentiates evangelical denominations from mainline denominations from Christian independents. The Christian independent category captures a plurality of WSG respondents, who affirmed they were Christian but declined to identify with a denominational affiliation, a critical finding in its own right.

The rise of Christian independents indicates that denominations are in a period of instability if not decline. In highly religious states, such as Oklahoma, the most numerous religious group is now Christians who do not belong to a denomination or traditionally organized Christian religious groups. This means that using denomination as a proxy for religious belief is no longer sufficient. Instead, theological leanings must be measured directly. One way to test theology is to use biblical literacy as an indicator of theological concepts instead of as a flag for membership in an evangelical denomination (“America’s Changing Religious Landscape” 2015). In other words, theology matters and it can be studied productively using simple and common measures. Another way to measure theology is to utilize other theologically loaded survey items, such as questions from the New Environmental Paradigm (NEP) (Dunlap and Van Liere 2008). The NEP questions create a master-over-nature dichotomy similar to dominion-stewardship dichotomy suggest by Lynn White thesis already found in religion and politics research (Hand and Van Liere 1984). This is especially true for the questions which ask respondents to agree or disagree that “humans were meant to rule over nature” (Dunlap et al. 2000b). Taken together, the results demonstrate that indicators of theological concepts, such as biblical literalism or the NEP’s question on rule of nature, powerfully predict opinions on climate change and global warming even when competing with other proven variables like political ideology or cultural biases.

Chapter five closes out the dissertation with a discussion on eschatology, the Apocalypse, and end-times thinking. Using the language of the “shadow of future”,

the chapter attempts to see if religiously-inspired time horizons influences opinion on environmental and scientific issue areas (Barker and Bearce 2013). The chapter also helps to expand the dissertation beyond climate change to other areas where a scientific consensus exists but is contested on religious grounds. For chapter five, this issue is genetically modified organisms. The findings from chapter five are suggestive, but not conclusive, in their support for the claim that theology matters. Yet, these findings, along with the previous chapters, show that the influence of specific theologies of nature can be detected on opinion about climate change and other areas where the relationship between humanity and nature is thrown into question by the Anthropocene.

Conclusion:

Taken together, these chapters show that religious believers have diverse beliefs about climate change and other issues areas around contested science. Yet, religious theology stands out as a powerful predictor of opinion towards these policy issue areas. Biblical literalism and dominion-over-nature beliefs seem to indicate a worldview that cuts across denomination and political ideology, which accentuates trust or distrust of scientific conclusions about climate change, fracking, or other areas of contested science. For political scientists, this suggests that religious categories should be used with caution since there is a considerable amount of variability within religious denominations. Furthermore, it seems that centralized narratives and elite cuing do not always override individual worldviews inspired by

religious theology. For policy makers, these findings suggest that more care needs to be given to power of religious narratives about creation and the relationship between humanity and nature as science and, by consequence, politics addressing increasingly complicated issues around the ability of humans to impact and modify the natural world.

Chapter 2 : Denominations and Environmentalism

Introduction:

In this chapter, I use grounded theory to analyze formal statements, called position papers, from religious organizations and denominations to better understand how they deploy theological ideas to support or oppose political or politically charged issues. More specifically, I seek to determine if dominion and human rule over nature as postulated by Lynn White is reflected in the position papers. I also seek to better understand what denominations mean by stewardship as this language seems to have grown in popularity as a response White's assertions.

Why formal statements? Position papers are formal statements by an organization that help to clarify an organization's belief about a certain policy or issue area for members in the organization and signals to those outside the organization. The role fulfilled by position papers is well known in public administration and political science. First and foremost from an organizational perspective, position statements are similar to mission statements and values statements in their ability to focus an organization and increase its efficiency (Kirk and Beth Nolan 2010; Weiss and Piderit 1999). Even though religious organizations often behave like their secular peers, the mission of religious organizations are usually expressed in terms of faith to justify their actions to their constituents, congregation members, and other religious groups (Ebaugh et al. 2003). For this chapter, religious organizations use these position papers to proclaim and justify their belief about an issue in society. They signal the orthodox position of a denomination to adherents and observers and

can be used to define the boundaries of acceptable belief about a spiritual or social issue. Position papers are written by denomination to clarify theological misunderstandings or uncertainties or to apply theological understandings to societal issues. Generally, these statements can change over time as understanding is updated or the denomination faces contemporary issues.

Second, from a political advocacy perspective, position statements help with the agenda setting and framing capabilities of a religious organization. Much has been discovered about agenda setting and framing in policy subsystems. Agenda setting is often defined as the ability of the media or elites to increase the importance of an issue for the mass public while framing concerns the terminology and narrative used to characterize an issue to the mass public (Scheufele and Tewksbury 2007). Agenda setting and framing theories have been applied to political elites and public opinion (Chong and Druckman 2007b; Gilens and Page 2014; Nelson and Oxley 1999), policy subsystems and issue networks in general (Baumgartner and Jones 1991), and environmental politics more specifically (Wood and Vedlitz 2007; Jenkins-Smith and Herron 2006; Jenkins-Smith et al. 2014; M. D. Jones and McBeth 2010). Denominations use their position statements for agenda setting and framing many issues, including environment and global warming. These issues are explored in more detail throughout the chapter.

It should be noted that the formal statements carry different weight with different denominations. In hierarchical religious organizations, such as the Catholic Church, statements from Catholic leadership are powerful. This is also true for

theologically hierarchical denominations. For example, congregations in the Southern Baptist Convention are organizationally autonomous and do not have to answer to a centralized administration. However, the SBC encourages theological homogeneity and position papers define the boundaries of acceptable belief and practice for the SBC. In flatter or more decentralized denominations, the position papers are more advisory. In conversations with clergy from the Disciples of Christ, a small denomination nationally but very popular in Oklahoma, they stressed that the Disciples of Christ meets and then issues position papers at national conventions, but these reflect the “will of the assembly” at that moment.

Data and Method:

Sources for this chapter come from denominations popular in Oklahoma. This way, the dissertation can attempt to trace religious influences on environmental policy from national elites, to local elites, and finally, to the mass public. The decision to restrict to Oklahoma is also a way control for the geographical distribution of religious belief. As the Pew Religious Landscape Survey and data from the Association for Religious Data Archive illustrates, denominations vary in their rates of adherence from state to state (“America’s Changing Religious Landscape” 2015; “The Association of Religion Data Archives” 2017). Top five religious groups in the state include the Southern Baptist Convention, United Methodist Church, Independent and Non-denominational Congregations, the Catholic Church, and the Assemblies of God. Closely behind more well-known traditions are the Churches of

Christ, Christian Churches (Disciples of Christ), and Christian Churches and Churches of Christ. These churches are unique since they are part of a uniquely American restorations movement that grew up in the American heartland during the late 1800s.

Position papers were collected online from denominations with a presence in Oklahoma based and for which respondents self-identified as members in the “Weather, Society, and Government” (WSG) survey used later in the dissertation.

Table 2-1: List of Denominations and Abbreviations

<i>Denomination</i>	<i>Abbreviation</i>
African Methodist Episcopal	AME
Assemblies of God	AG
Church of God	COG
Disciples of Christ	DOC
Episcopalian Church	EC
Evangelical Lutheran	ELCA
Lutheran – Missouri Synod	LMS
Mennonite	Menn
Presbyterian Church	PCUSA
Roman Catholic	USCCB
Southern Baptist Convention	SBC
United Church of Christ	UCC
United Methodists Church	UMC

The list, as displayed in Table 2-1, includes the Assemblies of God, African Methodist Episcopal, Church of God, Disciples of Christ, Episcopalians, Evangelical Lutheran, Lutheran – Missouri Synod, Catholic Church, Mennonite, Presbyterian Church USA, Southern Baptist Convention, United Church of Christ, and the United

Methodist Church.² I also analyzed statements from the National Association of Evangelicals (NAE), the rebuttal by the Cornwall Alliance (CA), and the National Council of Churches (NCC). These are not included in the analysis since they speak for a collective of denominations and not individual denomination.

For the purpose of this study, the individual church alliances with umbrella organizations like the NAE and NCC is an acceptable marker for theological leaning. Churches differentiate conservative/fundamentalist or liberal/modernist theology from how they approach scripture and the authority given to the text. Churches with membership in the NAE are typically considered conservative while NCC is more liberal or modernist. These alliances are indicated in Table 2-1. It should be noted that the Roman Catholic church has a unique approach to scripture interpretation and authority and, as such, cannot be located on a spectrum with Protestant denominations.

Findings:

This chapter began by asking if dominion theology existed in religious statements and wanted to know more about the type of stewardship. Using a grounded theory approach and following the initial approach of Glaser and Strauss, I read through all the statements and through several rounds of coding arrived at four central questions asked of each position paper (Glaser and Strauss 2009). The questions are:

² A full list of these statements may be provided upon request to the author.

“what is the relationship between humanity and nature?”; “is climate change happening and why?”; “who is affected and how?”; “what should be done and why?”

Scholars of grounded theory debate over the most appropriate wording to describe these rounds of coding and how many levels it should take (Glaser and Strauss 2009; Corbin and Strauss 1990). For this chapter, I used three rounds of coding where the first round used an open coding approach to summarize key statements at the sentence or paragraph level of a position paper. Following the language of Glaser and Strauss, these are called concepts. The second round compared first round concepts against each other to reduce the number of concepts into more manageable categories. This created a set of mid-level categories in the analysis. Finally, the third round of coding compared the categories to create high-level, or theoretical, categories. Before each section of the chapter is a figure displaying results of each round of coding, but, an example might be helpful.

As an example of the coding process, a paragraph mentioning dominion and rule over nature was first coded at the lower-level using the concepts of “rule” and “dominion”. Moving up a level and looking at the whole document, both concepts fit into the mid-level category of *stewardship-resource management*. Finally, these were coded as part of the high-level category regarding the relationship between humanity and nature. It should be noted that I approached the text with some *a priori* assumptions about the types of concepts I would find, but, since these concepts were not well defined in the literature, I believe that grounded theory was preferable to qualitative content analysis.

The Relationship Between Humanity and Nature

One of the critical questions asked of the position papers is “how should humans treat nature?” Through coding the positions papers from over a dozen denominations the concept map in Figure 2-1 was created. The outer edges of the map show the first round of lower-level coding. The words in the boxes are direct quotes and phrasings used in the denominational position statements. Moving in towards the center is the second round of mid-level coding. These categories were created by trying to condense the concepts by most-similar relationships. From the concepts emerged two mid-level categories. Finally, at the very center of the concept map is the theoretical category which emerged from the first and second round coding. For analytical reasons, the theoretical category is phrased as a question.

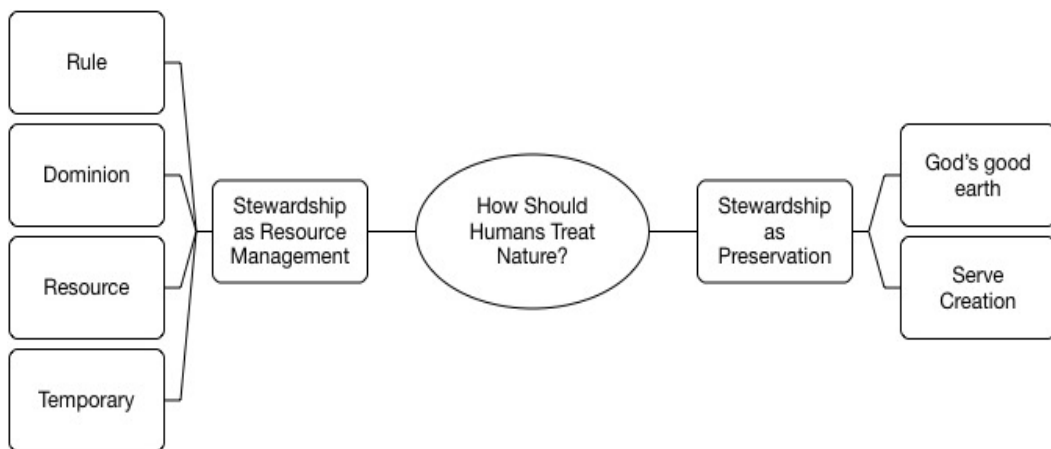


Figure 2-1: How Should Humans Treat Nature? Displayed by Coding Level.

I started by looking at the position paper from the Assemblies of God (AG) and moved from there. The AG is one of the more theologically fundamentalist churches in the study and was key member in starting the National Association of Evangelicals. As such, they seemed to sit at the theological boundary of the study and would provide a good starting point from which to head toward the other boundary of the United Church of Christ or the Presbyterian Church (USA). Their paper on "Environmental Protection" stressed the use of scriptural citations to justify their position, spoke of both stewardship and dominion, and paid special attention to the role of Christian ideas about sin and right worship. In many ways, it fit the expectations of an environmentalism centered on human rule and dominion over the earth. For example, one line coded as "dominion/rule" states: "As stated in Genesis 1:27-30, we believe God has given mankind alone complete dominion (authority) over the earth's resources". Note that for the AG, they root dominion in the scripture and interpret this as authority over the earth. Other traditions, as I will show, vary on the definition of dominion.

The AG position paper offers further illustration by grounding dominion as part of being a "good steward of *all* God's creation" (emphasis original) and that it is "the temporary home for all members of the human race". Coming into the reading of the AG position paper, I also sought clarification on Christian eschatology, the "end of the world", and environmental thought. From the AG position paper emerged a category coded as "temporary" where the AG described the planet as "our temporary home-earth". What this meant was clearly described in a paragraph where they

claimed that "scripture indicate the earth will one day be consumed by fire and cease to exist (Zephaniah 1:18; Isaiah 51:6)"....and that later, "Christians will enjoy a new earth presently unknown to mankind (Isaiah 65:17; 2 Peter 3:13)". The concepts expressed here were later coded into the mid-level category of stewardship-resource management due to other lines within the AG position paper emphasizing stewardship of earth since it was a resource for human use.

The AG was the only Pentecostal religious family with a position paper located. They are part of the larger Evangelical movement and can be compared with other Evangelical denominations such as the Southern Baptists (SBC). Like the AG, the SBC called for "stewardship and dominion" and tended to view the earth more as a resource for human consumption than an object to be preserved. The SBC mentioned their "support for the development of environmental public policy that will improve the stewardship of the earth's resources..." The AG and the SBC were the only denominations sampled that seem to have an explicit stewardship as resource management approach.

At the mid-level coding, the other difference that emerged was the idea of stewardship as preservation. In this approach, humans were again given stewardship over the earth, but stewardship did not include dominion or ruling. Rather, humans were responsible for caring for the earth and even serving the earth. The ELCA explicitly states that "God frees from our sin and captivity, and empowers us to be loving servants of creation" and through acting "interdependently and in solidarity,

we *do* justice. We serve and keep the earth, trusting its bounty can be sufficient for all and sustainable” (emphasis original).

Considering the relationship between humanity and nature, several tentative conclusions seemed possible. First, the idea of religiously motivated dominion over the earth was present in the denominational position papers, but not as originally conceived. Dominion did not imply recklessness, but rather an anthropocentric approach to resource management. The mid-level category of stewardship as resource management seemed to absorb other questions about dominion and eschatology. The earth was created as a resource for humans until the time would arrive when humans would no longer need the earth or they would be given a new one. Second, the response to dominion is not stewardship. As previously shown, stewardship can have a resource management dimension and contain overtones of dominion. Instead, the rebuttal is centered around stewardship as preservation. As seen in the position papers issued by several other denominations, they also believed in stewardship but added to this an element of service towards the earth or responsibility to care for God’s gift. Third, the authorities used to defend these positions varied across denominations and across the positions taken. Differences emerged immediately when looking at the position papers. The AG official position paper is structured more like a memo while the SBC position paper reads like a formal resolution complete with “whereas” and “resolved” before each sentence. Yet, on the stewardship as preservation side of the debate, similar differences occurred.

Is Climate Change Happening?

Beyond understanding how humanity should treat nature, there is a pressing question of: “is climate change happening?” It is highly possible that these questions are related and a closer examination of the positions papers will help to tease out this relationship. As in the first section, a concept map is used to display the results of the coding process. In Figure 2-2, the outer edges of the map show the actual words and phrases of the concepts discovered in lower-level coding. The second round of coding is one step towards and center and coalesces around two categories of affirming or challenging the science on climate change. Finally, at the center is the theoretical category of affirming or denying climate change.

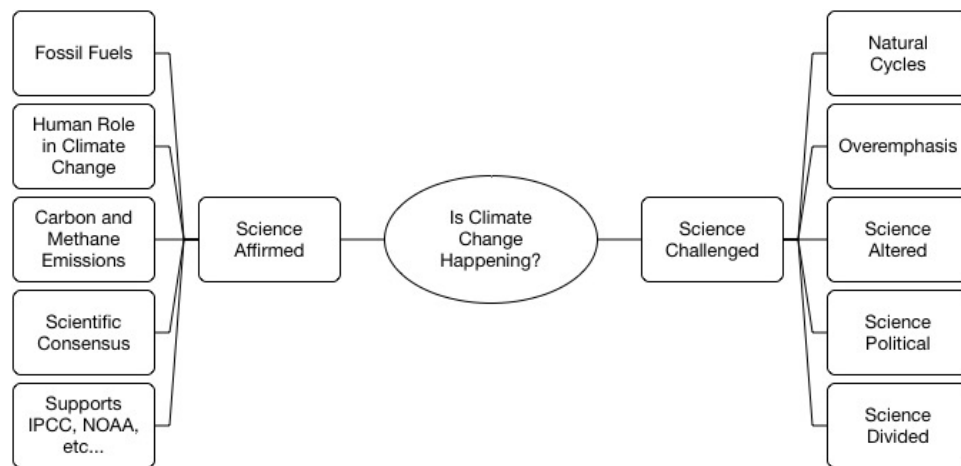


Figure 2-2: Is Climate Change Happening, Displayed by Coding Level

From the denominational position papers emerged an answer to the question if climate change is happening. Mid-level coding found that the denominations either affirmed science and agreed that climate change was happening or challenged science

and was uncertain about climate change. At no point did any denominational statement outright reject that climate change was happening. These mid-level coding categories were created by collapsing the concepts identified at the sentence and paragraph level. In the science challenged category, concepts such as overemphasis, natural cycles, or the political nature of climate science caused denominations such as the AG or SBC to doubt or minimize climate change and the role humanity might play in causing climate change. Unique to AG was the concept of sin and correct worship. While definitions vary in the Christian tradition, for an evangelical denomination like the AG, sin implies a separation from God or deviance by humans from God's intent. The AG is particularly concerned about Christians sinning by worshipping nature through taking "issues of the environment to the extreme" and resulting in an "overemphasis of the environment at the expense of spiritual issues" (AG).

The SBC position paper does not use scripture but contests the prevailing scientific evidence about climate change leading to a category called "science-challenged". The perspective on science by the SBC is highly like a longer report by the Cornwall Alliance written as a rebuttal to both the National Association of Evangelicals and the Intergovernmental Panel on Climate Change. The SBC position paper refutes climate change based on natural factors such as geological cycles like the Little Ice Age in the 1400s and questions the effectiveness of climate change reductions measures. This is because climate science is not trustworthy due to the divisions among scientists and the political agenda behind the IPCC since

"while remaining politically active in the warning of catastrophic human-induced global warming, [the IPCC] has recently altered many of its previous statements, reducing its projections of the magnitude of global warming and its impacts on the world" (SBC).

With the science affirmed denominations, there was less doubt expressed about the human role in climate change, they were willing to accept scientific arguments about the role of fossil fuels and carbon emissions in causing climate change, and if they used the language of sin it was in the context of human abuse of nature and vulnerable peoples. There was no hesitation to accept the "preponderance of evidence from scientists worldwide" that climate change is happening and that "most stem directly from human activity" (ELCA). The United Methodist Church gave a detailed description of the greenhouse effect and how "human activity has increased the concentration of greenhouse gases in the atmosphere" in a manner which could "produce conditions on Earth unfavorable to various species of life, including some human populations" (UMC). The Episcopal Church highlighted how continued drilling in the Arctic National Wildlife Reserve threatened to "increase carbon emission but would also threaten the subsistence livelihood" of Native American peoples (EC). Churches such as the AME and the Church of God expressed similar concerns as the Episcopal Church about "the burning of fossil fuels" and how it "is polluting our air and waters, warming the planet and putting our seasons out of balance" (AME).

What are the costs and who is affected?

A third theoretical category which emerged from the coding focused on the costs and impacts of climate change and climate change mitigation tactics. This high-level category was built from several concepts and mid-level categories as displayed in the concept map in Figure 2-3. As before, the outside edge of the map contains the direct phrasings used to create the concepts relevant to climate change impacts and costs. These were condensed into mid-level categories by looking for similarities. The result was four categories which looked at geographic impacts, human impacts, environmental impacts, and economic impacts. Finally, from these emerged the high-level category of costs and impacts at the center of the concept map.

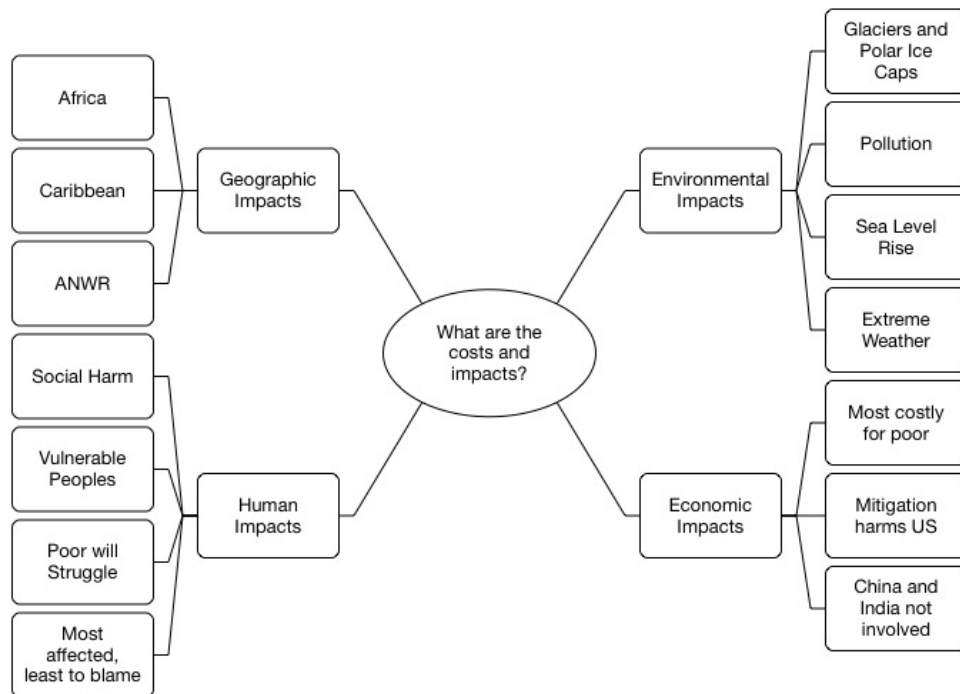


Figure 2-3: What are the Costs and Impacts of Climate Change, Displayed by Coding

Level

The third high-level category that emerged from the coding of the denominational statements on climate change and global warming focused on the costs and impacts of climate change if any. These fell into four mid-level categories centered around geographic impact, human cost, environmental costs, or economic impact. The patterns were generally predictable. The AG, a denomination which does not believe in climate change, did not mention human impacts. The SBC, also a group that rejects climate change focused on the human and environmental impacts behind the cost of climate mitigation measures. Notably, the economic impact mid-level category was created from nearly entirely concepts expressed by climate change rejecting denominations. They stressed that the economic costs of mitigation would fall on the US and the poor as the efforts would "significantly inhibit" the "economic development and the development of the e international economy" and carbon reducing measures would "pass along the cost of emission reduction programs to consumers", finally, "poor people and underdeveloped regions of the world will be impacted the most severely by higher costs" (SBC).

Denominations which affirmed that climate change is happening also looked at economic and human costs but did so build on different concepts. Human costs focused on the social harms that can come from climate change and that those "least able to mitigate the impacts" (DOC) will suffer the most. Building on *Laudato Si*, the USCCB observed that "people in poverty have contributed the least to climate change, yet they disproportionately impacted by it" (USCCB). Similarly, the AME

position paper said, "low income communities, communities of color, the children, elderly, and our faithful in the Caribbean, Africa and in rural communities bearing the greatest burden" (AME). These denominations framed human costs or impacts of climate change in terms of justice and focused on power dynamics opposed potential financial strains on consumers.

What should be done and why?

The concluding section of the findings from this chapter looks at what should be done and why? In other words, do the position papers make recommendations for climate change policy and what is their justification? The concept map, as displayed in Figure 2-4, is smaller than the previous section and the outer edges use direct phrasings from the position papers for the low-level coding. From these concepts emerge two categories of balanced or aggressive responses. Finally, these categories lead to a theoretical category on the proper response to climate change.

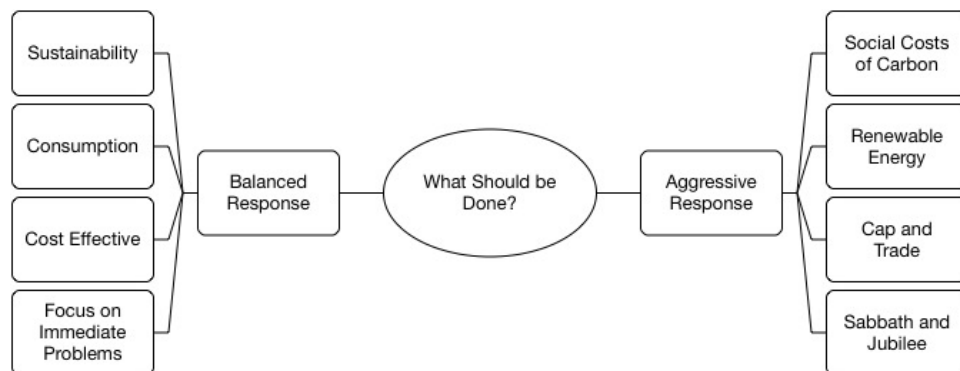


Figure 2-4: What Should be Done, Displayed by Coding Level

Denominations vary on how to respond to climate change, if at all. The concepts from the lower-level coding were reduced into the mid-level categories of balanced response and aggressive response. The balanced response was favored by groups such as the SBC, UMC, and EC while the more aggressive response came from the PSUSA or the UCC. Many, but not all, denominational position papers had concepts from both response categories. The denominations that rejected the human role in climate change did not offer suggestions or had a limited range of ideas for a human response to climate change. The AG believed that the threat of climate change was overemphasized and instead, in an extended quote

"the Bible's message declares that spiritual matters (those affecting the hearts of mankind) are the priority issues with God. These and not the environment are the reason He sent His own Son Jesus as a sacrifice to save people. For God did not send His Son to save the earth in a physical sense but to save the people who inhabit it. We believe this must be the main focus and concern for all Christians today" (AG).

The SBC urged its members "to proceed cautiously" and they "strongly request that all public policy decision makers ensure an appropriate balance between care for the environment, effects on economies, and impacts on the poor when considering programs to reduce CO₂ and other greenhouse gas emissions" (SBC). Thus, while they showed support for some stewardship measures, they were in service of economic impacts or more immediate and short-term issues. The SBC urged "cost-effective measure" to reduce carbon emissions but opposed regulations to reduce emission levels, they supported stewardship provided it would not have significantly negative economic impacts. They also praised care for the vulnerable and especially regarding water access, electricity, improved medical care, and

improved educational opportunities. The concepts expressed by the SBC illustrated the balanced approach they wished to take, on that would fulfill "God given obligation" to care for the earth in "tangible and effective ways" without causing a large economic burden (SBC).

Other denominations expressing a balanced approach towards climate change expressed concerns about current patterns of consumption and sustainability. These concepts were seen in the Disciples of Christ through sentences about "limiting the future impacts of climate change", "address our patterns of acquisition and consumption" (DoC). The ELCA urged against "excessive consumption" and used similar language as the DoC encouraging their adherent to avoid excessive "acquisition and consumption". The PCUSA was the most descriptive of the position papers and provided specific examples of sustainability such as "adjusting thermostats, walking...turning off lights...recycling" and so on. The UMC urged individuals and congregations to "evaluate their own lifestyles" and "identify areas where reduction in production and release of greenhouse gasses can be made" (UMC).

Several of the denominations proposed or endorsed more aggressive climate change mitigation tactics. Several unique mitigation suggestions were made by the denominations. The ELCA proposed an environmental tithe building on the Christian principle of tithing which is giving 10% of one's income to the church. The ELCA called for a 10% reduction of waste, consuming 10% less in non-renewable resources, "and contributing the saving to earthcare efforts" (ELCA). Mennonites also proposed

a scripturally inspired solution to climate change through the idea of the Sabbath. In Jewish and Christian traditions, the Sabbath is literally defined as a day of rest every seven days in honor of the creation narrative in Genesis. Later, this principle was applied to agriculture and financial obligation through the year of Jubilee in which every seven years farmland was to be allowed to rest and excessive financial debts forgiven. In their statement, the Mennonite church used several paragraphs to describe Sabbath justice built on principles of Sabbath and Jubilee where the land should be given time to rest and helping the land and people to find "salvation, healing, and justice" (Menn). Going in a different direction, the PCUSA position paper argues for more aggressive and technical climate mitigation strategies. These include social costs of carbon, cap and trade, incentives for renewable energy, feebates to incentivize consumer purchases of fuel-efficient vehicles, a moratorium on coal and nuclear power plants, expanding rail networks in cities and around the country, and similar proposals. Unlike the ELCA or Mennonites, the PCUSA measures are rooted more in recommendations from international agreements such as the Kyoto Protocol or measures being proposed by advocacy groups and politicians in the United States than they are in religious principles.

Embedded within the question of what to do about climate change is the question of why? While these could be disentangled, for analytical purposes, they choice of action and the reason for acting are often intertwined in the position papers. Across all the denominations in the study is a shared concern for the vulnerable and the poor. Both the SBC and the PCUSA, the ends of the scale for the least and most

aggressive action on climate change, root their motivation for action in care for the vulnerable and poor, "the least of these", and "loving one another". Differences between these denominations in earlier categories on humanity and nature along with the reality of climate change seem to correspond with who is vulnerable, why, and how to help them. While all the denominations are concerned with the poor or those in poverty, it is denominations such as the AME and the EC and the USCBB which express concern for women and children, people of color, or Native Americans and indigenous populations. These denominations seem attuned to the dynamics of social power which create vulnerability and poverty and try to express solidarity with the vulnerable. Thus, while there was a consensus of increased stewardship, the denominations differed on how to mitigate the impacts of climate change and why.

Conclusion:

This chapter began with the objective of discovering if dominion theology existed in official statements made by religious groups. Additionally, I wanted to know more about the type of stewardship religious denominations embraced and the climate change policies they endorsed. Through a grounded theory analysis of written official position papers by religious denominations popular in the state of Oklahoma, four high-level categories emerged which offered some insight into the role of religious belief in shaping opinion on climate change and environmental policy. First, denominations are divided on the relationship between humanity and nature. This category speaks directly to the relationship between dominion and stewardship.

While all denominations used the language of stewardship, those which also included phrases about dominion, authority, or rule over nature seemed to frame stewardship as resource management. This approach also carried some eschatological connotations and denominations seemed to express a belief that one day, in the indeterminate future, the earth would be remade or reformed. On the other hand, denominations that avoided dominion language stressed stewardship as preservation. In this approach, humans are to be caretakers of the earth and have a responsibility to preserve the earth and all the life it contains.

Second, denominations differed on their opinions about climate change and, again, two camps emerged out of the analysis of the position papers. A few denominations rejected climate change, especially anthropogenic climate change because they doubted the science about human-caused environmental changes or they believed spiritual matters were of greater concern than environmental issues. In the other camp, most of the denominations accepted that humans could cause climate change and they generally believed the scientific evidence. Level for support or concern about climate change itself varied among the denominations with some strongly endorsing the finding of the IPCC while others simply accepted that it could happen. It does seem that the first and second categories are related and denominations which had a stewardship as resource management approach to nature also denied the human role in climate change while those with a stewardship as preservation approach believed that anthropogenic climate change could or is happening.

Third, denominations saw a range of potential impacts and costs of climate change and climate change mitigation strategies. Collectively, they highlighted geographic, human, economic, and environmental costs to global warming and environmental policy. While all groups expressed concern for the poor or vulnerable, they differed on who was vulnerable and how they would be affected by climate. The divisions in the high-level category of costs and impacts centered on answering the question, "who was vulnerable?". For a few denominations, the vulnerable were those who would be negatively affected by the economic costs of environmental measures and regulation. For others, the vulnerable were those who were most exposed to the environmental and socio-political risks of climate change. Again, these seemed to track with earlier categories and denominations that had a stewardship as recourse management perspective and rejected anthropogenic climate change also viewed costs and impacts through an economic lens. Conversely, denominations with a stewardship as preservation approach and accepted anthropogenic climate change tended to focus on the environmental and socio-political risks of climate change. The fourth and final category to emerge coalesced around preferred policy options and why they were supported by a denomination. This high-level category identified a split over balanced environmental policy and more aggressive climate change mitigation strategies. Balanced policy options included focusing on conservation, sustainability, and other cost-effective measures. Aggressive options included major lifestyle and infrastructure changes or religiously-motivated changes to social norms and structures. Yet, the denominations did not naturally break into camps for this

category. While stewardship as resource management denominations only endorsed balanced policy options, stewardship-as-preservation denominations embraced options from both types of environmental policy. Additionally, all the denominations justified their policy position out of Christian concern for the poor and love of neighbor. However, a nuanced reading of these justifications revealed that the stewardship-as-preservation denominations were attentive to the social and power structures that increased vulnerability and often added the language of social justice to their support for an environmental policy.

Taking the first and fourth findings begins to create a matrix for analyzing the tentative patterns in the position papers. In this case, the horizontal axis spans from stewardship as resource management to stewardship as preservation. The vertical axis ranges from aggressive response to balanced response. This creates a figure with four quadrants as seen in Figure 2-5. While a metric still needs to be developed to place denominations more precisely, general patterns seem to emerge. In the upper left quadrant of stewardship as resource management and balanced response would be groups like the SBC or the LMS. Notice that the AG, a resource management denomination, does not fit in the upper left quadrant as they have no clearly articulated response to climate change. Also, notice that no group fell into the resource management and aggressive response quadrant on the lower left. However, most denominations are located on the right side of the matrix, towards stewardship as preservation side. Groupings develop and denominations such as the UMC, USCCB, ELCA, and AME seem to cluster in the preservation-balanced response

quadrant on the upper right. Below them, on the lower right, sits the UCC and PCUSA with more aggressive responses to climate change. The figure is illustrative only but helps to visually organize some of the patterns emerging from the reading of the position statements.

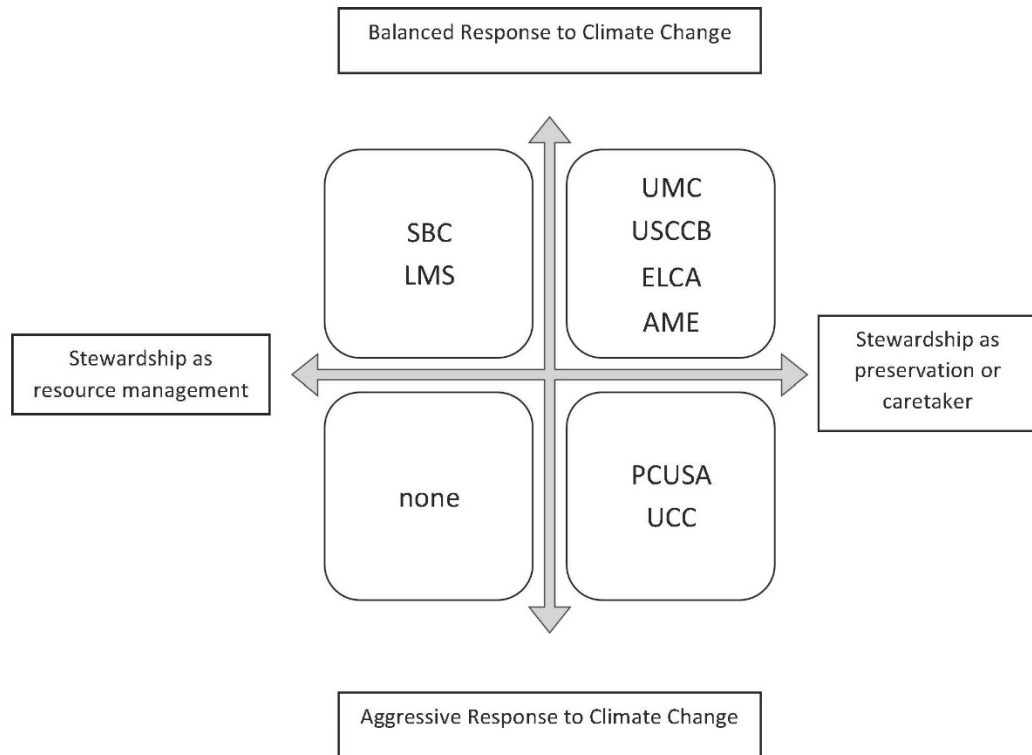


Figure 2-5: Denominations Placed on a Matrix by Types of Stewardship and Response to Climate Change

In sum, the grounded theory approach has revealed categories within the official written position papers of Christian religious denominations which help to explain the theological reasoning for their support or opposition to climate change and available environmental policy options. Additionally, the chapter revealed that

not all theological motivations are scriptural and some denominations grounded their reasoning through the embrace or rejection of scientific opinion. Furthermore, the grounded theory analysis of the position paper has shown that denominations do not naturally speak in a dominion-stewardship dichotomy, but rather, they embrace nuanced differences between types of stewardship. These differences seem to have dramatic down-the-line influences on opinion about climate change, who is affected, and how to help them, and why. In a final note, these categories are used again in a later chapter where clergy are interviewed and asked questions built on the four categories revealed in an analysis of the official position papers.

Chapter 3 : Clergy and Climate Change

Then I saw “a new heaven and a new earth,” for the first heaven and the first earth had passed away, and there was no longer any sea...He who was seated on the throne said, “I am making everything new!” - Revelation 21.1 & 5

Introduction:

The study of religion and environmentalism has gained significant momentum since early looks its social and political consequences. Early scholarship proposed that overarching theological themes in dominant religions, such as Western Christianity, lead to environmentally destructive policy preferences by some religious believers (White 1967). Political scientists began testing these claims using surveys and statistical analysis to uncover causal connections between religion, religious belief, and environmental policy preferences. Survey approaches have proved useful in illuminating individual preferences about environmental issues, such as belief in climate change or the balance between environmentalism and economic priorities.

This chapter seeks to inform the findings of that chapter and add to the growing body of literature on religion, environment, and politics, by exploring the beliefs of religious elites and examining possible connections between those elites and the preferences of individuals within their own religious traditions. This contributes to the broader study of political elites and their influence on the public by focusing on an understudied area in political science.

This chapter centers on this question: how might religion influence opinion on climate change and how would religious elites influence religious mass publics? To answer this question a mixed-method approach is employed to explore the

theological, political, and environmental beliefs of religious elites and compares this to mass beliefs in their geographical area. This chapter presents findings from a multi-modal survey of clergy in Oklahoma with some comparisons to the mass survey of religious believers in the same geographic area presented in the previous chapter.

Literature:

The available literature of clergy studies is sparse when compared to that of mass opinion. Yet, there are several bodies of study from which this chapter draws. Both theories of elite opinion and the existing studies on religious elites can be instructive. Elites can influence public opinion through a number of ways including priming, framing, or agenda setting. While these avenues of influence are related, framing stands out as especially relevant to the topic of clergy and public opinion given the overlap between political elites and religious elites. For example, Druckman and Chong with their co-authors have offered a robust theory of how elites can marshal frames, or narratives about a public policy issue, and sway the opinion of the public (Chong and Druckman 2007a, 2007b). In a polarized environment, Druckman et al. argue that elite influence is intensified and the public becomes more convinced of less grounded opinion (Druckman, Peterson, and Slothuus 2013). Elites remain relatively broadly defined and can include anyone who can create and present a frame or narrative to the public. Important for this chapter, I suggest that clergy function as a local elite and they may or may not agree with the agenda and framing coming from national elites who lead their denomination.

It should be noted, though, that the process of elite framing is iterative since the public can also reject the frames from elites or lead opinion and force elites to adapt. While prominent theories support the idea that mass public does not have strong opinions (Converse 1964; Zaller 1992), other research suggests that the public rejects frames or even leads public opinion suggests that individuals may have core beliefs which are relatively stable and other areas where they are more pliable. This research is supported by recent work in from scholars of public policy who have shown how narratives can be marshaled to support or oppose policy initiative using the Narrative Policy Framework (M. D. Jones and McBeth 2010).

Religion and politics scholarship approaches individual religious congregations in several ways. Scholars have long noted the role of congregations as voluntary associations in civil society (Ammerman 2005; Putnam and Campbell 2010). Along these lines, congregations serve society in more direct ways through service delivery such as aid to their communities or partnering with the government in policy initiatives (Cnaan 2002; Chaves and Tsitsos 2001). Continuing at the congregational level but shifting the unit of analysis away from the organization and looking at the individuals within the congregation, research has shown that congregations create unique political environments which can shape the opinions and attitudes of individual members. However, this ability to influence does not mean that all members of a congregation will hold the same opinion (Djupe and Calfano 2013; Gilbert and Djupe 2009). Increasingly, clergy themselves have come under scrutiny as the level of analysis. Recognizing that clergy function as elites and can shape

opinion in their own congregations, scholars have sought to understand how clergy are influenced by politics and how they influence their followers.

Data and Method:

The core of this project begins with a multi-modal survey administered to clergy in the state of Oklahoma. The “Religion, Environment, and Disaster” Survey (RED) was created using a modified tailor-designed survey where contacts received an email invitation to an online survey and were invited to qualitative interviewing (Dillman, Smyth, and Christian 2014; Stern, Bilgen, and Dillman 2014). At the end of the survey, respondents were invited to sign-up for additional interviewing by the lead researcher about the survey topics. Follow-up interviews took place both in-person and over the phone using semi-structured interviewing.

The initial list of congregations to contact was created by using the Association for Religion Data Archive online mapping tool to identify congregations in the Oklahoma City metro area (“The Association of Religion Data Archives” 2017). Contact information was provided by a third-party vendor and 623 congregations were emailed an invitation to join the survey with two reminder emails. 51 congregations responded to the online survey for a response rate around 8%. I then conducted qualitative interviews on site with 18 ministers, all but one of whom were holders of the highest position in the congregation (the one exception held a leadership position in a megachurch but not the top ministerial position).

Due to the relatively small sample size, this chapter employs descriptive statistics along with grounded theory to explore the theological themes utilized by clergy to address climate change and environmental policy issue areas. Grounded theory allows for the uncovering of categories within data and, in the case of this chapter, helps to confirm or challenge theories around stewardship-dominion and eschatological influences on climate change opinion (Glaser and Strauss 2009). In this way, the causal story is told more through narrative than statistical analysis. Mass opinion is determined by using data from the “Weather, Society, and Government” (WSG) survey fielded by the Center for Risk and Crisis Management at the University of Oklahoma. The survey is a census matched panel study of respondents within the state with the goal of measuring perceptions of weather, water and energy issues, weather risks, and government policies related to those issues.³

To allow for better comparison across the mass survey, elite survey, and qualitative interviews, I focus on the narrative primarily on the Christian Church (Disciples of Christ) from the Mainline Protestant tradition and the Southern Baptist Convention from the Evangelical Protestant tradition. I use these denominations since they show the variation of Christian Protestant thought identified as causal by Lynn

³ The Oklahoma Weather, Society, Government survey is part of the Meso-Scale Integrated Sociogeographic Network (M-SISNet) and collected under the auspices of the Oklahoma Established Program to Stimulate Competitive Research (EPSCoR) with support from the National Science Foundation (Grant No. IIA-1301789). M-SISNet data is collected and maintained by the Center for Risk and Crisis Management at the University of Oklahoma. To access the data, codebooks, or learn more about the collection process, visit the M-SISNet repository at <http://crcm.ou.edu/epscordata/>. Further information on EPSCoR can be found at <http://www.okepscor.org/>. This dissertation uses data from the 2016 Oklahoma Weather, Society and Government Survey: M-SISNet Wave 9 (Winter 2016).

White, they are representative of the target population, and they have adequate response rates at all levels of the data collection process. Additionally, both denominations have well-articulated positions on climate change, including official position statements from the national administrative bodies of each denomination.

Oklahoma is a good case for this kind of study since the population is both highly religious and highly tuned to environmental issues due to the impacts of severe weather, the presence of strong agriculture industry, and its economic dependence on the energy industry. Within the state, the Disciples of Christ represent the second largest Mainline Protestant denomination in the state of Oklahoma behind the United Methodist Church. The Southern Baptist Convention is the largest of the Evangelical Protestant denominations in the state of Oklahoma and has the highest adherence rates in the state (“The Association of Religion Data Archives” 2017; “America’s Changing Religious Landscape” 2015). Table 3-1 provides a list of the top religious groups in Oklahoma with comparisons across the RED survey used in this chapter, the WSG survey analyzed in chapter four, and the benchmark Pew survey.

The state of Oklahoma is decidedly more religious than the national average. However, results from the WSG survey are similar to state estimates from the Pew “Religious Landscape” survey, though WSG has a higher response rate within the state of Oklahoma. The “Religion, Environment, and Disaster” survey differs from the WSG rates of adherence, but the general pattern remains and Southern Baptists are the top Evangelical Protestant church while the Disciples of Christ are behind the United Methodist Church for top Mainline denominations.

Table 3-1: Top Protestant Denominations in Oklahoma

	<i>RED-OK</i>	<i>WSG-OK</i>	<i>Pew-OK</i>	<i>Pew-USA</i>
<i>Southern Baptist (Evangelical)</i>	17.5%	23.8%	12%	9.2%
<i>United Methodist (Mainline)</i>	7.5%	19.4%	7%	3.6%
<i>Non-Denominational (Evangelical)</i>	15%	8.9%	7%	4.9%
<i>Assemblies of God (Evangelical)</i>	5%	5%	6%	1.4%
<i>Disciples of Christ (Mainline)</i>	5%	7%	1%	0.3%

Based on the literature and using the surveys, this chapter focuses on several variables. The variable I wish to explain is belief in climate change. Unfortunately, the question is asked differently on both the RED and WSG surveys. The emphasis of both questions is similar, though, and both look at the claim of anthropogenic climate change. The surveys share explanatory variable of biblical literalism and stewardship-dominion, using questions from the New Environmental Paradigm battery.

Literalism is measured using standard question asking, “is the Bible the word of God and should it be taken literally, word for word?” Stewardship-dominion is measured using a question from the New Environmental Paradigm which asks respondents to rate agreement with the claim that “humans were meant to rule over nature”. The New Environmental Paradigm (NEP) is a well-known battery of questions that seeks to uncover latent attitudes about the environment and nature by placing respondents on a scale from mastery-over-nature to subjection-to-nature (Dunlap and Van Liere 1978; Hawcroft and Milfont 2010; Dunlap et al. 2000a; Best and Mayerl 2013). For the clergy survey, additional consideration is given to

theological issues and clergy are asked about both their cosmologies and eschatologies. These topics were revisited in the qualitative interviews. Responses to these questions are explored in the findings below.

Findings from Surveys:

First, looking towards biblical literalism, Table 3-2 shows that Baptists hold to biblical literalism at higher rates than Disciples both in the mass survey of religious believers and the targeted survey of religious clergy. The difference between Baptists and Disciples for religious believers has a statistically significant chi-square value, meaning that the values are independent. A measure of independence could not be determined for the religious clergy due to low cell values. One thing noticed immediately is the difference between lay member and clergy of the Disciples of Christ denomination on biblical literalism. None of the Disciples’ ministers self-reported as literalists while nearly two-thirds of the lay members did. This significant gap between ministers and laity, as I show below, show up in attitudes toward the Anthropocene.

Table 3-2: Comparison of Adherents and Clergy for Biblical Literalism

	<i>Adherents (n=243)</i>		<i>Clergy (n=8)</i>	
	<i>Baptists</i>	<i>Disciples</i>	<i>Baptists</i>	<i>Disciples</i>
<i>Literal</i>	85%	64%	64%	0%
<i>Not Literal</i>	15%	36%	33%	100%

For “adherents”, X-squared = 10.324, df = 1, p-value = 0.001313

Sources: WSG Survey and RED Survey

Second, and somewhat contrary to expectations suggested in the literature, believers in the Baptist and Disciples denominations responded similarly to the question used to measure dominion theology. This question asks respondents to rate on a scale of 1 to 5, with 1 being strongly disagree and 5 being strongly agree with the statement, “humans were meant to rule over nature”. As Table 3-3 shows, the mean response for Baptist and Disciples rests near 3, the neutral area of the scale. However, clergy responses pull a little closer towards the ends of the scale with Baptist clergy leaning towards “agree” and Disciples clergy leaning towards “disagree”. This suggests that religious believers in Oklahoma hold similar beliefs about how humans should treat nature. However, clergy from different religious traditions are on opposite ends of the spectrum from each other and they are slightly more extreme than the average religious believer in their own tradition. The gap between clergy and their congregants supports work by Djupe and Gilbert challenging the idea that congregations are relatively homogenous political communities (Gilbert and Djupe 2009). Yet, this chapter will show that the differences between clergy and congregations may be due to theological and organizational factors.

Table 3-3: Comparison of Adherents and Clergy for Dominion over Nature

	<i>Adherents (n=243)</i>		<i>Clergy (n=8)</i>	
	<i>Baptists</i>	<i>Disciples</i>	<i>Baptists</i>	<i>Disciples</i>
<i>Dominion over nature</i>	3.3	3.2	4	2

Mean value displayed for “humans were meant to rule over nature” where 1 equals strongly disagree and 5 equals strongly agree.

Sources: WSG Survey and RED Survey

Moving towards an explanation of mass and elite belief in climate change, Table 3-4 shows that more Baptists believe climate change is not happening than do. Additionally, respondents who are Disciples are nearly evenly split with slightly more believing that climate change is not happening. Turning towards the clergy in each respective denomination, Baptist clergy match their fellow believers while clergy in the Disciples tradition differs sharply. Here we may be seeing the impact of the general cultural conservatism of Oklahoma Protestants at the lay level, whether they belong to mainline or evangelical congregations. Ministers, however, because they are educated and socialized in their denominations, appear to split more conventionally along mainline versus evangelical lines.

Table 3-4: Comparison of Adherents and Clergy Regarding Belief in Climate Change

	<i>Adherents (n=243)</i>		<i>Clergy (n=8)</i>	
	<i>Baptists</i>	<i>Disciples</i>	<i>Baptists</i>	<i>Disciples</i>
<i>Climate Change is Happening</i>	40%	49%	40%	100%
<i>Climate Change Not Happening</i>	60%	51%	60%	0%

For “adherents”, X-squared = 1.7458, df = 1, p-value = 0.1864

Sources: WSG Survey and RED Survey

While the low sample size from the clergy survey limits the claims that can be made about the data, looking at the qualitative data from interviewing with clergy can illuminate how theology plays a role in climate change opinion and how clergy attempt to influence their congregants.

Findings from Qualitative Interviews:

Qualitative interviews of the clergy took place after clergy completed the “Religion, Environment, and Disasters” survey. Clergy were asked to submit contact information for a follow-up interview. Using semi-structured interviewing, clergy were encouraged to talk about their denomination’s beliefs on creation, eschatology, climate change, and other environmental issues.⁴ The coding of these interviews, using grounded theory, offer useful if tentative, explanations about the relationship between religion and climate change along with the clergy’s ability to influence parishioners. Three findings stand out.

First, the stewardship-dominion dichotomy is complicated by how clergy speak out issues of creation, the human role in nature, and environmental policy preferences. The four ministers from the Southern Baptist Convention I interviewed strongly objected to the dominion language. Quoting portions of scripture, these clergy expressed that the earth was “fearfully and wonderfully made” and that “God’s good earth” should not be mistreated. Using the language of creation from the book of Genesis, they observed that the human relationship towards earth is more like a gardener than a ruler. Humans are to be stewards of the earth since “we’ll be held accountable for how we treat nature”. The three Disciples of Christ clergy expressed similar opinions. One minister noted that to exercise dominion over the earth is to abuse it, and instead, humans should be good stewards because “the earth is the

⁴ Interview protocol and transcripts may be provided upon request to the author.

Lord's". These ministers were on both sides of the literalism and creationism debate and arrived at a similar conclusion about Christian responsibility towards earth.

Regardless of how the earth was made, humans are to be caretakers and not destroy the earth. This fascinating finding suggests ways the White thesis may be dated.

Second, both groups rejected the eschatological narrative of earthly destruction. While a few of the Baptist ministers aligned closely with this form of eschatology, causing destruction to nature was seen as short-sighted and poor stewardship. One minister argued that if the eschatological end-of-the-world is truly unknown, as many in the tradition claim, the current generation must pass on a well-tended earth to the next generation. Disciples of Christ clergy were more prone to reject the eschatological narrative outright but arrived at a similar conclusion using a different argument. According to their view, the destruction of the earth was more metaphorical than literal and the earth would be remade or renewed. In the words of one minister "God establishes his kingdom here on earth," now.

Moving on to policy solution, the Baptist ministers emphasized balance and avoiding swinging to extremes. As one Baptist minister said, "climate adaptation does not equal climate change activism," leading the minister to express frustration with carbon taxes but welcomed efforts to put flood-prone houses on stilts. Another pushed against the "socialist agenda" of the American left while bemoaning the greed and selfishness in American society which leads to poor stewardship of nature. Disciples ministers expressed similar calls for balance and pushed against the eradication of fossil fuels by arguing for more compressive regulations and policies

that favored renewable resources while becoming smarter about the use of oil. From a policymaker's perspective, these interviews suggest that there is common ground between Mainline and Evangelical Christian clergy on issues of adaptation and natural resource stewardship even though they may disagree over the age of the earth or if climate science is trustworthy.

Third, the findings from the SBC and DoC comparison seem to apply to similar peers. While the study had eighteen interviews, seven were analyzed in this chapter since there were enough responses in the SBC and DoC to make some within group comparisons. However, other clergy from denominations such as the Church of the Nazarene, Independent Christian Congregations, Jewish, and Messianic Jewish were interviewed. The Church of the Nazarene comes from a different tradition than either the SBC and DoC, yet, the Nazarene clergy spoke like the DoC and stressed that "nature is a sacred resource". However, recalling the matrix from chapter 2, the Nazarene clergy emphasized a balanced response and argued that a Christian environmental policy would "think about nature from God's perspective" and focus on "respect, dignity, and care" while "focusing on needs such as clean air and clean water".

Independent clergy also seemed to fit into the *stewardship as preservation* and *balanced response* quadrant. Clergy interviewed viewed nature as a garden which needed to be tended. One member of the clergy from the independent congregation spoke of how the wild buffalo herd was nearly eradicated in Oklahoma as an example of mismanagement and an unscriptural exploitation of the natural resources. Thus,

just like humans could alter the western ecosystem, climate change could be anthropogenic. The solution, according to this clergy, was a balanced policy that avoided extremes.

While an attempt was made to recruit respondents from non-Protestant traditions, I was only able to secure two Jewish respondents in the qualitative interviewing for this chapter. The Jewish rabbi spoke in different terms than any of the other clergy. The rabbi made no comment about the meaning of “rule over nature” in Genesis, unlike the SBC and DoC clergy. However, like the Protestant clergy, the rabbi rejected any sense of eschatology and emphasized that how humans treat nature now matters in the future. Yet, looking at the results from all the interviews, it seems clear that the dominion language is not used by clergy and eschatological concerns are usually suppressed in favor of more immediate issues and supporting a balanced environmental policy.

Fourth, organizational structures appear to affect the ability of clergy to influence their congregation. Research on the organizational structure of denominations has already shown that the structure guides how churches engage in public life (Chaves and Tsitsos 2001; Beyerlein and Chaves 2003; Chaves and Eagle 2012). The Southern Baptist clergy showed signs of being part of a more hierarchical structure than the Disciples of Christ. Even though both denominations give congregations a degree of autonomy, the Baptists seemed more attuned to organizational norms and expected beliefs. During several interviews, the Baptist clergy cited official positions from the Southern Baptists Convention. This was not

the case with the Disciples of Christ clergy. Though the denomination has a statement on climate change, it is non-binding and no church is compelled to ascribe to the statement. Instead, congregations are highly autonomous and the clergy expressed reservations at telling congregants what to believe. Instead, they emphasized the “priesthood of all believers” and the impetus for congregants to develop their own faith. This suggests that clergy control over congregant political opinions could be limited by the organizational structure of the church. This may also explain why the climate change opinion between Baptist clergy and believers was similar while Disciples clergy and believers were quite different.

Conclusion:

Several important findings emerged from this component of the dissertation. First, the stewardship-dominion debate is present among religious believers and clergy, but not in the way hypothesized by the literature. For the clergy interviewed in this study, they seemed to agree that humans are not to rule over nature, but to be caretakers. Differences exist when one drills down into definitions of steward, which in some respects conform to the *steward as resource management* versus *steward as preservation* categories introduced in earlier in the dissertation. Second, eschatology seems to have less of an impact on climate change opinion than expected. In other words, even ministers who may believe that the end times are nigh do not believe this gives humans warrant to despoil the earth. Third, the organizational structure of

churches tapers the kind of political influence clergy can have over members of their congregation or religious tradition.

Chapter 4 : Mass Attitudes and the Anthropocene

Introduction:

The central premise of this dissertation is that religious belief informs theologies of nature which, in turn, shape opinion towards scientific claims about the relationship between humans and nature. While the dissertation uses belief in climate change as the central independent variable which ties the chapters together, the larger question concerns faith during, and in, the Anthropocene. That is, do people of faith believe that humans can change the environment and how does their religion influence this belief?

This chapter focuses on the individual as the unit of analysis and asks, how does religion influence opinion on climate change? Public policy researchers have suggested that individual worldviews identified through cultural theory, also known as a grid-group theory, can offer an explanation for the conflicting opinions of the public (Goebbert et al. 2012). Sociologists joined by some political scientists have suggested that beliefs about the human-nature relationship as expressed in the New Environmental Paradigm explain how individuals approach environmental issues (Dunlap and Van Liere 1978). Politics and religion scholars have suggested that both religious affiliation and religious belief may influence opinion on environmental policy preferences (Guth et al. 1993, 1995; Sherkat and Ellison 2007; Djupe and Hunt 2009; Djupe and Gwiasda 2010). Despite the extensive literature on religion, culture, environment, and climate, these issues are not often considered alongside each other. This makes it especially attractive to explore how belief systems, such as religion or

worldview, shape opinion on environmental policy issue areas such as global warming. What happens when these systems collide given the multi-faceted composition of religion? Does religion stand as predictive of environmental policy attitudes when other belief systems are accounted for? Building on the work of religious studies scholars, how do theological attitudes about nature influence the politics of climate change?

This chapter begins to explore these questions using data from a 2016 survey of over 2000 residents in Oklahoma, a highly religious and conservative state, as a hard test of belief in global warming (George and Bennett 2005). The survey contains nuanced questions on global warming, certainty about warming and scientific consensus, environmental behaviors, and deep beliefs such as religion and cultural theory. After a brief literature review on public opinion towards environmentalism and religious approaches to environmentalism, the data are presented in several stages. Descriptive statistics are used to help visualize the contested landscape of environmental opinion in the case study. Next, the results from statistical models testing global warming opinion and certainty about global warming are presented and discussed in the context of the existing literature. Finally, the chapter concludes by looking towards the implications of the findings and future directions for the data used in the chapter and for scholars of religion and environmentalism.

Literature: Environmentalism, Religious Belief, and American Politics

Previous research has found strong, but contradictory, relationships between religious beliefs and environmental policy attitudes. From a more institutional standpoint, it was proposed that certain religious traditions were inherently more or less pro-environmental than others. This approach builds on Lynn White's classic essay where he suggested that Christian Protestant teachings encouraged dominion over nature and treated the environment as a resource. Implied in White's essay is that individual beliefs are conditioned by the theological tradition of the religious congregations that they attend and that theology powerfully influences individual perceptions of global warming and appropriate human responses (White 1967). Much of the subsequent literature on religion and environmentalism has focused on proving, disproving, or problematizing what has become known as the White Thesis (Eckberg and Blocker 1989; Shaiko 1987; Guth et al. 1995; Djupe and Hunt 2009). Religious affiliation turned out to be a powerful but troubled indicator and scholars quickly moved into exploring the theological undercurrents that bind groups of religious believers together.

Much of this work did and continues to focus on the Christian tradition. In that tradition, differences in approaches to the Bible, the sacred text of Christians, stand out as significant. Around the turn of the 20th Century, American Christians split into two main camps based on interpretive approaches to the Bible: fundamentalists and modernists. While the nuances of the split are fascinating, one of the most important developments to emerge from this split is Biblical Literalism.

Literalism holds that God directly inspired the Bible and that it should be taken word for word. Additionally, literalism is highly related to inerrancy, the idea that no error exists in the Bible, though scholars of religion note several differences between the two that are not readily translated to mass discourse (Jelen, Wilcox, and Smidt 1990; Jelen 1989; Bartkowski 1996). Literalism can carry with it certain theological orientations, such as creationism, the idea that the earth was created in seven days as in the book of Genesis, along with adherence to fundamentals of the faith (Chaudoin, Smith, and Urpelainen 2013; Bartkowski 1996; Jelen, Wilcox, and Smidt 1990; Jelen 1989).

Turning towards environmental issues, literalists are more likely to oppose pro-environmental policy and especially international treaties (Guth et al. 1995, 1993; Chaudoin, Smith, and Urpelainen 2013). This may be tied to specific religious beliefs connected with literalism such as eschatology and understandings of the end of the world (Barker and Bearce 2013). Previous definitions have outlined Christian eschatology where “end-times believers hold that Jesus will one day return to Earth and commence a series of events (e.g., the Rapture, Tribulation, and Millennial reign of Christ) that will eventually culminate in a final battle between good and evil (Armageddon)” (Barker and Bearce 2013, 268). Christians disagree over the sequence of events, but popular among literalists is some form of dispensational premillennialism. In this eschatological variation, Jesus will return before or during the wars, famines, and other trials of the Tribulation to take Christians from the earth in the Rapture. Premillennialism thus creates a sense of otherworldliness in some

Christians since they will not be around for the destruction and rebirth of the earth that occurs after Armageddon (Marsden 2006; Barker and Bearce 2013; Guth et al. 1993). Literalism may also carry other ideas about how the world was made, but the connection between literalism and the end of the world seems critical in the context of environmental policy issues.

An alternative explanation that gets away from institutions and individual beliefs suggests that specific religious beliefs are less important than religious belonging. In this alternative, religion is trumped by party identification, political ideology, or other demographic characteristics. Religious believers may also align with a network in their congregation that may push against formal religious beliefs of their congregation or denomination (Djupe and Hunt 2009; Djupe and Olson 2010; Djupe and Gwiasda 2010; Leiserowitz et al. 2015; Shaiko 1987; Sherkat and Ellison 2007). In this chapter, I focus on evaluating theologies of nature as revealed by common religious indicators such as religious affiliation, biblical literalism, and more direct indicators on environmental theology. The expectation is that these surface level indicators will help to reveal a deeper concept around theologies of nature. In turn, understanding what religious individuals believe about the relationship between nature and the environment will help to predict opinion on climate change, certainty about the reality of climate change, and the possible risks from climate change.

Other Explanations of Beliefs and Environment

Three other explanations for environmental policy attitudes are considered in this chapter; these are cultural theory, the New Environmental Paradigm, and political ideology. These explanations are included in the analysis due to their popularity in the literature and the possibility that they might compete with religious explanations for opinion on climate change. Each is defined in turn.

Cultural theory builds on grid-group theory from anthropology and suggests that political opinion and behavior can be understood through the use of measures of deference towards authority structures (grid) and trust towards others (group) (Douglas and Wildavsky 1983). These cultural biases condition how one perceives risks from hazards, such as global warming, and appropriate mitigation strategies. Cultural theory can be applied across issue areas and has found ready application in some areas of public opinion (Gastil et al. 2011) and public policy (Swedlow 2011).

Broadly speaking, cultural theory measures cultural biases along the two axes of grid and group. Grid stands for the “social distinctions and delegations of authority that...limit how people behave to one another” while group describes “the outside boundary that people have erected between themselves and the outside world” (Douglas and Wildavsky 1983, 138). More commonly, grid measures a respondent’s receptivity towards external rule while group measures a respondent’s value of belonging to a social group. The result is a four-way typology of cultural approaches. Those who value group belonging and group boundary while resisting external rules and authority are thought to be egalitarians. Those who place less value on group

boundary maintenance and also resist external rule are individualists. Those with both a high value on group boundaries and on external rules are considered hierarchs. The final category identifies fatalists as those who place a low value on group belonging and yet a high value on external rules (Thompson, Ellis, and Wildavsky 1990). This typology is frequently laid out on two-by-two matrix to create four quadrants.

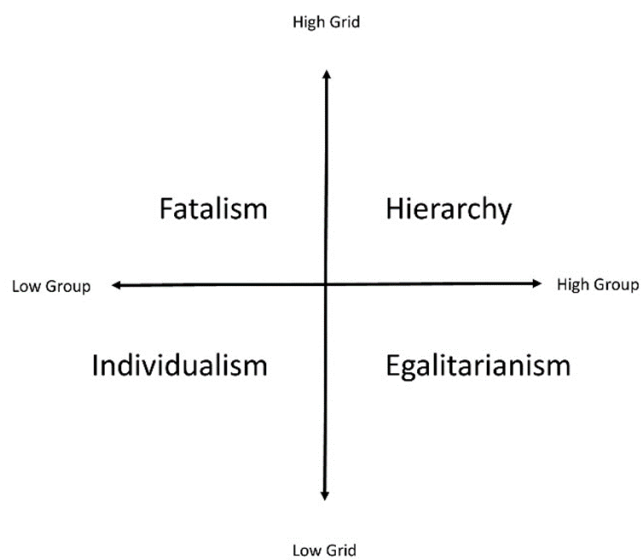


Figure 4-1: Cultural Theory: Grid, Group Matrix

Extensive work has been done on cultural theory and environmental policy (M. D. Jones 2011; Goebbert et al. 2012). Cultural theory, when applied to climate change, broadly holds that individualists will be less likely to believe that climate change is happening and less likely to support governmental action to mitigate its effects. On the other hand, egalitarians should be more likely to affirm climate change and be more likely to support government action. The reason for this is that cultural

orientations indicated by these measures find individualists less trusting of groups and less accepting of externally imposed rules. Egalitarians are nearly the opposite with a higher sense of group belonging and are more accepting of externally imposed rules when they are created by the group. Applied to climate change, cultural theorists have posited that individualists believe nature is benign and humans cannot significantly impact it while egalitarians believe that nature is more fragile and needs more care (Goebbert et al. 2012; Ripberger et al. 2014; Thompson, Ellis, and Wildavsky 1990). Expectations exist for hierarchs and fatalists as well, but most discussions of cultural theory and the environment emphasize the differences between egalitarians and individualists.

A second explanation is the New Environmental Paradigm. Though it has its critics, the New Environmental Paradigm (NEP) involves a well-known battery of questions that seek to uncover latent attitudes about the environment and nature by placing respondents on a scale from mastery-over-nature to subjection-to-nature (Dunlap and Van Liere 1978; Hawcroft and Milfont 2010; Dunlap et al. 2000a; Best and Mayerl 2013).

The scale is created by asking a battery of questions designed to elicit opinion about the relationship between humans and the environment. The NEP has seen several variations and the seven question scale in this survey is based on the shortened twelve questions scale developed by Dunlap and Van Liere (Dunlap et al. 2000a, 2000b). The question wording is seen below and organized into two columns

with questions associated with low environmentalism on the left and high environmentalism on the right.

Table 4-1: Questions- used on the Revised New Environmental Paradigm

Low Environmentalism	High Environmentalism
Humans were meant to rule over the rest of nature.	When humans interfere with nature it often produces disastrous consequences.
The balance of nature is strong enough to cope with the impacts of modern industrial nations.	We are approaching the limit of the number of people the earth can support.
The so-called “ecological crisis” facing humankind has been greatly exaggerated.	Humans are severely abusing the environment.
Humans will eventually learn enough about how nature works to be able to control it.	

Scholars have noted the shortcomings of the NEP, in all variations, but seem to agree that it stands as one of the more reliable and generalizable measures of environmental concern (Hawcroft and Milfont 2010). Furthermore, the NEP has been used to show that some Christians have a higher sense of “mastery over nature” than others and that divisions among Christians can be seen among denominations (Hand and Van Liere 1984). In this chapter, I am especially interested in the question which asks respondents if “humans were meant to rule over nature” as it seems most similar to the dominion-stewardship dichotomy suggested by previous religious scholars.

The third alternative belief system considered is political ideology. Since political ideology is used to capture a semi-coherent system of beliefs about the political system and social order, and individuals may change their ideology, unlike other socio-economic controls, it seemed appropriate to include political ideology as a competing explanation about opinion on global warming and certainty (Achen 1975; Hurwitz and Peffley 1987; Gerring 1997; Knight 2006; Jost, Federico, and Napier 2009). In this study, ideology is measured using the traditional seven-point scale with increasing values indicating increasing conservatism. Some scholars have suggested that self-identifying as an ideological type, conservative or liberal, is a historically recent development and is more symbolic than operational (Stimson 2004; Camobreco 2016; Ellis and Stimson 2012). This underscores that while ideology is often measured unidimensional and through self-identification, there is the possibility of multiple types of ideology and that respondents may misidentify. Nevertheless, the use of self-identified political ideology is an important alternative to consider alongside of religious belief given the power of political ideology in informing opinion about environmental beliefs and its associations with certain kinds of religious belief. Previous research has suggested that political conservatives are both more skeptical of climate change (McCright and Dunlap 2011; Daniels et al. 2012) and, separately, more likely to belong to theologically conservative Christian traditions like Evangelicalism.

These three alternative explanations of culture, environmentalism, and ideology are prominent and commonly used by researchers across different fields of

environmental research, from policy studies (O’Riordan and Jordan 1999; M. D. Jones 2011), to sociology (Dunlap 2008), to public opinion (Daniels et al. 2012). Furthermore, research has revealed complicated relationships across these alternative explanations that merit further consideration (Ripberger et al. 2012; Hand and Van Liere 1984). This dissertation is among the first to combine all three approaches with religious theology allowing a first-cut at an exploration of the relationship between theology, climate change, environmentalism, political ideology, and culture.

Data and Method:

Based on the literature about religion and opinion on environmental policy issues, the following hypotheses are proposed:

- *Hypothesis 1 (H1)* – An increase in literalism will result in a decrease in the belief that human-caused global warming is occurring.
- *Hypothesis 2 (H2)* – An increase in literalism will result in an increase in certainty that global warming is not occurring.
- *Hypothesis 3 (H3)* – An increase in literalism will result in a decrease in risk from global warming

The data used to evaluate these hypotheses comes from the 2016 wave of the “Weather, Society, and Government” survey collected as part of the Oklahoma

EPSCoR M-SISNet Survey with over 2500 initial respondents⁵. The survey is part of a large, census-matched, panel study of respondents in Oklahoma and collects public opinion on pressing environmental, energy, and weather issues in the state. The survey is appropriate for the purposes of this chapter due to the high religiousness of the state, the focus of the survey on global warming and other environmental issues, and the depth of questions about political, cultural, and religious beliefs in the instrument.

Global Warming in Oklahoma

The main dependent variable used in this study on opinion about global warming. The question asks: “In your view, are greenhouse gasses, such as those resulting from the combustion of coal, oil, natural gas, and other materials, causing average global temperatures to rise?” with the option of “no” or “yes”⁶. An additional question asks how certain respondents are about global warming on a scale of 0 to 10

⁵ The Oklahoma Weather, Society, Government survey is part of the Meso-Scale Integrated Sociogeographic Network (M-SISNet) and collected under the auspices of the Oklahoma Established Program to Stimulate Competitive Research (EPSCoR) with support from the National Science Foundation (Grant No. IIA-1301789). M-SISNet data is collected and maintained by the Center for Risk and Crisis Management at the University of Oklahoma. To access the data, codebooks or learn more about the collection process, visit the M-SISNet repository at <http://crcm.ou.edu/epscordata/>. Further information on EPSCoR can be found at <http://www.okepscor.org/>. This dissertation uses data from the 2016 Oklahoma Weather, Society and Government Survey: M-SISNet Wave 9 (Winter 2016).

⁶ The public does show sensitivity to the use of climate change or global warming in survey questionnaires with Republicans and Conservatives being generally more hostile towards “global warming” and less so towards “climate change”. Since the goal of this dissertation is to explore religious influences on the ability of humans to alter nature, using an anthropogenic global warming question is appropriate. (Villar and Krosnick 2011; Lorenzoni et al. 2006; Schuldt, Konrath, and Schwarz 2011).

with 10 being most certain. Out of the respondents who answered the question, just over 55% agreed that global warming is happening while 45% disagreed.⁷ While a high percentage reported having high degrees of certainty about their answer, the differences between those who answered “no” and “yes” are striking. Modal certainty was 8 out of 10 across all respondents. Yet, those who affirmed global warming were more certain about their belief than those who did not affirm global warming as seen below in Figure 4-2.

The count density plot in the upper half of Figure 4-2 shows that more of those who believe global warming is happening have higher certainty about their answer than those who do not believe warming is happening. Mean certainty for those who answered “yes” is 7.19 while 5.87 for those who answered “no” as visualized in the violin plot in the lower half of Figure 4-2. Essentially, those who believe global warming is happening are slightly more certain about their answer than those who do not think it is happening. A Chi-square test confirms that the difference in certainty between the groups is significant ($X^2=125.7$, 10 degrees of freedom, a p-value $<2.2 \times 10^{-16}$). The chi-square test does not help the causal story, but it does confirm that the difference between the means is not random chance.

⁷ Compare this result against the Yale Climate Change Communication project which estimates that 63% of Oklahomans believe climate change is happening while only 43% attribute climate change to human causes. See (Howe et al. 2015; “Yale Climate Opinion Maps” 2017).

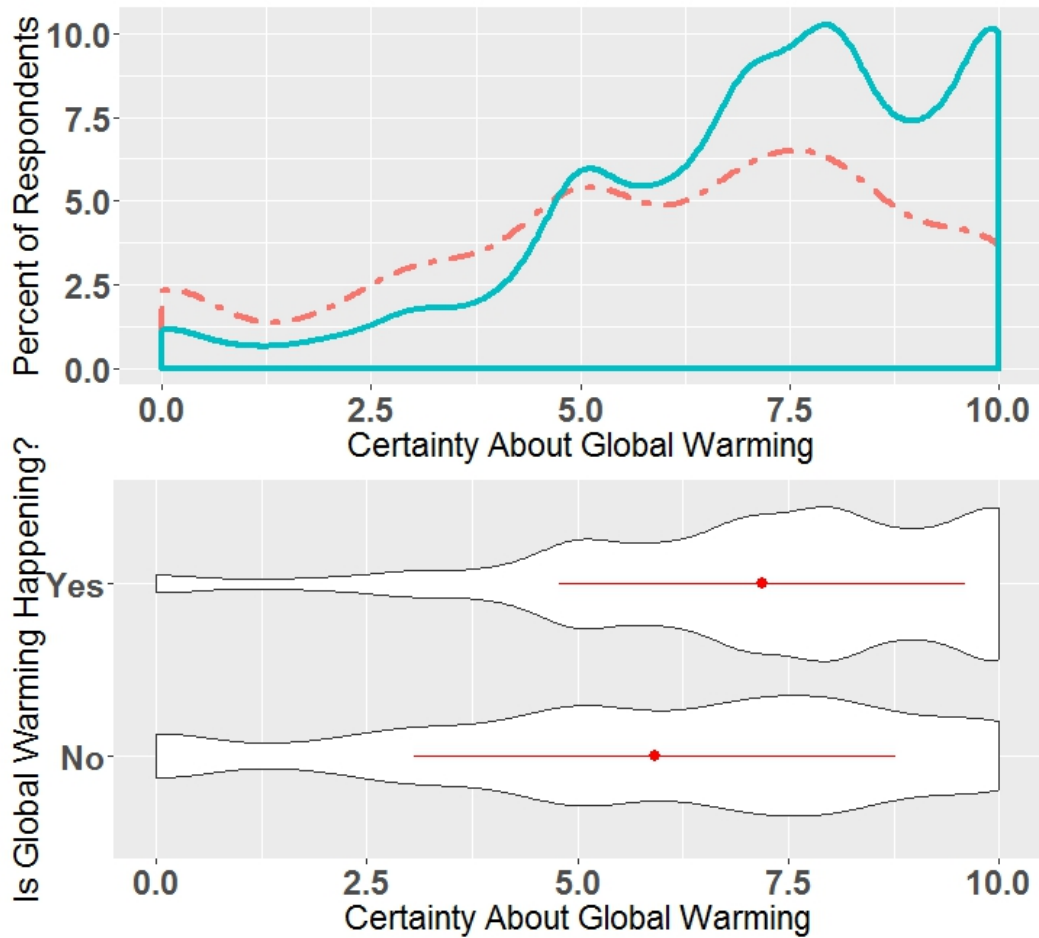


Figure 4-2: Certainty About Global Warming

Respondents were also asked about how much risk they felt came from global warming. Risk is an interesting variable to test as it provides some sense of the immediacy of the danger from global warming. Thus, while eschatology is not directly tested in the WSG survey, risk may help to illuminate a sense of the proximity of danger, either in chronological time or geographical space. Not a perfect proxy, but perceptions of risk may help to shed some light on the “shadow of the future” (D. C. Barker and Bearce 2013). While the nature of this risk was left

undefined, the respondents acted in predictable directions. Perception of risk was assessed by asking respondents to rate their sense of risk from global warming on a scale of 0-10, where 0 meant “no risk” and 10 indicates “extreme risk”.

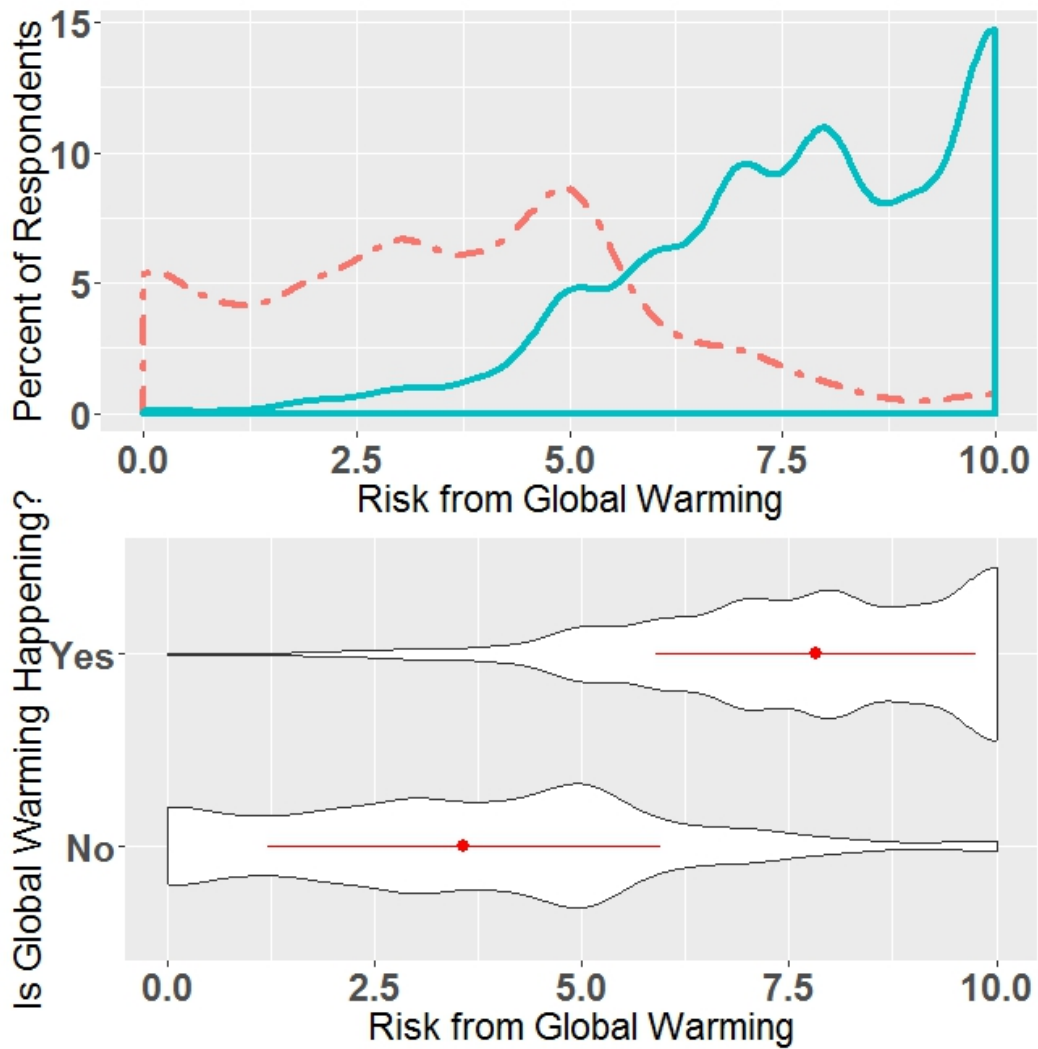


Figure 4-3: Risk from Global Warming

As seen in Figure 4-3, respondents who believe global warming is happening also perceive higher risk from global warming with a mean score of 7.82 out of 10.

Conversely, respondents who do not believe that global warming is happening perceive a lower sense of risk with a mean score of 3.57. The sample mean for all Oklahomans was 5.91. To test for independence, a Chi-square test confirms that the difference in certainty between the groups is significant ($X^2=1162.1$, 10 degrees of freedom, a p-value $<2.2 \times 10^{-16}$). Thus, at surface level, a slight majority of Oklahomans believe that global warming is happening and are concerned about its possible risks. How might theology influence this belief?

Religion and Literalism in Oklahoma

The independent variable of interest, biblical literalism, is drawn from several batteries of religion questions. These batteries cover biblical literalism, religious affiliation, and other religious variables such as frequency of attendance or the importance of religion in one's life. Biblical literalism uses the standard wording of "Do you believe that the Bible is the literal word of God?" with the option to answer "no" or "yes". Nearly two-thirds the sample (66.36%) believe that the Bible is the literal word of God while a third does not (33.63%). This high percentage of biblical literalists is striking, indicating the strong theological traditionalism in the state population. But it might also suggest that, in addition to reflecting deep theological world views, it also captures some common cultural norms that may be more superficial.

The naturally high number of Christians in the survey make it an ideal instrument for looking within the broad families of the Christian religious tradition.

Survey respondents were given the chance to identify either as Protestant or Christian (non-specific). Protestants were further divided into Mainline or Evangelical, while Christian (non-specific) were given a chance to identify their denominational type if they desired. Those who identified at Christian (non-specific) but did not associate with a denomination were relabeled as Independent. Further analysis revealed that Evangelicals and Independents held similar beliefs on literalism and measures of religiosity leading to the conclusion that Independents were generally Evangelical in practice but belonged to non-denominational congregations, a growing trend in American religious practice. Nearly 80% of respondents belong to a Protestant church of some kind. This includes members independent churches who may or may not be aware of how their theological lineage traces back to early Protestant movements. The remaining nearly 20% of respondents choose not to answer or identified as atheists, agnostic, or another religious tradition as seen in Table 4-2.

Table 4-2: Religious Breakdown of Respondents

<i>Religious Tradition</i>	<i>Percent of Respondents</i>	<i>N</i>
Agnostic	4.65	98
Atheist	2.79	59
Catholic	8.56	181
Evangelical Protestant	22.75	481
Independent Protestant	41.44	876
Mainline Protestant	13.39	283
Mormon	0.99	21
Other	5.44	115
<i>Total</i>	<i>100.01</i>	<i>2114</i>

Source: WSG Survey, Wave 9 (Winter 2016).

Note: Totals may not equal 100% due to rounding.

Notably, around 40% of Oklahomans are Christian Independents meaning that they self-identify as Christian but are not part of, or are not aware their congregation is part of, a traditional denomination such as Baptist or Presbyterian. This finding reflects a move away from denominational branding in the modern religious marketplace, because some megachurches do, in fact, continue to affiliate with a denomination, such as the Southern Baptist Convention, but so de-emphasize that affiliation that members are not aware of it and thus would not respond as “Baptist” to surveys. To maintain comparability, religious groups were coded similarly to the Pew Religious Landscape Survey where ever possible (“America’s Changing Religious Landscape” 2015).

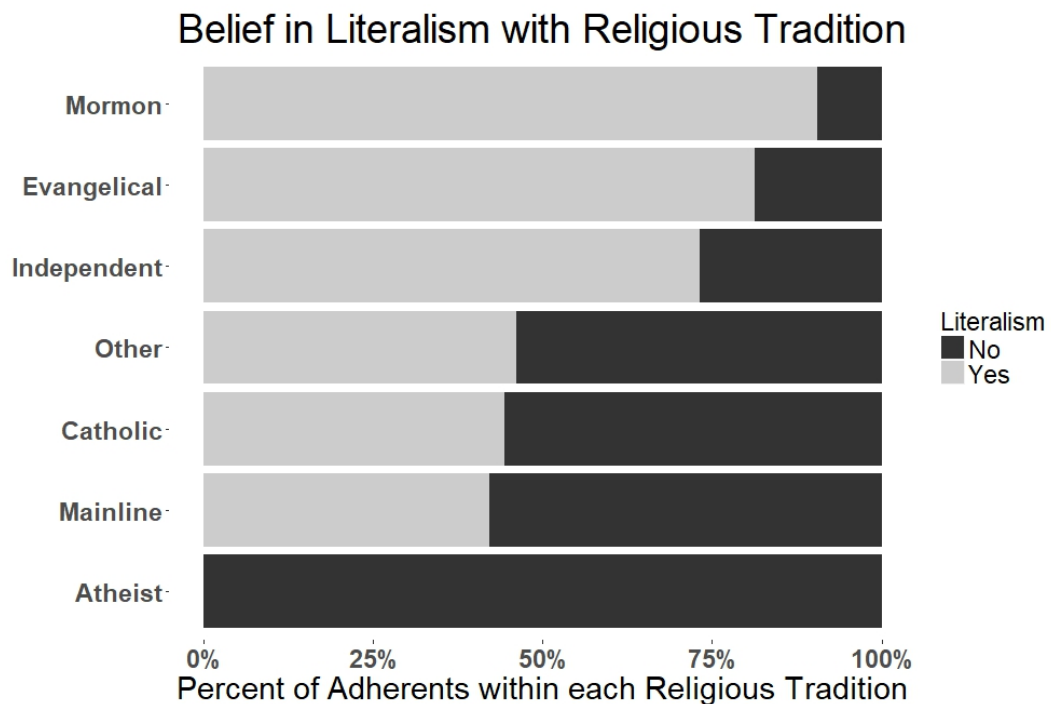


Figure 4-4: Belief in Literalism Displayed by Religious Tradition

Literalism and religious tradition were then combined in Figure 4-4 to visualize the percent of adherents in a religious tradition who believe the Bible should be taken literally. Closer examination of literalism with religious tradition shows that among Christians in Oklahoma, literalism is found among all types of Christian denominations. While belief in literalism exceeds 75% in Independents, Evangelicals, and Mormons, sizable subgroups within Catholic and Mainline Protestant Christians are also literalists. This observation cautions against assumptions that literalism is the sole property of traditionally evangelical denominations.

For further analysis, Christian religious traditions were broken down into their respective denominations to look at literalism within each. For visualization purposes, a few denominations were collapsed into slightly larger categories. For example, the Assemblies of God, Church of God, and International Pentecostal Holiness Church were merged into a single denomination called “Pentecostal”. This also happened with the “Restorationist” combination, which is a combination of the Christian Churches, The Church of Christ, and the Churches of Christ (Disciples of Christ). This figure is displayed below. The “Other Protestant” category contains the Church of the Nazarene, Seventh Day Adventist, and other Christian traditions with low response rates. Figure 4-5 helps to illustrate that even at the denominational level, Christians disagree over literalism even if there is an overall generalization which could be applied to the denomination.

Denominations which tend to be considered Evangelical have higher percentages of respondents who believe in literalism. This is especially apparent for Pentecostal respondents of whom nearly 95% believe the Bible is the literal word of God. Notice, though, that even in among denominations firmly in the Mainline camp, belief in literalism is still strong. For example, among Episcopalian and Presbyterian respondents, just over 25% believe the Bible is literalism. Thus, while literalism is strongest in Evangelical denominations, it is not isolated to those Christians alone.

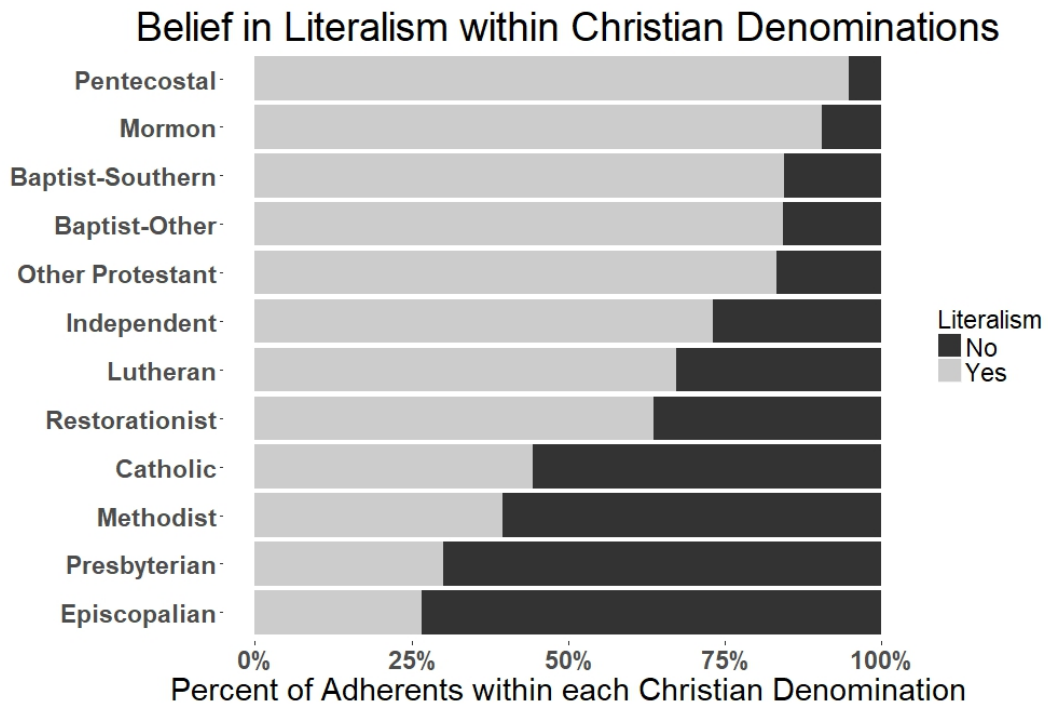


Figure 4-5: Belief in Literalism Displayed by Christian Denomination:

Descriptive Statistics

In an exploratory analysis of descriptive statistics for warming, certainty, risk, and literalism, the findings suggest that literalism does help drive differences about global warming. For example, Table 4-3 shows that 55% of literalists do not agree that global warming is happening versus only 31% of non-literalists. Nonetheless, the fact that 45% of the biblical literalists agree that global warming *is* happening requires further exploration. It suggests that believing that the bible is the literal word of God does not translate, for all literalists, into a view that humans cannot change God’s creation, or into a dominion position that is associated with climate change denial.

Table 4-3: Belief in Global Warming by Biblical Literalism

<i>IS GLOBAL WARMING HAPPENING?</i>	<i>NO</i>	<i>YES</i>	<i>TOTAL</i>
<i>LITERAL</i>	55.32% (707)	44.68% (571)	100% (1278)
<i>NONLITERAL</i>	31.12% (202)	68.88% (447)	100% (649)

In addition to the religion battery, three other sets of questions are used to measure control variables around cultural theory, the New Environmental Paradigm, and political ideology. These were all discussed in more detail in the previous section, however, some descriptive statistics are useful before proceeding to the statistical analysis. The cultural theory battery consists of four questions used to determine if a respondent highly identifies with egalitarianism, fatalism, hierarchism, or individualism. In the case of a tie between the values, tie breaker questions are used

to encourage respondents to pick one trait over the other. In Table 4-4, Oklahomans identified most strongly as individualists with a mean value of 6.9 out of a 10-point scale where 10 is strongly agree and 0 is strongly disagree.

Table 4-4: Cultural Theory Types

<i>CULTURAL TYPE</i>	<i>MEAN</i>	<i>SD</i>	<i>MEDIAN</i>	<i>RANGE</i>	<i>N</i>
<i>EGALITARIANISM</i>	4.34	2.96	4	0-10	2172
<i>FATALISM</i>	3.34	2.85	3	0-10	2172
<i>HIERARCHISM</i>	4.77	2.92	5	0-10	2172
<i>INDIVIDUALISM</i>	6.29	2.90	7	0-10	2172

Based on previous literature and given the high identification with individualism in Oklahoma, respondents should generally believe that humans cannot negatively harm the environment. Yet, there are other ways to measure approaches towards the environment.

The New Environmental Paradigm is measured using a seven-question battery that is later combined into a single additive index for analytical purposes. In this index, a score closer to 5 indicates stronger support for a high-environmentalist worldview while a 0 is weak support. Internal consistency of the NEP index was checked using two tests. After reverse coding so that all seven questions were scaled in the same direction, where a higher score indicates high-environmentalist attitudes (Dunlap et al. 2000b), the NEP index used in this project has a Cronbach's alpha of 0.67. While low, this result suggests sufficient internal consistency. In an additional check, an unrotated principal components analysis revealed that six of the seven questions loaded onto a single factor and explained 35% of the variance. All seven

questions loaded onto the second component and explained an additional 17% of the variance for a total of 53%. Encouragingly, when loaded onto the second component, the low environmentalism questions were all negative while all the high environmentalism questions were all positive. Consistent with previous research on NEP, this suggests that collapsing the seven NEP questions into a single index is appropriate and the index is consistent. The mean NEP in Oklahoma is 3.46 out of 5 and suggests that respondents are slightly high-environmentalist in general.

The relationship between NEP and literalism is theoretically important due to the theological overlap with some biblical views. For example, one question in the NEP battery asks respondents to agree or disagree that humans were meant to rule over nature. This question is very similar to the competing claims of dominion and stewardship theology; thus, literalism maps onto NEP in a way that suggests this theological clash is at play. Descriptively, biblical literalists had a lower NEP score than non-literalists. The average respondent had a NEP of 3.46 out of 5, literalists sat at 3.28, and non-literalists were at 3.66. Similar patterns occur with religious attendance, with low attendees having a higher NEP of 3.55 opposed to high attendees with a lower NEP of 3.19. For religious affiliation, it may be best to visualize a continuum, starting with Mormons at 3.01 and moving sequentially through the other traditions of Evangelical, Christian non-specific, Mainline, Other Religions, Agnostic, and ending with Atheists at the highest NEP score of 4.01. This makes the NEP a possible proxy for the dominion-stewardship dichotomy suggested by the Lynn White thesis and substantiates some of the claims about religious

affiliation and attitudes towards nature made in this dissertation (Hand and Van Liere 1984; Goebbert et al. 2012). Particularly appealing is NEP's question on human rule over nature due to its clear expression of the dominion-stewardship dichotomy since the question asks: "do you think humans were meant to rule over nature?" In the hypotheses tests below, both the full version of the NEP and the single question on human rule over nature (*rule*) are utilized.

The last of the belief-system measures, ideology, was measured using a traditional seven-point scale ranging from strongly liberal at 1 to strongly conservative at 7. Among respondents, peaks are seen at 2 (liberal), 4 (moderate), and 6 (conservative) with the modal response in Oklahoma being conservative and the mean response being 4.63 (moderate).

Along the way, standard socio-economic demographic controls are utilized and these include race, ethnicity, gender, children, education, and income. Previous studies have suggested that these factors may have a considerable influence on global warming opinion. For example, the presence of children or females may cause a respondent to be more sensitive to risks presented by global warming, or, higher education is generally associated with acceptance of scientific information such as global warming. Age, income, and number of children in the household are continuous variables based on open-ended questions in the survey. Female, non-white, and Hispanic are all binary variables with a 1 in either of the three categories affirming the category. Education increases from some high school to Ph.D. or

another advanced degree at the top of the scale. In the chapter, these variables are used as controls and explained as necessary in the results.

Results and Findings:

Each of the hypotheses are tested in turn. A logit regression is used for *H1* due to the dichotomous nature of the dependent variable, “is global warming happening?” For both *H2* and *H3*, ordinary least squares regression (OLS) is utilized to test the hypothesis and the ordinal dependent variable on certainty about a respondents’ opinion on global warming and risk from global warming.

Logit regression is used to predict a response to *H1* and the question: “is global warming happening?” In *H1*, I expect that an increase in literalism will result in a decrease in the belief that human-caused global warming is occurring. The dependent variable is global warming and the full question wording explicitly references human-caused global warming and respondents are given the option of agreeing or disagreeing that anthropogenic global warming is happening. The hypothesis test begins with SES and demographic controls and then batteries of religious belief and belief system variables are added in successive iterations of the hypothesis test.

While the full output of the logistic regression is displayed in the Appendix, the final run of the hypothesis test is discussed here and the regression coefficients are represented visually using a coefficient plot of the dependent variables in Figure 4-6. The variables presented in Figure 4-6 maintained significance and their direction in

all runs of the model. The exception to this finding is *literalism*, which will be discussed in more detail below.

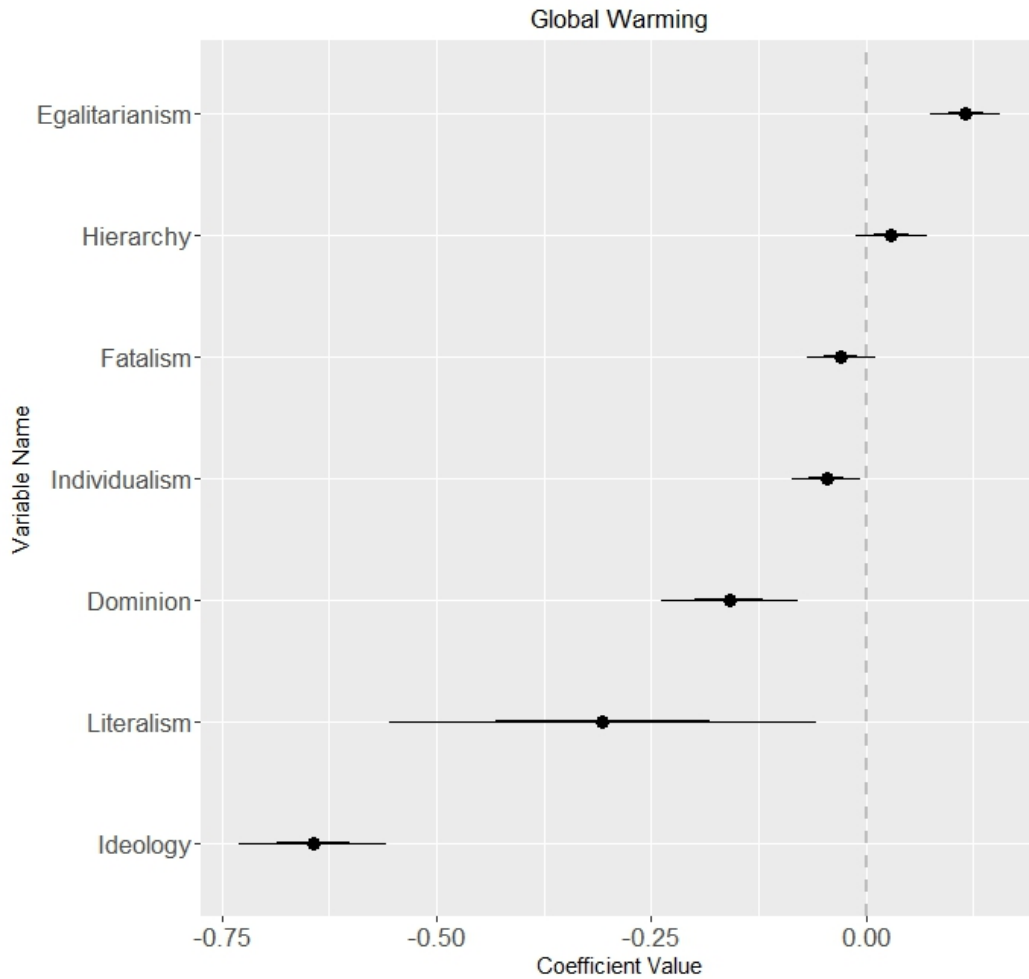


Figure 4-6: Coefficient Plot for Logistic Regression on Belief in Global Warming

While Figure 4-6 shows that *literalism* is significant since the error bars for the variable do not cross the zero line, early results of the regression find that *literalism* is not consistently statistically significant even though it does seem to move

in a negative direction as proposed in the hypothesis (-0.352**). In earlier runs of the tests for *HI* as seen in the Appendix, *literalism* was significant but dropped out once NEP was added. However, this did not occur when NEP, a composite index, was broken apart and only the theologically loaded question of human rule over nature (*rule*) was used in place of the full NEP. It seems likely that the NEP and *rule* capture some of the theological understanding of nature expressed by literalists but do so in diverse ways.

The NEP is a panel of seven questions used to measure environmental attitudes. While the NEP asks respondents if “humans were meant to rule over nature”, additional questions are asked to determine if individuals are high or low environmentalist. When NEP and *literalism* are put together in the same statistical model, the effect of *literalism* on predicting opinion about global warming is covered by the effect of the NEP. However, it should be noted that an interaction exists between these two and literalists also tend to be low environmentalist. When NEP is replaced by *rule*, a more direct theological question about human rule over nature, *literalism* retains statistical significance. This suggests that biblical literalism is an important indicator since it can have direct and indirect effect on predicting opinion about global warming.

Notably, in the full run of the model, none of the religion variables were statistically significant. This includes variables measuring the frequency of church attendance, church denomination, or evangelical/non-evangelical divides. Instead, the strongest explanation of agreement or disagreement that global warming is happening

comes from political control variables. Party identity is significant with Democrats being likely to believe that global warming is happening (0.906***) while the strongest disagreement comes from those who are more ideologically conservative (-0.462***). Given the political science literature on partisan polarization, partisan media filtering, and geographic sorting into homogenous enclaves, and given how clearly the parties are divided on global warming, we should not be surprised that party and ideology strongly drive views on this specific policy issue.

Cultural theory receives mixed support with egalitarianism (0.108***) and fatalism (-0.046*) reaching statistical significance while hierarchism (0.036) and individualism (-0.021) do not. Applied to the hypothesis, an increase in egalitarianism or is associated with an increased likelihood that the respondent believes that global warming is happening while an increase in fatalism reduces belief in global warming. These results are clearer when visualized using predicted probabilities in Figure 4-7. Predicted probabilities convert the coefficients from logistic regression into a likelihood for success on a 0-1 scale. A value near zero indicates a low likelihood of success while a value near 1 indicates a higher likelihood. Success is defined as agreement that global warming is happening.

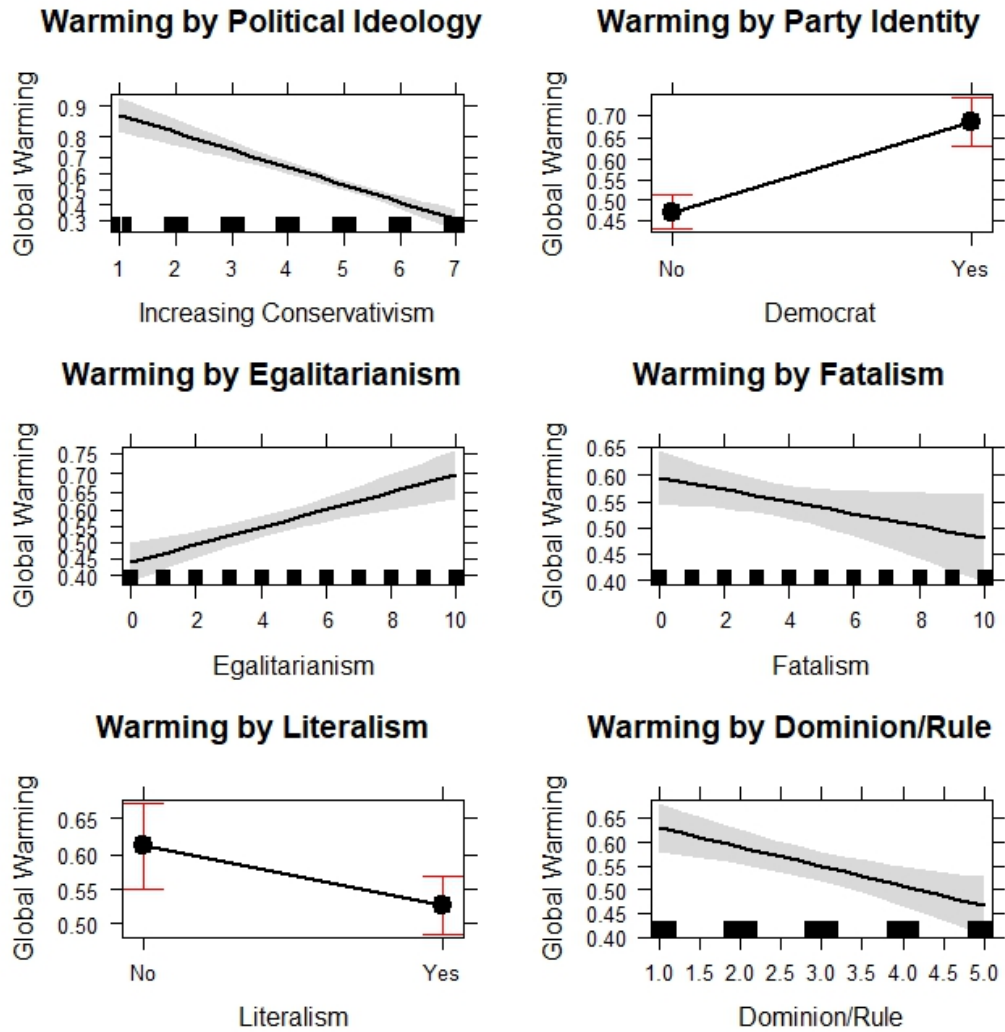


Figure 4-7: Predicted Probabilities of Belief in Global Warming

Turning towards the second hypothesis on the certainty about global warming the same approach to the hypothesis test is used but the dependent variable is changed. Certainty is measured on a 0-10 Likert scale where moving from 0 towards 10 indicates increasing certainty about a respondent's answer to global warming. For the sake of interpretive clarity, certainty that global warming is happening is coded

positively while certainty that warming is no happening is coded negatively. This creates a -10 to +10 scale. Thus, -10 represents high certainty that warming is not happening, 0 represents no certainty, and +10 represents high certainty that warming is happening. Using an OLS regression to test certainty about global warming shows patterns like the results of the logit model, but there are some notable differences as seen in results Figure 4-8.

The second hypothesis test examines the claim of *H2* that an increase in literalism is associated with stronger certainty about global warming, some support is evidenced. In testing *H2*, results available in Appendix 1 show that literalists are less certain that about global warming than non-literalists (-1.316*). This is true even when religious affiliation and other belief systems are included in the model. As in the first hypothesis test and the prediction of global warming, an increase in *dominion/rule* is associated with less certainty that global warming is happening (-0.497***). Mixed results are again seen for cultural theory with only *egalitarianism* and *individualism* crossing into significance but in opposite directions. Strong individualists are less certain about global warming (-0.103*) while strong egalitarians are more certain global warming is happening (0.303***).

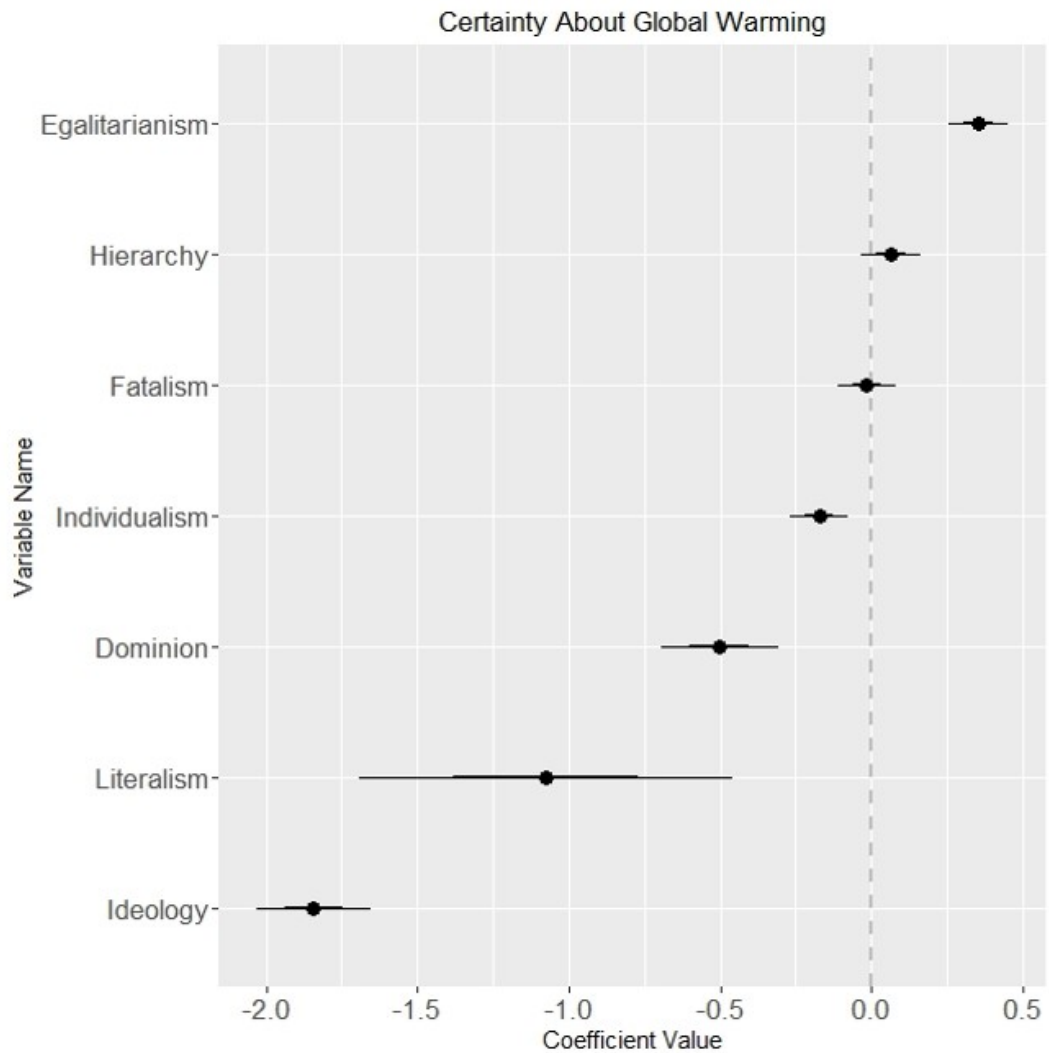


Figure 4-8: Coefficient Plot for OLS on Certainty About Global Warming

Turning to the control variables in the hypothesis test, political ideology is strongly significant and increasing conservatism is associated with the decreasing certainty about global warming (-1.268***). Political party identification with the Democratic party, as before, is associated an increase in certainty about global warming (3.091***). Overall, the full model for the hypothesis test had an r-square

around 0.38 and explained about 38% of the variance. Taken together, these results suggest that literalism and related theological beliefs around dominion and human rule over nature stand on their own as an explanation for certainty about opinions on global warming even when alternative belief systems are considered.

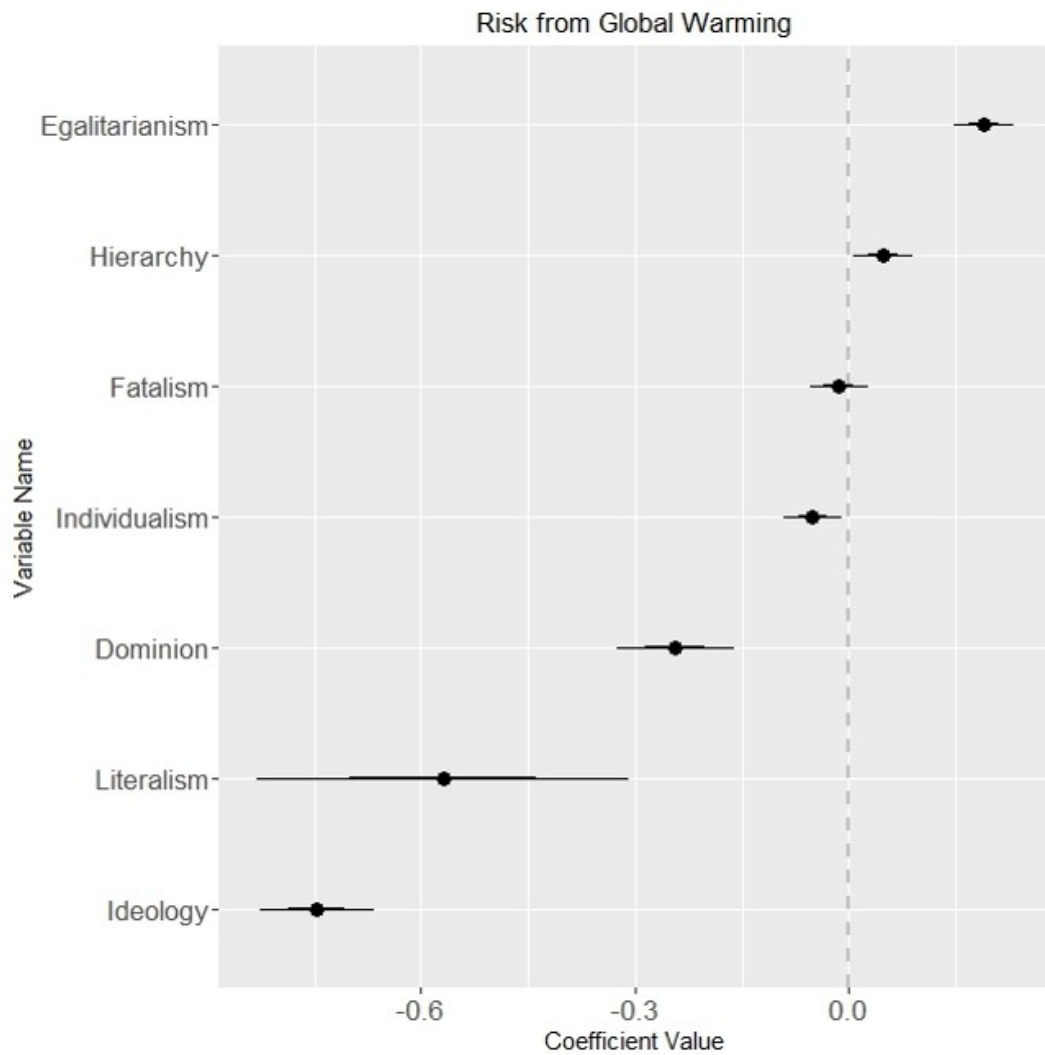


Figure 4-9: Coefficient Plot for OLS on Perceived Risks from Global Warming

The third and final hypothesis test examines the claim of *H3* where an increase in literalism is associated with lower risk from global warming. Full results are available in the Appendix and are visually displayed in Figure 4-9. The regression model for *H3* reveals that literalists perceive less risk about their opinion on global warming than non-literalists (-0.671***). It should be noted that in the full run of this hypothesis test, other religion variables were significant even if the effect was mild. An increase in the frequency of attendance at a religious service was associated with a decline in the perception of risk (-0.077*). Somewhat surprisingly, an increase in the importance of religion is positively associated with an increase in risk perception (0.094**). This is true even when religious affiliation and other belief systems are included in the model. As in earlier hypothesis tests, those who believe that humans are to rule over nature have a lower perception of risk (-0.246***). The cultural theory variables perform as in the other hypothesis tests and only two of four cultural types are significant. Increases in either hierarchism (0.059**) and egalitarianism (0.168***) are both associated with increases in perception of risk from global warming. Political explanations fare well in the hypothesis test and political ideology is strongly significant. The more conservative a respondent is, the less risk they assess from global warming (-0.530***) and conversely, those associated with the Democratic party (1.055***) have a higher perception of risk than their Republican counterparts.

The findings offer support for *H3* and show that literalists have a lower perception of risk from global warming than non-literalists. Explaining why this

occurs could be a product of literalism itself and the inclusion of the variable rule in the hypothesis test is instructive since the rule also moves in the same direction as literalism. That is, increases in both literalism and dominion-like perspectives about human rule over nature lead to lower perceptions of risk from global warming.

Discussion and Conclusions:

This chapter began with the goal of exploring the relationship between belief systems and global warming. Using measures of cultural theory, environmentalism, political ideology, and religious belief, I suggested that biblical literalists would be (*H1*) more skeptical of anthropogenic global warming, (*H2*) they would be more certain of their opinion about global warming than literalists, (*H3*) and they would have a lower sense of risk from global warming. The assumption behind all three hypotheses was that biblical literalism is a good indicator of theological concepts about environmentalism. While the results of the statistical analysis show that biblical literalism can predict some opinion on global warming, other indicators seem to better explain why those opinions exist.

Summarizing the findings in the statistical analysis, it became clear that literalists were less likely to believe in global warming, but this finding struggled for statistical significance in some versions of the analytical model used to test *H1*. Iterative runs of the model for *H1* show that *literalism* competes with the New Environmental Paradigm (NEP) in predicting belief in global warming. This is because, the NEP directly measures if humans were meant to rule over nature

(*dominion/rule*), a question at the very crux of the dominion-stewardship debate which literalism is also supposed to predict. These results suggest that biblical literalism is an important but imperfect indicator of some theological concepts. If literalism fully expressed the concept of dominion over nature as expected in previous scholarship, NEP or *dominion/rule* should have never been statistically significant. Instead, *dominion/rule* was as predictive of opinion on global warming as *literalism*. This suggests that Christian dominion theology, when defined as “ruling over nature”, is a concept which exists outside of beliefs about the literalism of sacred scripture and is not completely contained within the indicator *literalism*.

Previous scholarship has suggested that biblical literalists hold more of a resource approach to the environment than non-literalists (White 1967; Chaudoin, Smith, and Urpelainen 2013; Guth et al. 1993). This means that humans have dominion or rule over nature and should approach nature as a resource for human use. Stepping back and considering the evidence from the chapter two’s study of official congregational statements about climate change and chapter three’s study of interviews with clergy, the question regarding human rule over nature could reflect a resource management approach to stewardship that is popularly seen in some evangelical theology. Thus, dominion over nature could be better reframed as *stewardship/resource management*.

Literalism performed better when looking at certainty about global warming or risk from global warming. In the second hypothesis test, literalism was significantly linked to certainty about opinion on global warming. Literalists are more

certain about their opinion on global warming than their non-literalist counterparts. This finding stands even when other belief systems are accounted for and suggests that religious belief has an influential effect on certainty about opinion on environmental policy issues. In the third hypothesis test, literalism was significantly linked to a lower sense of risk from global warming as expected. This finding stood in all runs of test and shows that literalism has an independent effect on perceptions of global warming.

What does this mean for the relationship between religion and environmentalism? Returning to *H1*, *H2*, and *H3*, the hypotheses are only partially substantiated in the models since *H2* and *H3* are supported and *H1* is not. Yet, several tentative conclusions and areas for further exploration emerged for the larger literature of global warming and environmental policy. First, religious affiliation or denominational belonging did not seem to impact belief about global warming. This works against the White Thesis and other denominationally centered approaches and suggests that church affiliation may not matter more than religious belief. This may be due to sorting within religious groups. Second, biblical literalism offers some explanative value for belief in global warming independent of other well-studied predictors like culture, environmentalism, or political ideology. Moreover, literalism does help to explain certainty about opinions on global warming and risk from global warming independent of culture, environmentalism, and ideology. Assuming that these are all belief systems, this finding suggests that studies on global warming and

climate policy might be improved by considering religious beliefs alongside other belief systems.

Questions remain about the precise relationship between religion and environmental policy issues, specifically how literalism relates to the New Environmental Paradigm and rule/dominion. Specifically, it should be noted that since literalism and rule/dominion retained significance when tested, it is possible that literalism cannot always be used in place of rule/dominion. Otherwise, the variables would have canceled each other out and instead, each had an independent effect on risk of global warming. This suggests that dominion theology may operate independently of literalism and further statistical modeling measuring interactions or structural equation modeling will be highly beneficial. Additionally, further work is needed to better understand how non-Christian or non-religious beliefs interact with other belief systems to inform opinion on global warming. This chapter uses data that is great for research on Christian populations, but what might other religious traditions offer? Additionally, do the results change when the sample population changes from mostly white Christians to mostly Hispanic or African American believers? While more work remains to be done, this study has shown that theology influences environmental opinion intangible, if nuanced ways. Past research has tended to address these belief systems separately, but researchers may gain more insight into individuals' complex relationship with nature by considering how respondents reconcile their religion and their worldviews.

Chapter 5 : The End Times, Eschatology, and the Natural Order⁸

Introduction:

The idea of the Anthropocene centers around the human ability to shape nature. This includes both creating new things in nature, such as genetic modification, and the human ability to destroy, such as climate change. Global warming and climate change are commonly viewed through the human ability to unleash forces which may harm or terminate human existence. IPCC and US government reports both highlight how global warming will lead to or amplify cycles of rising oceans, more severe weather patterns, increased drought and famine, and the increased chances of geo-political conflicts caused by these changes (“Climate Change 2014: Synthesis Report” 2014; “2014 Climate Change Adaptation Roadmap” 2014). The scale and scope of potential climate change impacts sound like events connected with versions of Christian belief about the end of the world.

At the end of the Christian Bible, the Book of Revelation contains the story of the Apocalypse and the so-called “End-times”. The Apocalypse is a period where some Christians believe the earth is ravaged by plagues, famines, drought, and war all associated with the return of Jesus to the earth. This leads to a question, is there a relationship between Christian theology about the end of the world and contemporary claims about climate change? More broadly, what might theologies of nature and the

⁸ This chapter is adapted from a conference paper written with Dr. Allyson Shortle and presented at the 2016 Midwest Political Science Association annual conference (Shortle and Pudlo 2016).

creation and destruction of the natural world suggest about the relationship between religion and science more generally? Since the Anthropocene assumes the human ability to alter the natural world, does end-times thinking influence attitudes about anthropogenic modifications to creation?

Departing slightly from the course of the dissertation thus far, this chapter draws a unique set of questions about the end-times to show that apocalyptic theology does influence how religious adherents view the relationship between humans and nature. While the implications for attitudes about climate change are limited, the broader application of this chapter suggests that theology matters across a number of environmental and scientific policy issue areas where humans are in a position to modify or alter the perceived created order. This is true for large scale changes in the environment and small, but significant, modifications of genetic material.

Similar to those who oppose climate change, the anti-GMO (genetically modified organisms) movement has gained momentum in spite of the scientific consensus about the safety of GM foods. Vermont, for example, recently became the first state to mandate labels for all foods that contain GMOs. While it lists several motivations for the legislation, the law relies heavily on religious preferences to justify the labeling of GM foods. The law states, “Vermont citizens with certain religious beliefs object to producing foods using genetic engineering because of objections to tampering with the genetic makeup of life forms and the rapid introduction and proliferation of genetically engineered organisms and, therefore,

need food to be labeled...” (See H.112, p.7).⁹ As illustrated by the language of the Vermont law, religious belief about creation and the natural order can help drive the discourse that contests or dismisses scientific consensus. While the dissertation has argued for a connection between theology and climate change attitudes, it is also likely the case that end-times theology relates to anti-consensus opinion towards other scientific issues like GMOs.

This chapter uses GMO attitudes to test this argument and contends that end-times theological beliefs act as the religious determinants of the American public’s anti-GMO attitudes. The argument’s premise is that individuals who believe the Earth will end sooner, as opposed to later, tend to hold anti-consensus viewpoints because of an increased willingness to withdraw from attempted environmental improvements. In other words, their opposition to GMOs is part of a larger and theologically motivated resistance to human induced changes in natural world. Additionally, individuals who believe the Earth will end due to supernatural causes, such as the Second Coming of Jesus, are particularly likely to believe the Earth will end sooner and then translate their beliefs into opposition to modification. This chapter tests a new measure of the concept of the Shadow of the Future, which refers to beliefs about shorter time horizons for when the Earth will end. Additionally, the chapter tests an original measurement for individual end-times beliefs, which asks respondents whether they believe religious or non-religious factors will lead to the

⁹ The full text of each law is available online: <http://www.leg.state.vt.us/docs/2014/bills/Passed/H-112.pdf>

end of the Earth. These measures allow for the test of the claims in the chapter using a 2014 statewide survey.

Why eschatology?

Among religious believers, eschatology provides a time horizon after which human effort is replaced by direct divine action in the destruction and/or recreation of the earth. Eschatology is broadly defined as a system of beliefs about the end of time. Previous definitions have outlined Christian eschatology as “end-times believers hold that Jesus will one day return to Earth and commence a series of events (e.g., the Rapture, Tribulation, and Millennial reign of Christ) that will eventually culminate in a final battle between good and evil (Armageddon)” (Barker and Bearce 2013, 268). As religious historians note, Christians diverge over the sequence of events, but most popular in the United States is that of premillennialism, where Jesus will return before or during the wars, famines, and other trials of the Tribulation to take Christians from the earth in the Rapture. Premillennialism thus creates a sense of otherworldliness in some Christians since they will not be around for the destruction and rebirth of the earth that occurs after Armageddon (Marsden 2006; Barker and Bearce 2013; Guth et al. 1993). It fits into a larger system of eschatology known as dispensationalism, which is a critical element along with biblical literalism in Christian Fundamentalism.

Historically, fundamentalism morphed into evangelicalism, but the theological undercurrent of dispensationalism continues. Studies have shown that fundamentalist

theological beliefs have a profound impact on how religious influences other areas where the public expresses anti-consensus opinions such as climate science.

Early work, for instance, found that “end times thinking” has powerful effects on opposition to regulatory environmental policy (Guth et al. 1995, 1993). More recent work concludes that both fundamentalism and eschatology predict support for environmental attitudes, and do so in specific policy realms. American opinion was more favorable toward regulatory domestic policy but decidedly unfavorable towards global or international policy (Chaudoin, Smith, and Urpelainen 2013).¹⁰ While useful, these studies are limited by a lack of true eschatological measures, relying instead on a combination of religious measures to test their claims.

Drawing on more nuanced measures of eschatological beliefs, Barker and Bearce sought to correct this omission by examining why and how eschatological beliefs affected mass opinion on environmental policy attitudes (Barker and Bearce 2013). Borrowing from the game theoretic work on the shadow of the future (Bearce, Floros, and McKibben 2009) they find that eschatology shortens the “shadow of the future” among religious believers and decreases their willingness to support regulatory policy. In agreement with earlier work, they also find that eschatology has powerful direct effects on regulatory policy attitudes (Barker and Bearce 2013).

¹⁰ This is a brief look at the otherwise rich literature on religion and environmentalism. Other notable studies have found powerful influence by religious beliefs and religious elites on mass opinion about environmentalism. However, most of these studies have focused on the dominion-stewardship divide or the mass-elite interaction (White 1967; Hand and Van Liere 1984; Eckberg and Blocker 1989, 1996; Sherkat and Ellison 2007; Djupe and Hunt 2009; Djupe and Olson 2010; Djupe and Gwiasda 2010).

While an improvement over past analyses, their argument is limited by their measure of beliefs in end-time horizons, which does not offer any variation in time horizon options from which a respondent can choose. This causes us to question the validity of the current time horizon measures since they potentially leave uncaptured the variation in perceived time horizons of the End of the Earth.

While this chapter offers an improvement in new measures of end-times theology and time horizons, eschatology itself is not a foreign concept to political science outside of the realm of religion and politics. It is related to both the shadow of future found in game theory approaches and the well-known work on sociotropic horizons in public opinion. Opinion researchers have suggested that in addition to personal well-being, individuals evaluate politicians and policy options with the questions of “what have you for the country lately?” and “what are you likely to do for the country in the future?” (Kinder and Kiewiet 1981, 156; MacKuen, Erikson, and Stimson 1992; Nadeau and Lewis-Beck 2001; Lewis-Beck, Nadeau, and Elias 2008). While these studies have tended to focus on the relationship between economics and public opinion, religious beliefs can create an alternative sociotropic calculus, where political opinions are evaluated not in terms of economic gains or benefits, but their utility given religiously pre-determined time horizon.

This chapter applies the lessons learned from religion and environmentalism and uses eschatology to test how religiously inspired time horizons influence public opinion that diverges from the scientific recommendation, such is the case with anti-GMO opinion. This results in the following expectations expressed at hypotheses:

- *Hypothesis 1 (H1) - Shadow of the Future:* Shorter time horizons will relate positively with anti-GMO attitudes, as part of the withdrawal that short SOF respondents have from environmental improvements.
- *Hypothesis 2 (H2)- Supernatural Causes:* Those who believe the world's end is the result of supernatural causes, such as the Second Coming of Jesus, will be more willing to express GMO opposition than those who offer less religious reasons for the end of the world.
- *Hypothesis 3 (H3)- Religiously inspired Time Horizons:* Time horizons will likely be religiously inspired, meaning that respondents who believe in supernatural end-times theology will positively relate their shorter time horizons to anti-GMO attitudes. Essentially, this tests whether the religiously conceived "Shadow of the Future," e.g., shortened Time Horizons, relates more significantly to scientific attitudes than non-religious interpretations of end-times.

Data and Method:

To test the hypotheses, this chapter relies on data from a survey fielded by researchers at a Midwestern university in the weeks preceding the 2014 midterm elections. The sample matches the Census proportions on income, educational attainment, African American identification, Democratic partisan identification, and liberal ideological self-placement. Compared to the American public in 2015, the Midwestern respondents appeared more conservative (51% compared to 38%) and

Republican (36% compared to 23%) on average (Pew 2015). The state survey also diverged from the national demographics on the proportion of women, with only 44 percent female respondents, compared to 51 percent nationally (US Census 2014). The statewide sample mirrors national polls on the question of whether GMO foods are “bad” (Pew 2015). The variable descriptions and question wordings are as follows:

- **Anti-GMO** attitudes are measured from a question about whether altering foods could harm human health and the environment. (good 45%; bad 55%).
- **Time Horizons** attitudes are a question about when the Earth will likely end (1=later, beyond humanity’s existence; 2=during humanity’s existence; 3=in my grandchildren’s lifetime; 4=in my kids’ lifetime; 5=sooner, during my lifetime).
- **Supernatural Causes** attitudes are agreement that supernatural causes, such as the Second Coming of Jesus, will cause the End of the world (46.6%).
- **Human Causes** attitudes are agreement that the end of the world will be the result of human causes. (27%).
- **Natural Causes** attitudes are agreement that the end of the world will be the result of natural causes, such as a meteor hitting the Earth (16.6%)
- **Religiosity** is based on a question of how often they attend religious services (1=never; 2=seldom; 3=a few times a year; 4=once or twice a month; 5=once a week; 6=more than once a week; mean=3.96).

- **Biblical literalism** is increasing agreement that the Bible is the literal word of God (1-3; mean=2.29).
- **Ideology** is measured using a branching question about how liberal respondents were on a 5-point scale, from strongly conservative to strongly liberal. (mean=2.56)
- **Female** is self-identification as a woman. (Male 56%; Female 44%)
- **Income** is categorical with 1 indicating respondents with household incomes of less than \$25,000, 2 indicating incomes between \$25,000-\$50,000, 3 for \$50,000-\$75,000, 4 \$75,000-\$100,000, and 5 More than \$100,000. (mean=3.14)
- **Education** is a scale with 1 indicating less than a high school education, 2 for some high school, 3 high school graduate, 4 vocational/ training school, 5 some college, 6 college degree, and 6 post-graduate degree. (mean=4.89)

This chapter next features a series of bivariate and multivariate analyses to examine religion's relationship with anti-consensus public opinion on the scientific issue of genetically modified foods. The main theological expectations are tested against alternative religious explanations based on Biblical literalism and religious service attendance variables. The results suggest preliminary support for the hypotheses, although more research is needed due to the current study's data limitations.

Findings

The analysis begins by first comparing the mean time horizons expressed by groups who believe in different causes of end-times: supernatural; human; and natural. Each group's mean time horizon is measured on a scale of 1, belief the world will end later after human existence, to 5, the belief that the world will end soon—in the respondent's own lifetime. The average time horizon stated by all respondents was 2.27 out of 5 (n=324), with the majority 55% of respondents claiming that the Earth will end in humanity's lifetime, and just a minority 11% believing the Earth will end in either their own lifetime or their children's lifetimes. Overall, the comparisons indicate that respondents generally believe the Earth will end later rather than sooner, and reveal a significant relationship between beliefs about shorter time horizons and the perceived causes of end-times (X-squared=15.56; p=0.016).

Table 5-1: Mean Beliefs about How Soon the Earth Will End, By Perceived Cause

	<i>Mean (1-5)</i>	<i>N</i>
<i>Supernatural Causes</i>	2.52	142
<i>Human Causes</i>	2.33	100
<i>Natural Causes</i>	1.67	63

Note: 1=beyond humanity's existence; 2= in humanity's existence; 3= in my grandkids' lifetime; 4= in my kids' lifetime; 5= in my lifetime.

Table 5.1 shows that most respondents in the sample believed that the Earth will end after everyone they have known on Earth has passed away, meaning during humanity's existence but neither soon enough to happen during their grandchildren's lifetimes nor late enough to happen after human existence. The overall time horizon

mean of the sample thus points to a general perception that the end of the Earth will not occur for some time.

It also reflects the finding that most people who believe the world will end in their or their children's lifetime are divided on why they believe this to be true. The largest proportion are Supernatural thinkers, which is reflected in the highest group mean of 2.52 out of 5 on the time horizon scale. The respondents who have the shortest time horizon hold to a Natural Causes interpretation of end-times (1.67 out of 5), with the Human Cause group falling somewhere in between the two (2.33 out of 5). This simple finding is important since it tells us that individual time horizons may or may not have religious interpretations undergirding them. The findings also reveal that perceptions of shorter time horizons positively relate with Supernatural interpretations of the end-times, and yet there are also differences between Human Cause and Natural Cause interpretations. This provides some description of the main independent variables of the analysis but leaves unexamined their relationship to the main dependent variable.

Table 5.2 addresses the relationship between time horizons and anti-GMO attitudes. As we move down the table from the respondents with the longest time horizon to the shortest time horizon, opposition to GMOs increases from a mean response of 2.35 to 3.33 (out of 4). This means that those who believe the Earth's end will occur "beyond humanity" start with the "somewhat disagreement" that GMOs are "bad," which changes to "somewhat agreement" for those who believe that the world will end during their or their children's lifetimes. This relationship is

substantively interesting, and approaches statistical significance (X-square= 20.23; p=0.06). It suggests that GMO opposition might be related to shortened time horizons, providing partial confirmation to *H1*. A similar test comparing GMO opposition levels to end-times theology based on Supernatural Causes proves insignificant and fails to support *H2*. In other words, believing in Supernatural causes for the end of the world does not directly predict belief about GMOs. Despite the lack of a direct relationship between Supernatural theology and anti-GMO attitudes, there is still the possibility of an indirect influence of theology through the time horizons variable, as claimed in *H3*.

Table 5-2: GMO Opposition, by Respondent’s Time Horizon for End of Earth

	<i>Mean (1-4)</i>	<i>N</i>
<i>Beyond Humanity</i>	2.35	51
<i>Sometime during Humanity</i>	2.57	150
<i>During grandkids’ lifetime</i>	2.57	30
<i>During my kids’ lifetime</i>	3.14	21
<i>In my lifetime</i>	3.33	18

Note: GMO opposition variable is based on a question about whether respondents agree with the that GMOs are “bad.” 1=strongly disagree; 2=somewhat disagree; 3=somewhat agree; 4=strongly agree.

In order to test *H3*, the analysis compares split sample multivariate analysis according to the Supernatural and Human end-times theologies. If *H3* is correct, it is expected that a positive relationship from the time horizon variable labeled “The Earth will end sooner” in Table 5-3. It would not be expected for the time horizon variable to produce a significantly positive result for the Human Causes model, since

it is not religiously inspired. Again, this is because those who believe in the end-times are religiously inspired and are expected to oppose anthropogenic modification to the natural order in a way that the non-religiously inspired are not.

Table 5-3: The Relationship Between End Times Theology & GMO Opposition

	Supernatural causes	Human causes	Full Model
The Earth will end (1-later, 5-sooner)	0.43*** (.12)	0.06 (.16)	0.32*** (.07)
Biblical literalism	-0.43 (.33)	0.13 (.23)	-0.24 (.07)
Religiosity	0.02 (.12)	-0.12 (.11)	0.00 (.07)
Ideology (1-cons, 2-liberal)	0.14 (.10)	0.02 (.10)	0.03 (.05)
Female	1.02*** (.32)	-0.01 (.26)	0.64*** (.16)
Income	0.18 (.12)	0.10 (.09)	0.05 (.06)
Education	-0.09 (.09)	0.09 (.09)	-0.03 (.05)
% correctly predicted	81.2%	62.4%	70.7%
<i>n</i>	101	85	239

Note. How beliefs about the end of the world relate anti-GMO attitudes, in terms of how soon the world will end as well as beliefs about Armageddon's cause ***p<0.01 **p<0.05

The findings from the analysis are displayed in Table 5-3 and confirm the expectation about the religiously inspired nature of shortened time horizons. The Supernatural Causes model is the only end-times specification that results in a

significant and positive result for the shortened time horizon variable. Interpreting the split sample analysis shows that those who believe in Supernatural causes and have an increasingly shorter time horizon (*the Earth with end*) are increasingly likely to oppose GMOs (0.43***). It is clear though, that, apocalyptic thinking does not affect GMO opposition if one believes in Human causes for the end of the world (0.06). Thus, theologically inspired eschatology and religiously motivated end-times thinking increases opposition, even if indirectly, to human modifications of the natural world. Caution is used when interpreting the finding due to the small sample sizes. However, it merits further research given that the theological measures in this study produce significant results across bivariate and multivariate analyses alike.

Conclusion

This chapter has shown partial evidence in favor of a theological explanation to anti-consensus attitudes about scientific policy issues. The time horizon measures and theological end-times conceptualizations tend to outperform other religious variables in multivariate tests. While Biblical literalism and religiosity do not relate to anti-GMO attitudes in any significant or meaningful way for the respondents in this chapter, Supernatural causes for the end of the world and shorter time horizons increase opposition to genetic modification by humans. Despite this finding, the interpretation of the results remains merely speculative at this point, given the early stage of this research's development.

Still, this initial test does illustrate several interesting measurement considerations for those interested in examining eschatology in future studies. For example, it is clear that new measures should be developed to take into account the various ways in which Americans claim the world will end. Previous work interpreted agreement with the Second Coming as evidence of both a time horizon and a Supernatural interpretation of theology. However, this chapter shows that those are distinct concepts and should not share the same indicators. Future researchers should specifically relate such measures with statements about the world's end in order to better capture the concept of end-times theology. It is also recommended that more precise attempts at measuring the "Shadow of the Future" be made. Finally, future research should improve upon the theory and measures to allow for respondents to be able to voice reasonable time estimations without large rates of non-response. Much research has yet to be completed, and the relationship between religion and anti-consensus attitudes remains unclear. However, the preliminary deployment of the end-times measures does suggest that theology about the natural world plays a role in shaping opinion about scientific issues. While this was unfortunately not applied to climate change the measure provides a step forward for research building on the existing claims of eschatology tied to literalism. Notably, that literalism and eschatology are not necessary synonymous, as previous chapters demonstrated with dominion and literalism.

Chapter 6 : Conclusion

Introduction:

This journey began by asking relatively simple questions. What is the relationship between humanity and nature? How does religion conceptualize this relationship? What does this mean for politics and public policy? By looking at stated beliefs from religious organizations, talking with clergy, and analyzing survey responses, partial answers to these questions emerge and a new path of exploration is revealed.

What is the relationship between humanity and nature?

In chapter two, official statements from religious organizations about climate change were examined for key themes and categories. These statements, known as position papers, showed that Christian religious denominations varied in how they used scriptural and scientific evidence to speak about climate change and global warming. From a close reading of the position papers, it also became clear that many Christian groups view their approach towards nature in terms of stewardship. However, there is variation around how stewardship is defined. As opposed to a clean dominion-stewardship divide, the fault line between religious groups was found between resource-management centered approaches and more preservationist approaches. This finding upsets previous understandings about dominion and human rule over nature (White 1967) and shows that religiously-motivated environmental stewardship is multi-dimensional.

The position statements showed that religious organizations seemed to use differences in describing stewardship to signify two different theologies of nature. As such, stewardship-as-resource-management and stewardship-as-preservation became the main categories used to describe theologies of nature. A rough definition of these differences is that resource-management is human-centered while preservation is non-human centered. Applying theology to politics, theologies of nature ask if Christian stewardship is directed at managing nature so it can be used productively for human purposes or does it mean preserving and tending to earth as a caretaker?

Using these theologies of nature as a foundation, the third, fourth, and fifth chapters used survey and interview data to analyze whether the distinct types of stewardship resonated with clergy and congregants.

Chapter three contained interviews with clergy which asked questions about the relationship between humans and nature. Clergy seemed to organically speak in terms of stewardship anchored in resource-management or preservation. Contrary to the White thesis, dominion seems to have virtually vanished from the theological discourse. For nearly all the Christian clergy, this stemmed from passages early in the Bible such as the creation narrative in Genesis. In Christian scripture, the universe, earth, and all life are created over the course of seven days. Animals are made on the sixth day and the Bible says that "Then God said, "Let us make humankind in our image, according to our likeness; and let them have dominion over the fish of the sea, and over the birds of the air, and over the cattle, and over all the wild animals of the earth, and over every creeping thing that creeps upon the earth."

(Gen 1.26, NRSV). Clergy expressed that differences over how they interpreted "rule" influenced the type of stewardship they supported.

Chapter four used mass survey data of residents in Oklahoma to explore how religion influences belief on climate change, uncertainty about climate change, and possible risk from climate change. The survey showed that just over half of respondents believed that climate change was happening. Drilling down to look at religion, the chapter showed religious affiliation is not reliably predictive of climate change opinion. With the rise of the "nones" and increasing detachment from denominations, it should not be too surprising that religious affiliation and belonging show weak predictive power ("America's Changing Religious Landscape" 2015; Schwadel 2013). If the trend continues, researchers will need to continue to adapt and find innovative ways to measure key religious blocs, such a theologically-informed questioning of political values and attitudes.

Moving beyond belonging, using specific religious beliefs seemed more insightful. The well-established measure of literalism seemed to underperform, but that may be due to using specific questions to get at the theological assumptions behind literalism. In other words, while biblical literalism can be used to indicate a certain theological disposition, it may not accurately represent specific theologies related to nature or environmentalism. As a result, in the survey literalism behaved much like other religious affiliation measures and did not reliably predict opinion on climate change when other factors, like political ideology or the New Environmental Paradigm, were considered. Asking respondents if "humans should rule over nature"

seemed to get at one of the core reasons scholars use literalism as a variable on surveys: the assumption that literalists are creationists and by extension, dominionist. However, asking the question directly was consistently predictive and theoretically parsimonious. Furthermore, using the question from the NEP battery provides further researchers with a commonly used way to assess environmental beliefs.

Much of current religion and climate research has focused on climate change and trade-offs for climate change policy against economic policy and then correlating these values with religious belonging, believing, or behaving. In this dissertation, two new variables are introduced due to the uniqueness of the data; certainty and risk. Literalism did help to predict certainty about climate change and risk from climate change. In both cases, literalists had a relatively low sense of certainty about climate change not happening and they saw a low level of risk from climate change.

Chapter five expanded the scope of the dissertation and showed how theologies of nature may matter in other environmental and scientific policy issue areas. Using unique and direct questions about end-time thinking (eschatology and the Apocalypse), the findings offered suggestive evidence that the shadow of the future is related but distinct from biblical literalism. Much as in chapter four, while literalism is an important explanatory variable, asking direct theological questions offered some additional insight as to the religious motivations behind those who might reject areas of consensus science like genetically modified organism or climate change.

Taken together, the data from the clergy interviews and the mass surveys suggests that religious believers ground support for climate change and related issues in their theology. While the question is still open about which comes first – theology or political opinion – the theology of nature expressed by the clergy seems consistent and like those found in the mass survey. Those who believe that humans are not meant to rule over nature view stewardship as in terms of preservation, express higher belief that climate change is happening, are more certain that it is happening, and perceive a higher risk from climate change than those who lean towards stewardship as resource management.

How do religious groups conceptualize nature?

One important question raised by this dissertation was "how do religious groups conceptualize nature"? Much has been written about this from a religious or philosophical perspective. However, the aim here was to focus on political and public policy research. Most relevant to that discussion are the concepts of cosmology and eschatology, or creation and the end of the world.

Returning to definitions from the first chapter, research involving religion and creation usually used by political researchers refers to the Christian idea of a literal seven-day creation whereby God speaks the universe and life into existence. Eschatology, on the other hand, refers to how the world ends and is the culmination of a series of events from the Bible leading to the eventual remaking of the physical world. Both definitions of cosmology and eschatology are more prominent and strict

among evangelical and fundamental wings of Christianity and more flexible with Mainline, Catholic, or Orthodox wings. Translating these ideas to other religions can be very difficult. For example, in clergy interviews, one conservative Jewish rabbi mentioned that traditional Jewish belief does not see the afterlife in the same terms as Christians, thus, Christian eschatology was meaningless. Thus, the findings from the dissertation are limited to Christians.

Between looking at position papers, interviewing clergy, and analyzing the mass survey, the study found that cosmology seemed to resonate more with respondents than eschatology. Looking back through the position papers, nearly all mentioned being stewards or caretakers of God's creation. However, only one denomination of the twelve denominations analyzed specifically used an eschatology as a reason not to be concerned about global warming or climate change policy. Clergy interviewed responded similarly and nearly all spoke about God's role in creating the earth and how that should influence the human relationship with nature. However, most of the clergy rejected the idea that Christian eschatology would lead Christians to not care about climate change or environmental policy. In most cases, the rejection of eschatology was because of the expectations on humans as stewards and caretakers set by creation. The results from the mass survey in chapter three are not necessarily applicable here since the survey did not have direct questions on cosmology or eschatology. However, some conclusions based on chapter two and chapter four can be made.

Previous research has used literalism as a proxy for cosmology or eschatology. The tentative findings from the dissertation suggest that religious believers, at least at the elite level, may not conceptualize literalism, cosmology, and eschatology in a way to make this assumption valid. Instead, future research might benefit from asking about the three categories of belief directly. This avenue of research is not without challenges though. In three previous attempts, I tried to use explicitly eschatological questions to evaluate scientific policy and environmental policy opinion. One attempt was a state-level mass survey while the other two were targeted at clergy. In all three attempts, the response rate for the eschatological questions was low enough to make analysis difficult. Yet, even with less than ideal response rates for the questions, eschatology was somewhat predictive in opinion about scientific and environmental policy issue areas such as genetically modified organisms or global warming. National level surveys have also shown some success at getting responses to eschatology questions and using that data to better understand opinion about natural disasters (R. P. Jones, Cox, and Navarro-Rivera 2014). Thus, while a road less traveled, asking direct questions about cosmology and eschatology is an available path for future research.

What does this mean for politics and public policy?

When this study began, I sought to pull together theories from public opinion, religion and politics, and public policy to explore how religion influences the politics around climate change, environment, and other scientific issue areas. Through a

detailed study of clergy and the mass public in a sole case study, some suggestive findings for the discipline at large emerged.

For public opinion, the diversity among and within religious groups is not necessarily a failure of elites to hold the group together nor does it indicate that citizens are incoherent. Rather, it shows that religious believers marshal available theologies of nature to inform or justify their position on climate change and that similar scriptures can be used to justify vastly different political preferences and policy positions. This continues to challenge the theories of Converse and Zaller and suggests that elites and individuals may have fixed opinions and these opinions may be rooted in religious knowledge and not political or economic knowledge (Converse 1964; Zaller 1992). Additional work is necessary to determine if these differences are due to factors such as motivated reasoning, psychological predisposition, or political ideology and loyalties (Hart and Nisbet 2012; Kahan, Jenkins-Smith, and Braman 2011; Kahan 2013).

For religion and politics, using literalism as a proxy for other specific theological beliefs is tempting but ultimately hides more than it reveals. Contrary to previous scholarship (Guth et al. 1993, 1995; Chaudoin, Smith, and Urpelainen 2013), using direct questioning may provide better insight into the political theology used to justify political attitudes or opinion (Barker and Bearce 2013). Additionally, the growing weight of evidence suggests that the Lynn White thesis and the stewardship-dominion dichotomy does not exist in the language used by religious denominations and the clergy and who represent them.

Relatedly, the organizational structure of denominations and churches seems to impact the reach of political signaling from denominations and clergy. Clergy seemed acutely aware of their position in the hierarchy and their ability to influence their individual congregations. This supports the continuing work of religion and politics scholars who are moving beyond mass survey and individual public opinion to focus on clergy and congregational influences (Calfano, Oldmixon, and Suiter 2013; Gilbert and Djupe 2009).

For public policy, the results are less clear. While there are several theories of the policy process, only two are mentioned in the dissertation. These are the Advocacy Coalition Framework (ACF) and the Narrative Policy Framework (NPF). The ACF focuses on the coalitions of actors that form around certain policy issues and the shared beliefs and preferences that hold those coalitions together (Sabatier and Jenkins-Smith 1993; Jenkins-Smith et al. 2014). The use of Cultural Theory earlier in the dissertation comes from the ACF's attempt to define and identify the belief systems which bind coalitions together. It is from Cultural Theory that questions on egalitarianism, fatalism, and hierarchism, individualism, were drawn for use in the quantitative analysis in chapter three. Unfortunately, for the ACF, there are more questions than answers in this project. The specific interaction between Cultural Theory and religious belief systems remains to be mapped. However, in the initial exploration of biblical literalism and Cultural Theory, literalism had an independent effect on respondents apart from the four types of deep core beliefs in Cultural Theory. This is suggestive that religious belief is not necessarily captured by

Cultural Theory even if there is an interaction between the two types of belief system.

Yet, this is a tentative finding and should be explored in further follow-up.

Commonly used alongside the ACF is the NPF. The Narrative Policy Framework (NPF) examines the narrative and rhetoric used to support or oppose a policy and the micro and macro levels where that narrative is deployed (M. D. Jones and McBeth 2010). What emerged out of this dissertation were two theologies of nature, stewardship as resource management and stewardship as preservation, which religious organizations, elites, and individuals used to justify their position on climate change. Notably, for organizations and elites, these same theologies of nature were used to defend and promote concrete environmental policy action. Additionally, even if the two theologies of nature were associated with different policy positions, there was substantial overlap on basic definitions of stewardship and appropriate action. For example, all the clergy expressed support for local recycling and many of the denominations praised the use of alternative energy for helping vulnerable populations. From a more normative position and with the use of the NPF, policy makers could carefully use theologies of nature to build and strengthen coalitions to support or oppose environmental policy.

Where to go from here?

Theory, like politics, moves incrementally and this project has attempted to move the study of religion and climate one more step forward. Readings of the position statements and clergy interviews have shown that the Lynn White approach

of religion and environment is not sufficiently nuanced to be accurate in a highly religious environment. Additionally, moving beyond merely testing literalism to include questions on cosmology or eschatology seems to improve the explanative power of religion in motivating climate change opinion. Furthermore, clergy seem very aware of their ability to influence politics in their congregations but religious individuals and religious elites may hold quite different opinions about climate change even if they are of the same denomination. Finally, a better understanding of the various theologies of nature around stewardship may help to explain the narratives used and the conditions formed by religious believers to oppose or support climate change policy.

Despite these initial findings, the nature of the dissertation is suggestive and tentative. Questions of sample size with the religious organization position papers and the clergy interviews limit the generalizability of the study. This is especially true with the clergy interviews. There is also the problem of geographical limitation. While the survey used for measuring individual opinion is census matched and generalizable for Oklahoma, it may not be representative of a nationwide sample. The choice of Oklahoma may have also contributed to the occasionally weak findings among biblical literalists since state culture places a high value on conservative Christian group membership. The geographical limitation holds for the clergy sample as well but not the religious organizations since the position papers came from their respective national offices. Nevertheless, the study does create new categories for analysis around stewardship and helps to illuminate how clergy conceive their role in

advocating for theologically motivated environmental policy. As opposed to being the end of this journey, testing these new categories leads into new areas for research. By improving scholarly understanding about theologies of nature, researchers will better understand the motivations of religious believers, how those motivations interact with political beliefs and cueing, and what narratives rally religious believers to political action.

The dissertation also suggests that the use of the mixed-method approaches can enhance the study of religion and politics. Through the position papers, clergy interviews, and survey responses, I could triangulate differences between types of stewardship and how those theological differences might impact attitudes about climate change and political and policy preferences for addressing climate change. This helped to improve definitions of stewardship and dominion and show the boundaries of using literalism as an indicator for nuanced theological concepts. Continuing and expanding the mixed-method approach in religion and politics research will help with verifying and expounding on the findings from the survey and experimental camps of the discipline.

Returning to the original premise of this dissertation, what of faith and the Anthropocene? The question itself carries two meanings. First, do people have faith *in* the Anthropocene? That is, do they believe that humans can change the earth, nature, or the climate? This dissertation shows that just over half of all individuals in the Oklahoma survey believe that humans can cause climate change. Additionally, the religious organizations examined in this dissertation generally agreed that humans

have a role in changing nature and the global climate. This was true even for denominations that opposed aggressive environmental policies. So, tentatively, there is faith in the Anthropocene.

Second, what is the role of faith *during* the Anthropocene? The answer to this question is more complicated, diverse, and I would suggest, substantive. Religious denominations and individuals could not come to a consensus over the relationship between human and nature. Using theological arguments, they acknowledged that ability of humanity to change nature but debated if this was concerning or how they should respond. For the faithful living during the Anthropocene, theology matters. Religious organizations and individuals use religious thought to justify and explain the reasoning for their political and policy preferences. For researchers and policymakers, paying attention to the dynamics of theologically-motivated politics will continue to remain important. Thus, while there is faith in the Anthropocene, the role of faith during the Anthropocene will hinge on if environmental stewardship means manager or caretaker.

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Appendix: Regression Tables for Chapter 4

Iterative Models Used in Initial Tests of Chapter 4, Hypothesis 1

	model01	model02	model05	model06	model07	model08	model09	model10	model11	model12
(Intercept)	1.076*** (0.178)	0.704* (0.314)	2.645*** (0.455)	2.357*** (0.504)	2.386*** (0.508)	2.003*** (0.560)	-4.529*** (0.807)	-5.257*** (1.066)	2.294*** (0.568)	2.518*** (0.607)
rel_bible2Yes	-0.672*** (0.125)			-0.391* (0.166)	-0.394* (0.168)	-0.397* (0.170)	-0.326 (0.188)	0.749 (1.026)	-0.352* (0.172)	-0.644* (0.322)
rel_brnagn2Yes	-0.469*** (0.115)			-0.147 (0.150)	-0.161 (0.153)	-0.140 (0.155)	-0.088 (0.171)	-0.097 (0.171)	-0.085 (0.157)	-0.091 (0.157)
rel_freq	-0.077*** (0.028)			-0.048 (0.038)	-0.054 (0.038)	-0.073 (0.039)	-0.001 (0.044)	0.000 (0.044)	-0.050 (0.040)	-0.050 (0.040)
rel_imp	0.007 (0.027)			0.046 (0.038)	0.049 (0.038)	0.046 (0.039)	0.029 (0.043)	0.028 (0.043)	0.044 (0.039)	0.044 (0.039)
age		-0.013** (0.004)	-0.004 (0.005)	-0.003 (0.006)	-0.003 (0.006)	-0.003 (0.006)	-0.001 (0.006)	-0.001 (0.006)	-0.004 (0.006)	-0.004 (0.006)
femalenale		-0.250* (0.101)	-0.137 (0.123)	-0.222 (0.130)	-0.240 (0.131)	-0.263* (0.134)	-0.107 (0.149)	-0.106 (0.149)	-0.245 (0.135)	-0.242 (0.135)
education		0.148*** (0.029)	0.102** (0.035)	0.083* (0.038)	0.081* (0.038)	0.088* (0.039)	0.076 (0.044)	0.076 (0.044)	0.088* (0.040)	0.087* (0.040)
hispanic		0.401 (0.362)	0.589 (0.446)	0.523 (0.453)	0.381 (0.460)	0.333 (0.477)	0.705 (0.603)	0.705 (0.602)	0.294 (0.477)	0.315 (0.479)
notwhite		0.211 (0.161)	-0.035 (0.201)	0.054 (0.215)	0.056 (0.216)	-0.052 (0.220)	-0.180 (0.242)	-0.167 (0.242)	-0.080 (0.221)	-0.079 (0.221)
children		-0.237*** (0.059)	-0.173* (0.073)	-0.168* (0.075)	-0.167* (0.075)	-0.177* (0.076)	-0.134 (0.084)	-0.135 (0.084)	-0.166* (0.077)	-0.171* (0.077)
income		-0.000*** (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
ideol			-0.592*** (0.050)	-0.496*** (0.055)	-0.492*** (0.055)	-0.470*** (0.056)	-0.389*** (0.061)	-0.390*** (0.061)	-0.462*** (0.057)	-0.462*** (0.057)
democratYes			1.049*** (0.148)	0.987*** (0.154)	0.991*** (0.155)	0.918*** (0.158)	0.780*** (0.173)	0.774*** (0.173)	0.906*** (0.160)	0.906*** (0.160)
rel_evanYes					0.004 (0.151)	0.009 (0.153)	0.061 (0.170)	0.056 (0.170)	0.051 (0.155)	0.047 (0.155)
E_rate						0.106*** (0.024)	0.099*** (0.027)	0.099*** (0.027)	0.108*** (0.025)	0.108*** (0.025)
F_rate						-0.044 (0.024)	-0.034 (0.027)	-0.034 (0.027)	-0.046 (0.024)	-0.045 (0.024)
H_rate						0.031 (0.025)	0.055* (0.027)	0.057* (0.027)	0.036 (0.025)	0.037 (0.025)
I_rate						-0.018 (0.023)	-0.030 (0.026)	-0.030 (0.026)	-0.021 (0.023)	-0.020 (0.023)
nep							1.659*** (0.137)	1.872*** (0.246)		
rel_bible2Yes:nep								-0.313 (0.294)		
rule									-0.167*** (0.048)	-0.253** (0.093)
rel_bible2Yes:rule										0.116 (0.108)
Aldrich-Nelson R-sq.	0.1	0.0	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3
McFadden R-sq.	0.1	0.0	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.2
Cox-Snell R-sq.	0.1	0.0	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3
Nagelkerke R-sq.	0.1	0.0	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.4
phi	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Likelihood-ratio	134.4	63.2	574.3	450.3	444.3	474.2	661.3	662.4	490.0	491.2
p	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Log-likelihood	-1251.4	-1193.5	-856.5	-794.3	-785.7	-770.7	-645.6	-645.0	-756.1	-755.5
Deviance	2502.8	2387.0	1713.1	1588.6	1571.4	1541.4	1291.2	1290.1	1512.3	1511.1
AIC	2512.8	2403.0	1733.1	1616.6	1601.4	1579.4	1331.2	1332.1	1552.3	1553.1
BIC	2540.6	2446.9	1787.3	1690.8	1680.6	1679.8	1436.3	1442.4	1657.8	1663.9
N	1907	1786	1666	1475	1458	1458	1411	1411	1448	1448

**Chapter 4, Hypothesis 1: Logistic Regression
Results for Global Warming**

	<i>Dependent variable:</i>
	Global Warming
Age	-0.004 (0.006)
Female	-0.245* (0.135)
Education	0.088** (0.040)
Hispanic	0.294 (0.477)
Not White	-0.080 (0.221)
Children	-0.166** (0.077)
Income	-0.00000 (0.00000)
Ideology	-0.462*** (0.057)
Democrat	0.906*** (0.160)
Biblical Literalism	-0.352** (0.172)
Born Again	-0.085 (0.157)
Religious Frequency	-0.050 (0.040)
Religious Importance	0.044 (0.039)
Evangelical	0.051 (0.155)
Egalitarianism	0.108*** (0.025)
Fatalism	-0.046* (0.024)
Hierarchism	0.036 (0.025)
Individualism	-0.021 (0.023)
Dominion/Rule	-0.167*** (0.048)
Constant	2.294*** (0.568)
Observations	1,448
Log Likelihood	-756.127
Akaike Inf. Crit.	1,552.254
<i>Note:</i>	* p<0.1; ** p<0.05; *** p<0.01

**Chapter 4, Hypothesis 2: OLS Regression Results
for Certainty About Global Warming**

	<i>Dependent variable:</i>
	Certainty About Global Warming
Age	-0.008 (0.013)
Female	-0.715** (0.310)
Education	0.093 (0.092)
Hispanic	-0.511 (1.062)
Not White	0.486 (0.500)
Children	-0.482*** (0.176)
Income	-0.00000 (0.00000)
Ideology	-1.268*** (0.127)
Democrat	3.091*** (0.396)
Biblical Literalism	-1.316*** (0.406)
Born Again	-0.119 (0.372)
Religious Frequency	-0.127 (0.092)
Religious Importance	0.152* (0.085)
Evangelical	-0.056 (0.363)
Egalitarianism	0.303*** (0.056)
Fatalism	-0.048 (0.056)
Hierarchism	0.079 (0.057)
Individualism	-0.103* (0.054)
Dominion/Rule	-0.497*** (0.112)
Constant	6.975*** (1.303)
Observations	1,446
R ²	0.383
Adjusted R ²	0.375
Residual Std. Error	5.526 (df = 1426)
F Statistic	46.614*** (df = 19; 1426)
<i>Note:</i>	* p<0.1; ** p<0.05; *** p<0.01

**Chapter 4, Hypothesis 3: OLS Regression
Results for Risk From Global Warming**

	<i>Dependent variable:</i> Risk From Global Warming
Age	-0.004 (0.006)
Female	-0.354*** (0.131)
Education	0.002 (0.039)
Hispanic	0.209 (0.449)
Not White	0.241 (0.213)
Children	-0.123* (0.074)
Income	-0.00000 (0.00000)
Ideology	-0.530*** (0.054)
Democrat	1.055*** (0.168)
Biblical Literalism	-0.671*** (0.171)
Born Again	-0.189 (0.157)
Religious Frequency	-0.077** (0.039)
Religious Importance	0.094*** (0.036)
Evangelical	-0.001 (0.154)
Egalitarianism	0.168*** (0.024)
Fatalism	-0.020 (0.024)
Hierarchism	0.059** (0.024)
Individualism	-0.014 (0.023)
Dominion/Rule	-0.246*** (0.048)
Constant	8.233*** (0.550)
Observations	1,441
R ²	0.383
Adjusted R ²	0.375
Residual Std. Error	2.334 (df = 1421)
F Statistic	46.396*** (df = 19; 1421)
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01