

AN INVESTIGATION INTO THE RELATIONSHIP BETWEEN ENVIRONMENTAL  
CONSCIOUSNESS AND ATTITUDES TOWARD EVOLUTION AMONG U.S.  
CHRISTIAN CLERGY

by

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## **ABSTRACT**

### **An Investigation into the Relationship Between Environmental Consciousness and Attitudes Toward Evolution among U.S. Christian Clergy**

KT E. Aldridge

The purpose of this thesis is to better understand the relationship between current science-based issues (specifically the environment and evolution) and Christian beliefs in the United States. This study tests the hypothesis that another variable—acceptance of scientific authority— may exert more influence on a person’s attitudes toward evolution and environmentalism than adherence to biblical doctrine. A quantitative analysis of 666 surveys completed by U.S. Christian clergy members was conducted. The survey employed four dimensions of environmental consciousness (Cognitive, Affective, Dispositional and Active) and three dimensions of attitudes toward evolution (Acceptance, Perception of Conflict with Religion, and Knowledge). A multivariate correlation between the seven dimensions was performed, as well as demographic correlation analysis and a comparative analysis using general public poll data. Results determined that a 77% correlation exists between environmental consciousness and attitudes toward evolution in this sample group, which supported the hypothesis. A high correlation was found between acceptance of evolution and the view that no conflict existed between science and religion. In addition, it was found that pro-environmental behaviours were more closely linked to environmental values and intentions than to ecological knowledge. Significant differences between demographic groups were found in all factors tested: denomination, region, age, gender, education level, rurality and affiliation. When compared to the public, the Christian Clergy that were surveyed believed that there was less conflict between science and religion than the general public. The positive findings of this thesis highlight the importance of third variable studies regarding religion and socio-political issues. Future research is needed to investigate the theory that scientific authority has critical influence on religious and social matters, and what factors affect acceptance or rejection of scientific authority.

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## Preface

The motivation for writing this thesis came from a combination of various personal experiences regarding nature, religion and people's attitudes toward evolution. While there isn't enough time to divulge every encounter that has sparked or shaped my interest and relationship with these topics, I would like to provide a brief look into some of the critical influencing factors.

To begin, I grew up in the forested foothills of colorful Colorado in the company of an extremely adventurous and energetic family. Outside was a veritable playground of exploration regardless of the season. We hiked to the top of mountains, backpacked to hidden lakes, went sledding, explored ghost towns, and watched forest fires crest from a distance. My brothers and I played *Zelda* in the forest and built an assortment of tree-houses that my mom named the "Ewok Village." While many of our friends took summer trips to Las Vegas or New York City—to us—"vacation" was just another word for "taking-a-road-trip-to-hike-in-a-neighboring-state," and frequently entailed stopping by Yellowstone National Park...the epitome of nature's majesty and mayhem. These experiences granted me an immense appreciation of and fascination for nature and a fervent desire to understand how our environment functions.

A second passion throughout my life has been the study of language, culture and religion, which has been inspired and enriched by the plethora of diverse traditions I have encountered. My maternal grandparents were raised a mixture of Southern Baptist/Pentecostal and Presbyterian, but have attended primarily evangelical churches. My paternal grandfather was a Masonic Grand Master and my step grandmother was high ranking in "the Order of the Eastern Star." In order to pay for college, my dad—a non-practicing protestant—worked in the uranium mines in Monticello, Utah for seven years. During this time he was introduced to the spiritual superstitions of miners, as well as the myths and traditions of the Mormons and Navajos with whom he worked. My mom considers church singing John Denver's "Rocky Mountain High" in an aspen grove, and my younger brother and I share an interest in the study of 7<sup>th</sup> century Northern and Western European religions, as well as modern Buddhism. The accumulation of these myriad traditions led to countless stories and imparted a deep respect for and interest in religion and culture.

Regarding the origins of the universe, I must admit that it is a subject by which I have never been particularly captivated. This is likely a result of a non-traditional education and familial indifference. My K-12 schooling incorporated public school classes and sports, academic co-op field trips and events, private enrichment programs, community college courses, and at-home curricula. At no point during instruction was "the Theory of Evolution" ever mentioned, nor was any specific rationale for existence ever presented. The concept of a "divine creation" or "creating force" may have been referenced in passing, but never directly discussed. Emphasis was always placed more on the knowable past and present and possible future than on the incredibly distant and unknowable past.

At the age of 12, I had my first encounter with “evolution”...although I didn’t know it at the time. For several years during middle school and the first half of high school my family attended a non-denominational community church. For one of the youth productions, my class put on a skit of “History’s Heroes and Villains” in which each person recited a rhyme explaining the “praiseworthy” or “malevolent” deed done by his or her character. Some examples of characters included Abraham Lincoln and Lizzie Borden. However, as the segments of history chosen included more men than women, and the class contained more girls than boys, some girls were obliged to play men. I was excited by the challenge and even chose the costume with the “crazy-scientist” bald cap. It turned out that I was going to play villain “Darwin”...I had no idea who Darwin was. When I asked what the guy had done to earn a place next to a homicidal ax murderer the youth pastor responded, “He tried to use science to disprove the existence of God.” I remember thinking how bizarre an endeavor that must have been given the impossible task of quantitatively assessing something non-material. Years later I came across the story of Darwin’s finches, and started reading into the evidence for micro- and macro-evolution. This ignited a third fascination—not with evolution, as one might assume—but with people’s varied interpretations and reactions to certain subjects based on their religious and cultural backgrounds.

Given the importance of these experiences on my life, when given the opportunity to do primary research I wanted to do a project that furthered knowledge and understanding of these subjects. I had wondered for years whether any sort of meaningful connection existed between Christianity and a person’s attitudes toward the environment and evolution; I am extremely grateful to the MES program for providing me with the freedom and resources to undertake this project and to all of the faculty and students who supported me in this endeavor.

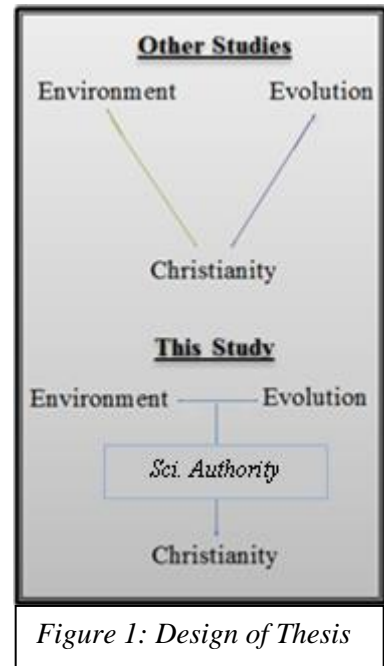
## **Introduction**

Science and Religion play pivotal roles in American society, politics and culture and frame the way in which we, as individuals and groups, gather and assess knowledge throughout our lives. The knowledge we acquire informs our beliefs and behaviours which exert a significant impact on the social, political, and ecological world around us. Better understanding of the complexity and interactions between scientific issues and religion is critical to creating cooperative and effective communication amongst individuals in these fields, and discovering solutions to our domestic and international social and ecological problems.

This thesis investigates the modern relationship between environmental consciousness and attitudes toward evolution, within the context of Christianity, and seeks to further understand the connection between the factors that comprise these attitudes and beliefs and to determine whether differences exist amongst the various denominations regarding these subjects.

The preponderance of literature and research concerning science and religion (specifically environmentalism, evolution and Christianity) began in the 1960s and has examined the influence of Christianity on environmental consciousness and the influence of Christianity on views of evolution; these inquiries have yielded varying results. More recently, empirical studies have begun to depart from a strict two-variable model and started to hypothesize that a “third variable,” outside of adherence to Christian doctrine, might be affecting beliefs. Therefore, instead of looking discretely at the each of these subjects and their relation to Christianity, I hypothesize that a third variable—such as acceptance or rejection of scientific authority—might hold more influence on a person’s

attitudes toward evolution and environmentalism than adherence to biblical beliefs (Figure 1). Acceptance or rejection of scientific authority is proposed as a possible connecting factor as scientific evidence plays a critical role in the fields of ecology and biological evolution. While the connection between evolution and science might be more apparent, I hypothesize that a person's attitude regarding the strength of scientific evidence for environmental impacts may also exert influence over that person's views of nature and environmental behaviors.



*Figure 1: Design of Thesis*

In order to investigate this theory, 666 United States Christian clergy members completed surveys containing questions related to four dimensions of environmental consciousness (Cognitive, Affective, Dispositional and Active) and three dimensions of attitudes toward evolution (Acceptance, Perception of Conflict with Religion, and Knowledge). Answers were given weights and were averaged to produce a score for each dimension. Higher scores were associated with greater pro-environmental attitudes and greater “acceptance” of evolution. A multivariate correlation was performed between all seven dimensions, as well as between overall environmental and evolution scores. In addition to correlation analysis, responses to questions employed in other nationwide surveys and polls were compared using percentage data, and a quantitative assessment was conducted using responses to open-ended questions related to interpretation and influence of biblical verses and themes on attitudes toward the environment and evolution.

Analysis of results determined that a 77% correlation exists between environmental consciousness and attitudes toward evolution in this sample group. This link supports the hypothesis that these topics are likely independent from Christianity and may be more strongly associated with an individual's attitudes toward science or scientific authority. In addition, it was discovered that acceptance of evolution was more positively correlated with a person's perception of philosophical conflict between Religion and Science than on understanding of evolutionary principles. Similarly, pro-environmental behaviours were more linked to a person's environmental values and intention than to ecological knowledge. There were notable differences between the 12 denominations surveyed<sup>1</sup>. Episcopalian, Congregational, Methodist and Catholic consistently ranked above average on pro-environmental and pro-evolution attitudes, whereas, Non-denominational, Evangelical, Baptist and Pentecostal scored significantly lower for both environmentalism and evolution categories. Lastly, when compared to the public, the Christian Clergy surveyed, in general, believed that there was less conflict between Science and Religion than the public.

This thesis is one of the first steps toward better comprehension of the relationship between environmentalism and evolution within a religious Christian mindset. Future research would benefit from a more detailed analysis of respondent's environmental and evolution knowledge as well as assessment of other factors related to overall views of scientific authority. In addition, efforts should be made to ensure that an equal ratio of progressive and conservative churches within all 12 Christian denominations are represented.

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<sup>1</sup> Religious denomination was self-reported.

## **Literature Review**

In order to provide a contextual background into the subject matter related to questions investigated and discussed in this thesis, the following section includes three discrete parts which explore topics central to discussion. Part One offers a brief overview of the important interactions between Science and Religion, as well as past and present relations between Christianity and environmentalism and evolution. Part Two examines biblical text to determine whether biblical doctrine provides a consensus regarding attitudes toward nature or creation. Part Three assesses empirical research studies that have been conducted using the variables of religion (Christianity) and environmental attitudes or behaviours, and religious-factors affecting opinions regarding evolution.

### **Part One: The Historical and Contemporary Relationship between Christianity, Evolution and the Environment**

The following information presented in this review was selected in order to supply a contextual background of the complex field of Science and Religion, and to situate modern perceptions and events that are vital to understanding the relationship between Science and Religion. This historical review is meant to be neither exhaustive nor conclusive, but, rather, provide an overview of the major interactions and perceptions throughout history regarding Christianity, Nature and Evolution, as well as offer insight into the philosophical rationale for these interactions. This chapter examines Russell's (2000b) account of historical Christian views of "Nature," areas of contention, and distinctions between Religion and Science. This brief background is followed by

discussion regarding environmentalism within the modern Christian Church, and analysis of the historical and contemporary Christian response to Evolution.

### **Historical Christian Views of Nature**

Throughout the millennia, the Christian European view of nature has been marked by three fundamental shifts which have exhibited profound impact on societal, political, religious and cultural structures of historic civilizations, as well as on contemporary western societies. These three main views of nature are divinity, organism, and mechanism. It is impossible to determine at exactly what point in time societal views, as a whole, shifted from one paradigm to another, as there is considerable overlap and difference regarding regional and individual beliefs. This historical review of the changing Christian world-view of nature is not meant to provide a comprehensive review of past events, but rather to illuminate the major changes in Christian and religious thought that have influenced the modern relationship between Christianity and Nature.

#### ***Divinity***

During the early periods of human history and the pre-Christian era, the predominant world-view of Nature was that it was “divine” in its own right. To Egyptian and Babylonian peoples and throughout Mesopotamia the heavenly bodies were not regarded as a mere reflection of the creator, but as the creating power itself. Mesopotamians worshiped “Anu” or “the heavens” as the highest ruler. Egyptians worshiped celestial figures such as “Helitropis” and the all-powerful sun God “Ra,” along with the earth God “Nintu,” which translates to “the lady who gives birth” (Frankfort &



Frankfort, 1951). In Egypt and Mesopotamia the heavens signified the mystery of the divine mother through whom man was reborn, and the divine was comprehended as immanent; the gods were in nature (Frankfort & Frankfort, 1951). The religious pantheons of the pre-Christian Norse, Greek and Roman peoples reflect the prevalence of the combination of nature and god-figures, such as “Zeus”, “Poseidon”, “Jupiter”, Neptune”, “Sol” and “Thor” whose names represented both the physical and mystical elements of the sun, sky, and sea. However, following the Christianization of Europe (c. 4<sup>th</sup> century), the sentiment of a “divine” face of nature was replaced with tenets adhering to the Hebrew Scriptures which denounced the “worship of ‘the queen of heaven’ and of the gods of the forest grove” (Russell, 2000b), and, instead, called for monotheistic worship of a singular creator “Yahweh.” Hence, monotheism became integral to the Judeo-Christian tradition and worship focused on the “creator of nature and not nature itself.” This concept appears in Psalm 29 of the Christian Bible which states, “the heavens declare the glory of God; and the firmament showeth his handiwork.” Despite dramatic and mostly successful efforts to replace polytheistic traditions with Christianity, Greek pantheism persisted long into the Middle Ages (c. 5<sup>th</sup>-15<sup>th</sup> centuries) and continued to affect European attitudes toward nature. In the 13<sup>th</sup> century, Aristotelian natural philosophy—with its emphasis on the systematic explorations and explanations of natural phenomena—rose to favor among European scholars and society. Although the renaissance period of the 14<sup>th</sup>- 17<sup>th</sup> centuries saw a reemergence of Neo-Platonism sentiments among Westerners which “gave rise to a philosophy that was in essence pantheistic” (Russell, 2000b), future “deifications” of nature were more an attribution of “spirit” than “divinity.” Today, this deification of the earth is still to be encountered in

many cultures that have been relatively untouched by the ideologies of the West (Russell, 2000b); however, following the 17<sup>th</sup> century “Nature” was effectively and permanently de-deified in the Western mind.

### *Organism*

Following the “de-deification” of Nature in Christian Europe, a new paradigm prevailed for nearly 1,500 years which regarded nature not as divine, but as having a separate inner life force or intrinsic “spirit.” Organism held that “the world was alive with influences, occult forces, and mysterious powers” (Russell, 2000b). The Greek philosopher Plato (c 427-347bc) embraced an organic view of nature that endowed the universal cosmos and all things within with a “psyche,” which referred to a soul-like energy that animates all objects with a life force. Theologian Origen (c. 185- 251 A.D.) even stated that “heavenly bodies had their own ‘intelligences’,” for which he was later condemned by the church in 553 A.D. Others still vacillated with the idea of organism such as Augustine of Hippo (354-430 A.D.) who could not decide whether “this world of ours is animate, as Plato and many other philosophers think,” but that “I do not affirm that it is false...but do not understand it to be true” (Dales, 1980). The popularization of Old Testament teachings had worked to remove divinity from nature, and the early church was not entirely assenting to the idea of a life-force in the natural world even though this was a widely accepted notion amongst philosophers and scholars. However, throughout most of the middle ages the ideas of the Christian Church became almost inextricably bound up with those of Aristotle and Plato, and this organismic view of nature persisted at almost every level of European society (Russell, 2000b). In c. 1224,

Saint Francis of Assisi (1181-1226 A.D.) composed his famous song, “Canticle of the Sun,” which praised the Christian God as well as personified nature as God and man’s holy companion: “our sister waters, our brother fire and our mother the earth...bringeth forth diverse fruits and flowers of many colors and grasses” (St. Francis, 1224). The late middle ages and the Renaissance witnessed the re-appearance of the ancient Mesopotamian term (c. 2000 B.C.) “Mother Earth,” which Assyriologist Thorkild Jacobsen notes convey the notion of the earth as a “living and sexualized organism.” The image of Mother Earth pregnant with every kind of embryo preceded the image of nature”(Eliade, 1962). Even the physician to Queen Elizabeth stated once that “this glorious earth” had a soul and “the impulse of self-preservation” (Gilbert, 1952). The idea of the universe, the earth and nature as a changing, growing and living entity or organism endowed with qualities of sentience, which had persisted through the middle ages, was, henceforth, steadily replaced with the concept of “Mechanism.”

### ***Mechanism***

The arrival of “mechanism” amongst the European elite effectively eliminated the concept of “spirit” from nature much in the same way that organism had excluded the belief in nature’s “divinity.” Mechanism, as the name implies, took the viewpoint that the universe did not “live” but instead “operated” like a mechanism or machine. It involved the law-like behaviour of nature, of its openness to new kinds of rational inquiry and the moral rectitude of investigating is for the glory of God and the relief of man’s estate (Russell, 2000b). The “laws” observed in nature were regarded as an expression of the will and providence of the divine creator. The scholars of the time rapidly adopted

this new model. In 1543, Copernicus wrote that “the machinery of the world, which has been built for us by the best and most orderly Workman of all.” In 1605, Johannes Kepler (1571-1630) switched his animistic viewpoint to that of a mechanism philosophy stating that “to show that the celestial machine is to be likened not to a divine organism, but rather to clock-work” (Westman & McGuire, 1977). Many Christians were readily accepting of this concept as the presence of a “watch” necessitates and implies the existence of the “watch-maker.” Catholic scientist Rene Descartes (1596-1650 A.D.) regarded “the pursuit of mathematical and mechanical science a divine vocation” (Russell, 2000b). Puritanism and the Royal Society established in 1660, promoted this mechanical view of nature, and the field of “Natural Theology” emerged as a method for better understanding the nature and will of God through the study of his creation. Throughout the 1770s, other theological groups, Anglicans and dissenting academics promoted Newtonian mechanism (Russell, 2000b). As advancements in scientific inquiry progressed the idea that unexplainable phenomena were being directed by an intelligent divine force became increasingly obsolete. With expansion of knowledge these “God Gaps,” which had been used occasionally by scholars such as Isaac Newton (1643- 1727 A.D.), closed. By the 1850s this mechanical view of the universe was practically ubiquitous in physics and was becoming ever-more present in biology, geology and chemistry. However, this new paradigm was met with some resistance. Certain philosophers such as Henry More (1614-87 A.D.) and Ralph Cudworth (1617-88 A.D.), were fearful that the exclusion of a “mystic quality” to nature would lead to a materialistic and reductionist view of a universe made up of law-bound atoms which would inevitably lead to atheism. Neither Descartes, nor his critics, were necessarily

incorrect in their excitement or worry regarding the effect of mechanism on religion.

With time, mechanism was both a friend and a foe to Christianity. Although likening the natural world to a machine did imply the presence of a “maker,” it also led to speculations of a deterministic and self-sufficient universe that did not require divine guidance. Furthermore, it was feared that perceiving the world as a mechanism could lead to irreverence toward the sacredness of creation, as machines can be abused and destroyed with impunity; whereas, something living merits respect and reverence.

Whether this shift in the view of nature led to environmental abuse or atheism in Europe is debatable. However, it is clear that the mechanism period was a final step in the “de-animation” and “de-spiriting” of nature. Russell (2000b) notes that these three historical views of nature have helped shape our current perceptions of the purpose and function of nature; while historically these “three views of nature overlapped...they have only become a competing problem in the 20<sup>th</sup> century.”

## **Religion and Science**

### ***Perception of Conflict***

In the “The History of Science and Religion in the Western Tradition,” Ferngren (2000) states that “the history of science has often been regarded as a series of conflicts between science and religion (usually Christianity), of which the cases of Galileo Galilei (1564-1642) and Charles Darwin (1809-1882) are merely the most celebrated examples.” Indeed, such conflict appears to be endemic in the historical process, and has become an embedded perception in Western culture. This idea of a persistent struggle between science and religion has been described as a “conflict thesis”, a “military metaphor” of a

“warfare model.” However, this “conflict thesis” was introduced into societal discourse in the 19<sup>th</sup> century following the release of literary works such as “History of the Conflict Between Religion and Science” (1874) by John William-Draper, “A History of the Warfare of Science with Theology in Christendom” (1896) by Andrew Dickson White and later, “The Struggle between Science and Religion” (1925) by James Young Simpson. For more than a century, “the Draper-White Thesis,” which supported the notion of mutual hostility between science and religion, has become routinely utilized in popular writing and the media and propagated throughout society as a whole. However, is such a view of historical or modern conflict between science and religion accurate? To respond to this question, it is necessary to examine the fundamental components of contention and how science and religion interact.

## **Issues of Contention between Science and Religion**

### ***Primary Areas of Conflict***

There are four common areas where science and religion are set at odds. The first is the question of whether the epistemological difference between science and religion can be integrated. When Copernicus (1473-1543 A.D.), and later Galileo Galilei (1564-1642 A.D.) and Johannes Kepler (1571-1630 A.D.), published works supporting a heliocentric model of the universe, this idea conflicted with the biblically-based world-view of a geocentric universe maintained by the Catholic Church. Other advances in science were seen as a potential threat to the authority and infallibility of the church and the Bible, especially where science had a historical content, such as geology or biology (Russell, 2000a). This conflict was most notable following the publication of Darwin’s

Origins of Species in 1859 as it was seen to be in direct opposition with the Biblical account of earth and human creation.

The second area concerns the methodology inherent in science and theology. Science is based on factual evidence, whereas theology derives knowledge from faith and spiritual revelation—except in the case of Natural Theology. This difference in acquisition of knowledge was not as pronounced in the past. During the middle ages when an otherwise inexplicable phenomena was encountered, an appeal to divine purpose was frequently given as an explanation. This practice eschewed tension with the church as deficiencies in scientific inquiry were seen as evidence for a divine force. However, as these phenomena were explained, evidence for a guiding force decreased.

The third area involves ethics and the "application of science." In Victorian times, the church maintained opposition to Darwin's theories on the grounds that such information would lead to "the Law of the Jungle" and society would undergo an abandonment of the ethical constraints that maintained a civilized order. In this way, contemporary science has experienced friction with religion regarding scientific ventures that involve elements of morality such as genetic engineering, nuclear power, proliferation of insecticides, vaccination, anesthesia and more recently abortion and stem-cell research.

The fourth area of conflict relates to the struggles over social power. Over the centuries science-based ideologies were in contention with conservative political and ecclesiastical forces (Russell, 2000a). This can be seen throughout the 19<sup>th</sup> century British Anglican attacks on science as it undermined the church's position of authority that was granted through the knowledge of the Scripture. In response to this onslaught

many scientists, including Biologist Thomas Henry Huxley (1825-1895 A.D.), sought to overthrow English church hegemony through the furtherance of science in society. Science first became professionalized in 1877 with the establishment of the Royal Institute of Chemistry. Continued effort by scientists to improve the position of science by moving science from the periphery to the center of English Life widened the polarity between the sacred and secular in Catholic cultures in continental Europe (Heyck, 1982). Although numerous philosophical differences and historical accounts seemingly support the “conflict thesis,” it has been argued that the events on which the notion of conflict is based have been over-exaggerated and the situations in which no conflict has arisen have been omitted. Numbers (1985) notes that “the war between science and theology has existed primarily in the cliché-bound minds of historians.”

### ***Weakness in the “Conflict Thesis”***

Several limitations to the idea that science and religion are diametrically opposed have been noted, including the fact that throughout history science and religion have displayed a multitude of relationships toward each other with differing degrees of engagement. On numerous occasions it can be argued that both have been either largely independent, or even encouraging of one another. Recent scholarship has demonstrated the complexity of the issues at stake in even these cases, with ecclesiastical politics, social change, and personal circumstances as relevant as questions of science and religion (Russell, 2000a). Christianity played a vital part in impassioning and fostering philosophical and scientific endeavors for scholars such as Francis Bacon (1561-1626



A.D.), Johannes Kepler (1571-1630 A.D.), Robert Boyle (1627-1691 A.D.), Isaac Newton (1643-1727 A.D.), and Rene Descartes (1596-1650 A.D.).

Another complexity to the relationship that seems to be frequently overlooked is the times when Christianity and scientific exploration operated in alliance. Galileo is quoted as having said that “I do not feel obliged to believe that the same God who has endowed us with sense, reason, and intellect has intended us to forgo their use.”

Throughout the 17<sup>th</sup> and 18<sup>th</sup> centuries, individuals such as Robert Boyle (1627-1691 A.D.), Isaac Newton (1643-1727 A.D.), Blaise Pascal (1623-62 A.D.), Marin Mersenne (1588-1648 A.D.), Pierre Gassendi (1592-1655 A.D.), and Isaac Beeckman (1588-1637 A.D.) integrated science and religion. This trend of integrating science with elements of religion continued into the 19<sup>th</sup> century with scientists such as Michael Faraday (1791-1867 A.D.), James Joule (1818-1889 A.D.), James Clark Maxwell (1831-1879 A.D.), William Thomson (Lord Kelvin 1824-1907 A.D.) and George Gabriel Stokes (1819-1903 A.D.), who advanced scientific knowledge in their various fields with respect to Christian theological teachings. The entire field of Natural Theology, which combined elements of Christian theology with the natural sciences, led to extensive exploration during the 16<sup>th</sup> -19<sup>th</sup> centuries.

A final observation regarding weaknesses in the “conflict thesis” is the evidence that during the periods when science and religion seemed to be at the height of tension, disputes were rarely, if ever, universal between science and all of Christianity. Scientific claims were met with a variety of responses. For instance, while the Roman Catholic Church condemned Galileo and his teachings, protestant clergy remained largely uninvolved in the dispute. Following the publication of Darwin’s *Origins of Species*, the

high and low denominations of the Anglican Church presented various responses to Darwin's theories. In brief, although the perception of conflict between science and religion exist in the present collective cultural mind, this is largely due to an oversimplification of philosophical complexities and an exaggeration and generalization of certain historical events. Brooke (1991) notes that "the dependence of the conflict thesis on legends that, on closer examination, prove misleading is a more general defect than isolated examples might suggest." To better understand the multi-faceted nature of the relationship between science and religion, it is necessary that one not only analyze the interactions between the two, but determine the elements that define science and religion.

### *Distinctions and Correspondences*

The definitions inherent to Science and Religion can help explain the lack of a consistent historical, regional, or denominational relationship between science and religion. Neo-orthodox theologian Karl Barth (1886-1968 A.D.) stated that Science and Religion—isolated from their cultural and traditional aspects—have different goals and different objects of interest, study and worship. Science employs empirical and rational investigation to study the natural world, whereas Religion relies on self-revelation and supernatural observation to inform human knowledge. This epistemological difference between Science and Religion has been widely accepted as a critical distinction and referred to as the "fundamental" difference between Science and Religion by existential philosophers such as Soren Kierkegaard (1813-1855 A.D.) and Martin Buber (1878-1965 A.D.). "Scientific knowledge is impersonal and objective, whereas religious knowledge is personal and subjective" (Meyer, 2000). Two models proposed to explain the

divergent qualities between Science and Religion include “compartmentalism” and “complementarity.” The first concept, “compartmentalism,” was suggested by Søren Kierkegaard and holds that the two fields are unrelated because they “inevitably offer different types of descriptions of different realities.” This concept of separate domains between was strongly echoed in Gould’s (1999) theory of “Non-overlapping Magisteria,” which holds that Science and Religion exist in separate domains of “fact” versus “values.” The second concept of “complementarity” put forward by Donald M. Mackey in the 1970s proposed that while Science and Religion may sometimes speak about the same realities, the two always describe reality in categorically different but “complementary” ways. However, while adherence to these models would theoretically circumvent friction in the Science and Religion debate, that has not always proved to be the case; therefore, the limitations to these models must be discussed.

To start, both models deny the possibility of either conflict or specific agreement between Science and Religion by arguing that they exist in completely discrete circumstances. However, philosophers including Alvin Plantinga, Roy Clouser, and J.P. Moreland have questioned the “strict separation” of the two fields and claimed that the two cannot be thought of as operating in separate spheres (Russell, 2000a). One prominent feature shared by Science and Religion is that they make “truth claims,” and while many religious subjects do not concern natural science, there is substantial overlap in certain areas where scientific theories may be taken as either supporting or contradicting religious doctrines. Topics of agreement have included the Biblical history of Israel being supported by archeological discovery, cosmological evidence supporting theological conceptions of creation, and neuro-physiological evidence understandings of

human consciousness. However, topics of potential contention involve, for example, the origin and nature of the cosmos, history of human cultures, and the nature of religious experiences (Russell, 2000a). This overlap has led to opposition regarding certain topics, the most prominent of which is the creation versus evolution debate (court cases discusses on p. 41). This particular topic moved beyond a strictly theological versus scientific discussion at the emergence of “creation science,” which attempts to gather scientific evidence in order to “prove” or “support” the Genesis creation story. However, at the 1981 Arkansas Trial involving the teaching of “creation science,” Michael Ruse (a well-known philosopher of biology) provided five demarcation criteria as the basis for excluding creationist theory from public education (Russell, 2000a). He asserted that in order to be considered “science” a subject must be 1) guided by natural law, 2) explainable by natural law, 3) testable against the empirical world, 4) tentative, and 5) falsifiable. Under these criteria Creation Science might be true, but it could not be labeled as scientific. Judge William Overton agreed to the opposition of teaching of Creation Science on these grounds. Although Creation Science is not widely accepted as scientifically valuable, since it reverses the scientific process by starting at a conclusion and searching for supporting evidence for that conclusion, these five demarcation criteria are not absolutely accurate qualifiers of Science. For example, both evolution and creationism are historical theories about past causal events which are not explained exclusively by natural law as “Descent with Modification” is a hypothetical pattern of historical events that “could account for a variety of currently observed data” (Russell, 2000a).

This historical and contemporary adherence to a literal or even symbolic interpretation of biblical passages has been countered with increasing Neo-Darwinism and positivism tenets such as the idea that “the scientific method is the only means of acquiring anything that can be called knowledge” (Copleston, 1985) and that “Man is the result of a purposeless and natural process that did not have him in mind” (Simpson, 1967). Other scholars such as Francisco Ayala, Stephen Jay Gould, William Provine, Douglas Futuyma, Richard Dawkins, and Richard Lewontin claim that creation was an exclusively naturalistic mechanism with no direct intelligence as organisms only "appear" to have been designed (Russell, 2000a). Overall, it is difficult to accurately articulate the definitions of and distinctions between Science and Religion, especially as both are central in modern culture. As Professor of Communication James Keaten once said, “Definitions do not exist in books, they exist in people.” The complex nature of the relationship between Science and Religion encompasses elements of compartmentalism, complementarity, and conflict, yet, the latter seems to remain at the forefront of public thought. To explain this phenomenon, Ferngren (2002) writes that, “the remarkable thing about the whole ‘conflict thesis’ is how readily the Victorian propaganda, in all of its varied forms, has become unconsciously assimilated as part of the received wisdom of our own day.”

### **Christianity in the 20<sup>th</sup> and 21<sup>st</sup> Centuries**

Into the 20<sup>th</sup> and 21<sup>st</sup> centuries, the interaction between Science and Religion continues to be fraught with complexity and extreme variation. In 2012, 77 percent of the United States population self-identified as belonging to a Christian denomination

(Newport, 2012), which makes the nature of the relationship between Science and Religion (in this case Christianity) exceedingly important socially and politically. Currently, in the United States, two of the most politically charged topics revolve around Climate Change and Evolution, and religious appeals abound in the dialogue surrounding these topics. Therefore, we—as a society—must be critical of the influence that religion not only has on the acceptance of science, but also the influence that scientific data exerts on Christianity.

### **20<sup>th</sup> Century Christianity and the Environment**

As society progressed into the mid-20<sup>th</sup> century, concern regarding the environmental devastation that was being observed grew drastically. The United States Environmental Protection Agency (EPA) was established in 1970 in response to Rachel Carson's ground-breaking book "Silent Spring" (1962), which exposed the ecological dangers of U.S. toxic chemical and pesticide use. The first Earth Day was held on April 22<sup>nd</sup> in 1970 and overall awareness of negative effects humanity was having upon our environment increased exponentially. Amongst the proliferation of discourse and publications regarding concerns, solutions, responsibility and culpability, was Lynn White's 1967 publication "The Historical Roots of Our Ecological Crisis," which remains, to this day, one of the most significant and critical events in the ignition of the discussion regarding Christianity and the environment.

In his publication, Lynn White blatantly attributes the Western ecological crisis to the widespread dominance of Christianity, claiming that Christian beliefs have directly led to the de-valuing and destruction of nature. White argues that the unrivaled level of

anthropocentrism in Christianity is the core cause for society's environmentally detrimental values and actions, along with Christianity's establishment of a "dualism of man and nature" and a "mastery attitude of dominion." Following this claim, White calls for a fundamental change in the Western dogma of indifference toward nature by saying that, "more science and more technology are not going to get us out of the present ecologic crisis until we find a new religion, or rethink our old one." This idea that Christianity has been the "root" cause of the West's ecological deviation has become known as "the White Thesis" and has sparked more debate and empirical inquiry into the subject of Christian views of the environment than any other publication in the last 50 years. "The White Thesis" prompted immense interest and response from the public as well as scholars. Much of this response and empirical research was supportive of the idea that Christianity was anti-environmental in nature and, in the almost 50 years since its original publication, hundreds of books and articles, most of them by eco-theologians, have been written as a direct response (Riley, 2012). Francis Shaeffer (1970) described White's thesis as "a brilliant article" that he "believed it is completely right." Architect Ian McHarg (1969) wrote that "dominion and subjugating must be expunged as the biblical injunction of man's relation to Nature." Conservationist Max Nicholson (1970) similarly argued that, "the first step for responsible environmental care must be plainly to reject and to scrub out the complacent image of Man the Conqueror of Nature, and of Man Licensed by God to conduct himself as the earth's worst pest." Mac Oelschlaeger in "Caring for Creation" wrote that "For most of my adult life, I believed, as many environmentalists do, that religion was the primary cause of ecological crisis...I was a true believer." In 1990, Weiskel, at the Harvard Divinity School, stated that "A major

thrust of all three Abrahamic religions—Judaism, Christianity and Islam—is...an emphasis upon a sense of exceptionalism. Whether grounded in covenant or confession, these religious traditions emphasize their apartness ... from nature itself.” However, although White’s thesis initially received support, it has since merited a considerable amount of criticism. Glacken (1970) concluded that associating western religious traditions with mastery over nature and eastern ones with harmony and union with nature was overly simplistic. Sheldon (1992) summarized that “the consensus is that White’s and McHarg’s scriptural analysis is deficient and thus their conclusions faulty. They based their case primarily on the single passage in Genesis dealing with dominion and failed to consider the numerous other scriptural teachings on the concern, love and care of Creation.” In addition, White overlooked the fact that ecological damage existed in pre-Christian Europe (i.e. Mediterranean deforestation), and there is also found "the idea of man's mastery over nature in Marxist thought [and in] so much of contemporary China" (Glacken, 1970) even though Christianity has never been the dominant ideology of the region. White also fallaciously assumed that Biblical interpretation of the Genesis Creation story solely promoted a view of dominion and mastery over nature. However, in numerous instances it has been shown that varying interpretations of this passage can lead to stewardship of the environment and attitudes of a “sanctified Nature,” which provokes reverence and respect (Tarakeshwar et al., 2014). The strategy of stewardship appeals to biblical mandates to care for, watch over, cultivate, govern, and/or improve the earth “on behalf of god.” (Reichenbach & Anderson, 1995). Stewardship emerged as a discrete theological discourse in the 1980s, supporting a public Christian environmentalism especially associated with evangelical Protestantism. (Jenkins, 2008),



and framed environmental issues and concern for environmental problems around obligatory service to the creator, who entrusts to humans measured responsibilities for creation (Jenkins, 2008).

In the decades following White's publication, scholars were not the only group to react. The 1970s through the 1990s saw an unprecedented number of religious organizations publically declare concern for the environmental situation. After the initiation of the North American Conference for Christianity and Ecology (NACCE) in 1986 (an organization dedicated to the Christian Environmental movement), Christian theologies began to frame environmental problems on their own terms, sometimes at variance with mainstream environmentalism, and to describe uniquely Christian forms of response (Streffert, 1989). One of the most vital initiatives was undoubtedly the 1983 establishment of the Justice, Peace and the Integrity of Creation Programme (JPIC) of the World Council of Churches (Gosling, 1992). The JPIC's addition of the need for "maintaining the integrity of creation" to its programme of pursuing peace and justice, in turn, provoked the meeting of clergy at the Au Sable Institute in 1992, which led to the creation of the Evangelical Environmental Network (EEN) in 1993. The next year the "Evangelical Declaration on the Care of Creation" (1994) was released. The "Declaration" emphasized that the "Earth belongs to God and that we are responsible to him for it," set out five Christian affirmations revealing the "discernable violations of creation," identified four spiritual responses and ultimately calls upon "all Christians to seek to apply these responses in specified ways." By 1990, Carl Sagan and a consortium of scientists had issued their "Open Letter to the Religious Community" which was an appeal for joint commitment in science and religion (Jenkins, 2008). Leading evangelical

liberals and prominent mainstream figures, such as Billy Graham, pushed for greater environmental awareness (Campolo, 1992). Catholicism began joining the environmental movement with Pope John Paul II and leaders from the U.S. National Conference of Catholic Bishops becoming increasingly outspoken on the environmental responsibilities of both the faithful and their governments (Guth et al., 1995). The 1992 Bishops Conference joined hands with mainline Protestants to address environmental concerns from an ecumenical perspective (Goldman, 1993). The majority of mainline Protestant denominations in the National Council of Churches' official policies on the environment were released at this time (Guth et al., 1995). However, although great strides toward solidifying a Christian stance of stewardship were made, many theologians and church leaders responded variously to the movement with some embracing the "environmental spirituality," while others have virtually ignored or even rejected ecological concerns (Guth et al., 1995).

### **21<sup>st</sup> Century Christianity and the Environment**

Despite the efforts of numerous Christian churches to set a precedence of environmental concern and stewardship in the minds of the public, the generalized perception that Christians are not concerned about the health and sustainability of the environment persisted into the new millennia. The largest shift in religion was not that of changing attitudes of perception, but that of changing religion. The late 20<sup>th</sup> century saw the growth of a movement to revert to the idea of an organic or even a divine nature in the face of increasing awareness of our environmental crisis (Russell, 2000a); a movement whose roots can be traced back to the reevaluation of social norms and

changing mindsets of the 1960s. Kearns (1996) observed that “in a period both of church declarations on social issues and of growing secular environmental concern, religious ecological voices were present, yet few. Thus it became common wisdom that the environment was a secular concern.” This paired with the “misrepresentation of the Christian faith as uncaring of creation” played a part in diverting people toward other belief systems – Eastern religions—that were supposedly “kind” toward nature, and New Age in its various manifestations (Berry, 2000). In 2012, the U.S. Census Bureau reported that between 1990 and 2008 Neo-Pagan religions were the fastest growing religion in the U.S. with the number of self-identified pagan, wiccan or spiritualists rising from 8,000 in 1990 to 390,000 in 2001 and 1,108,000 in 2012 (U.S. Census Bureau, 2012). Sociologists have attributed this resurgence in “New Age” pageantry to the perception during the 1980s and 1990s that Christianity is not a pro-environmental ideology or community. However, recently, public image of the Christian Church as anti-environmental has been shifting in the past few years in response to the election of Pope Francis who, since his appointment in 2013, has been outspoken on numerous progressive issues—notably, the environment.

Pope Francis, whose name reflects Saint Francis of Assisi, the patron saint of animals and the environment, has made the promotion of environmental consciousness and concern for Climate Change a predominant feature of his papal career. Throughout his countless speeches are appeals to the protection of the environment with statements such as, “creation is not a property, which we can rule over at will...Creation is a gift” (Francis, 2014b), “Our failures in love and respect toward God...toward the whole of creation” (Francis, 2013a), “our environment, which all too often, we exploit greedily, to

one another's detriment" (Francis, 2013b) and "these days we do not have a very good relationship with creation, do we?" (Francis, 2013c). Pope Francis's words also reflect aspects of the organism view of nature with many quotes personifying nature and granting a feminine quality often seen in Earth-based systems: "we are losing the attitude of wonder, contemplation, listening to creation" (Francis, 2013d) and "It is man who continuously slaps down nature ... We have lorded over nature, over Sister Earth, over Mother Earth" (Francis, 2015b), and "God always forgives, we sometimes forgive, but when nature – creation – is mistreated, she never forgives!" (Francis, 2014a). In addition to personification of nature, Francis is noted for his strong criticism of government and has stated that a "drafting of a new Climate Change Agreement ... is urgently needed" (Francis, 2015a), "an international Climate Change treaty is a grave ethical and moral responsibility" (Francis, 2014c) and "threat to peace arises from the greedy exploitation of environmental resources" (Francis, 2014a). Furthermore, Pope Francis has announced that he is in the process of writing an "Encyclical" or "Papal Letter"– which is amongst the highest levels of teaching authority for the Pope – concerning Climate Change and humanity's responsibility to the environment. This Encyclical is highly anticipated and will likely be released in July of 2015. Due to Pope Francis's progressive stance on the environment and multiple other "liberal" issues, he currently has a global approval rating of 60 percent and 84 and 78 percent in Europe and North America, respectively (Pew Research Center, 2014). Pope Francis' popularity rating among U.S. Catholics is at 90 percent, which surpasses Pope Benedict XVI's best-ever popularity and rivals that of St. John Paul II (Pew Research Center, 2015). Social commentary has noted that a large part of Francis' popularity is owed to his ardent stance of stewardship.

As with the previous centuries, the relationship between the environment and Christianity is highly complicated, highly variant and ever-changing. In recent decades, though, the establishment of religious organizations dedicated to the “care of creation,” the publication of church commitment to stewardship and the election of an environmentally conscious Catholic leader have worked to disseminate a portion of Christianity’s anti-environmental reputation. However, conflict between Science and Religion remains present in the cultural dialogue, especially regarding the science of biological evolution.

## **Evolution and Christianity**

### ***Early Christian Response to Darwin***

Charles Darwin published his findings on “Descent with Modification” in 1859 in his most famous work the “Origin of Species.” Less than 20 years after the publication of “Origin of Species” the preponderance of naturalists had adopted organic evolution as an explanation for present species (Numbers, 2000). However, although the majority of the scientific community and the Victorian intellectual elite were accepting of this new information, skepticism persisted and the 1880s and 1890s saw a swell in anti-Darwinism (Numbers, 2000). This resistance was mainly due to concerns that the belief in a creation process lacking in divine guidance would give rise to immoral behaviour and ideologies. Princeton theologian Charles Hodges (1797-1878 A.D.) stated that “Darwinism is atheism” (Hodges, 1874). This sentiment continued into the 20<sup>th</sup> and 21<sup>st</sup> centuries.

### *19<sup>th</sup> to 21<sup>st</sup> Century Evolution Debate*

While the Theory of Evolution gained popularity and support as time progressed “the majority of late-nineteenth century Americans remained true to the traditional reading of Genesis” (Numbers, 2000). One of the more notable groups of opposition came from the “premillennialists” who held the conviction that the presence of one error in the Bible would invalidate the entirety of its contents. In 1919, Baptist pastor William Bell Riley founded the premillennialist organization “World’s Christian Fundamentals Association.” Numerous publications released in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries sought to either disprove the science behind evolution or find a way to use Biblical text to explain Darwin’s theories. For example, scientists Arnold Guyot (1884) and John William Dawson (1890) accommodated science by saying each day of Genesis correlated to a specific epoch in history. The Scofield Reference Bible (1909) became prevalent among Biblical fundamentalists by endorsing the view that two separate creation events occurred. The first creation occurred millions of years ago “in the beginning” and many forms of life were created, and then subsequently destroyed, so that God could perform the Adamic Creation. The Scofield perspective offered a perspective in which the fossil records could be compatible with a “recent” human creation. Seventh Day Adventist Ellen G. White (1827-1915 A.D.) proposed the idea that Noah’s Flood in Genesis accounted for the fossil record on which the Theory of Evolution was based (Young & Stearley, 2008). Still others sought to refute the scientific findings upon which evolution relied. Publications such as “At The Death Bed of Darwinism” (Dennert, 1904), “Illogical Geology: The Weakest Point in the Evolution Theory” (Price, 1906), and “The New Geology” (Price, 1923) highlighted problems with evolution such as not being able

to accurately determine the age of fossils. The struggle between supporters of evolution and “strict” (literal Genesis creation) or “progressive” (symbolic Genesis Creation) creationists continued at an even greater scale in the mid-to-late 20<sup>th</sup> and early 21<sup>st</sup> centuries.

### ***The Modern-Creationist Revival***

Efforts in favor of and in opposition to evolution increased as Apologetics of Creation shifted from founding arguments on Biblical text to increased appeals to science in the 20<sup>th</sup> and 21<sup>st</sup> centuries. Proponents on each side became more and more concerned with defending their view as both groups considered the “outcome” to be relevant to more than just the strictly scientific components. Scientist Stephen Jay Gould (1941-2002 A.D.) once wrote, “Evolution is not a peripheral subject but the central organizing principle of all biological science. No one who has not read the Bible or the Bard can be considered educated in Western traditions; so no one ignorant of evolution can understand science” (NCSE, 2008).

In 1961, Theologian John C. Whitcomb (1924-present) and “The Father of Modern Creationism” Henry M. Morris (1918-2006 A.D.) published “The Genesis Flood”, which upheld the “verbal inerrancy of Scripture.” The book quickly became a best-seller in the fundamentalist world and polarized Evangelical opinion, although it was ignored by university scientists and liberal Christians (McCalla, 2006). However, because of the book’s scientific appearance, it initiated a renaissance of flood geology which proved to be the “most impressive contribution to strict creationism since Price’s New Geology” (Numbers, 2000). Following the 1961 publication, the “Creation

Research Society” was established in 1963, and was followed by Morris’ “Institute for Creation Research” in 1972. However, the creationist revival of the 1960s garnered little attention until the 1973 *Willoughby v. Stever* court case in which evangelist William Willoughby took issue with the use of taxpayer money to create the “Biological Sciences Curriculum Study” (BSCS), which included teaching evolution and, in his opinion, promoted the “religion” of secular humanism, thereby violating the U.S. Constitution Establishment Clause (NCSE, 2008). The California State Board of Education voted to require public-school textbooks to include Creationism alongside Evolution (NCSE, 2008). This event contributed greatly in propelling the creationist movement past the Darwinian debates of the 19<sup>th</sup> century toward the “Scientific Creationism” of the 1970s, which pursued “equal time” for creationism in academics in the name of “balance” (Numbers, 2000). In 1970, the “Creation Science Research Center” of the Christian Heritage College in San Diego, California set out to prepare Creationist literature for adoption in public schools. When the goal of widespread creationist teaching could not be obtained, the Creationism movement concentrated their efforts on the cultivation of a creationist counter establishment. Biologist Duane Gish and Philosopher Karl Popper called the theory of evolution an “unscientific metaphysical research program” (Popper, 1988), which described the sentiment felt amongst pro-creationists. The Institute for Creation Research developed conferences, journals, and even attempted to found a graduate school; the latter, however, was denied certification by the Texas Higher Education Coordinating Board in 2008. In 2007, the young-earth creationist ministry “Answers in Genesis” opened the doors of its twenty-seven million dollar “Creation Museum” in Petersburg, KY.



### ***U.S. Judicial Decisions: Evolution and Creationism in Public Schools***

“The contemporary theory of biological evolution is one of the most robust products of scientific inquiry.” - American Association for the Advancement of Science (2002)

In January of 1922 a serious attempt to enact a state-wide anti-evolution legislation occurred in the Kentucky General Assembly after three time Democratic presidential nominee, and former United States Secretary of State (1913-1915 A.D.), William Jennings Bryan (1860-1925 A.D.) advocated the passage of an anti-evolution statute at a joint session of Kentucky Legislature (Halliburton, 1963). The anti-evolution measure (House Bill 191) was narrowly defeated. Bryan is quoted as saying, “The movement will sweep the country” (Numbers, 2000), and although the bill in Kentucky was never enacted, attempts to either prohibit the teaching of evolution or require the teaching of creationism did sweep across the country. In the 1920s, 20 state legislatures debated anti-evolution laws and three states (Tennessee, Mississippi, and Arkansas) officially banned the teaching of Evolution in public schools, while Oklahoma prohibited adoption of evolutionary textbooks and Florida condemned teaching evolution (Numbers, 2000). Starting in the 1960s, the attention that was brought to the evolution-creation debate provoked new legal disputes of which the most well-known cases are discussed in the following.

In 1968, in *Epperson v. Arkansas*, the United States Supreme Court invalidated the Arkansas statute that prohibited the teaching of evolution as unconstitutional on the grounds of the First Amendment. In 1981, in *Segraves v. State of California*, Segraves contended that class discussion of evolution prohibited his children’s free exercise of religion; however, the court found that the California State Board of Education’s Science

Framework, as written and as qualified by its anti-dogmatism policy, gave sufficient accommodation to religious views. One year later, in 1982 in *McLean v. Arkansas Board of Education*, a federal court decided that a “balanced treatment” statute for “creation-science” and “evolution-science” violated the Establishment Clause of the U.S. Constitution. The court additionally declared that “creation science” was not, in fact, a science and determined that “theory of evolution does not presuppose either the absence or the presence of a creator” (NCSE, 2008). Although, the court’s decision seemed to reflect increasing support for teaching evolution in schools, an informal poll of American school-board members (Nelkin, 1982) at this time revealed that only 25 percent favored teaching evolution exclusively. In 1987, in *Edwards v. Aguillard*, the U.S. Supreme Court overturned Louisiana’s “Creationism Act,” which prohibited the teaching of evolution except when accompanied by “creation science” as the “religious belief that a supernatural being created humankind” impermissibly endorsed religion. Around this time, a group of creationists, not so closely allied with young-earth Creationism, sought to repackage creationism in a way that would survive constitutional scrutiny (NCSE, 2008), and the result was dubbed “intelligent design” and introduced in “Of Pandas and People” (Davis, Kenyon, & Thaxton, 1989). This concept became especially important in the 2005 *Kitzmiller v. Dover* case. In 1990, in *Webster v. New Lenox School District*, the Seventh Circuit Court of Appeals found that a school district prohibiting a teacher from teaching “creation science” in order to enforce the Establishment Clause of the Constitution does not violate that person’s religious beliefs because “creation science” is a form of “religious advocacy.” This decision was echoed in 1994, in *Pelozo v. Capistrano School District*, when the Ninth Circuit Court of Appeals upheld a district

court finding that a teacher's First Amendment right to free exercise of religion is not violated by a school district's requirement to teach evolution. The court also rejected Pelozo's argument that "evolutionism" should be treated as a religion. Pelozo's sentiments toward the incompatibility of evolution and religion were not unique in society. General population surveys found that 53% of both Protestants and Catholics in the U.S. feel that "science and religion are often in conflict," with 41% of that group referring specifically to evolution as an area of conflict (Pew Research Center, 2009). In 1997, in *Freiler v. Tangipahoa Parish Board of Education*, the United States District Court for the Eastern District of Louisiana rejected a policy requiring teachers to read aloud a disclaimer whenever they taught about evolution that called into question the validity of evolution. In addition to addressing disclaimer policies, the decision is noteworthy for recognizing that curriculum proposals for "intelligent design" are equivalent to proposals for teaching "creation science" (NCSE, 2008). In 2000, Minnesota State District Court Judge Bernard E. Borene dismissed the case of *Rodney LeVake v. Independent School District 656, et al.* in which a high school biology teacher argued for the right to present evidence both in favor and against evolution; however, the court determined that the terms of free speech did not override the mandates of the curriculum. In a similar case in 2005, U.S. District Judge Clarence Cooper ruled that an evolution warning label required in Cobb County textbooks violated the Establishment Clause of the First Amendment in *Selman et al. v. Cobb County School District et al.* The Cobb County School District agreed not to disclaim or denigrate evolution either orally or in written form. Lastly, in 2005, in *Kitzmiller et al. v. Dover*, U.S. District Court Judge John E. Jones III ordered the Dover Area School Board to refrain from

maintaining an Intelligent Design Policy in any school within the Dover Area School District writing that it was “abundantly clear that the Board’s ‘Intelligent Design Policy’ violates the ‘Establishment Clause.’” This was the first challenge to the constitutionality of teaching “intelligent design” in the public school science classroom. Although, the preponderance of recent legal proceedings have ruled in favor of the exclusive teaching of evolution in public schools, discord remains today as many districts and states continue to attempt to infringe on the teaching of evolution in public schools (NCSE, 2015).

### ***Response to Evolution in the Religious Community***

During the decades of legal debate over the validity of the Theory of Evolution, a large number of religious organizations were established and/or asserted that—unlike creationists in the field—Christian beliefs were not at odds with science or the teaching of evolution and that such scientific knowledge was embraced by the religious community. Just a few of the many notable organizations encouraging religion and the acceptance of evolution include the American Scientific Affiliation (est. 1941), the Center for Theology and the Natural Sciences (est. 1982), Lexington Alliance of Religious Leaders (est. 1981), the Lutheran World Federation (est. 1947), and the United Church Board for Homeland Ministries (est. 1962). In 2004, the Clergy Letter Project – “An Open Letter Concerning Religion and Science”—was launched to illustrate the support for the theory of evolution amongst Christian clergy. The Letter stated that the signing clergy members 1) “believe that the timeless truths of the Bible and the discoveries of modern science may comfortably coexist,” 2) “believe that the theory of evolution is a foundational

scientific truth” and 3) “urge school board members to preserve the integrity of the science curriculum by affirming the teaching of the theory of evolution as a core component of human knowledge.” As of March 6<sup>th</sup>, 2015, the Christian Clergy Letter has 13,001 signatures.

### ***Current U.S. Christian Denominations Official Evolution Statements***

Despite the prominence of legal disputes over evolution in schools and public opinion polls showing that religious belief is a negative predictor for the acceptance of evolution (Barone, Petto, & Campbell, 2014), an informal survey of major Christian organizations and denominations in the United States, based on publicly available statements, indicates that in fact most Christian governing bodies view evolution as being compatible with their faith (Martin, 2010). In this analysis, it was found that Protestant groups are divided on the issue, with more “mainstream” denominations (e.g., Lutheran, Methodist, Presbyterian) accepting evolutionary biology, and more fundamentalist or Pentecostal groups denying compatibility or rejecting evolution. (Martin, 2010). Following is a list of several of the official church statements regarding their denominational position on evolution taken from the formerly-mentioned analysis. Not all church denominations offer official statements of positions regarding science, faith and evolution, and other positions are unclear (Figure 2).

Denomination or movement	Accepting of evolution as being compatible with their faith	Position unknown or unclear
Roman Catholic	Yes	
Southern Baptist Convention		No
United Methodist	Yes	
National Baptist Convention USA		No <sup>a</sup>
Church of God in Christ		No <sup>a</sup>
Evangelical Lutheran Church of America	Yes	
African Methodist Episcopal Church (AME)	Yes <sup>a</sup>	
Church of Christ		Unclear
International Circle of Faith Anabaptists		No
Presbyterian Church (PCUSA)	Yes	
Calvary Chapel		No
Church of God (Cleveland)		No
Assemblies of God		No
Lutheran Church—Missouri Synod		No
Episcopal Church	Yes	
Greek Orthodox Archdiocese of America	Yes	
United Church of Christ	Yes	
American Baptist Churches USA		Unclear
Seventh-Day Adventists		No
Presbyterian Church in America		Unclear
The Vineyard		Unclear
International Church of the Foursquare Gospel		No <sup>a+</sup>
New Apostolic Church		No <sup>a+</sup>

*Figure 2: Official Church Position on Evolution, Martin, 2010*

It must also be noted that membership to a given denomination does not imply that the individual supports the church’s position or is even aware of an “official” church statement for their particular denomination. Additionally, churches within these denominations may not necessarily follow the position of church leadership. A full list of Church statements regarding their stance on Evolution is available in Appendix A.

Similar to the convoluted and varied relationship between the Christian church and nature, the history between Christianity and the Theory of Evolution is equally as complex and diverse. To date, a consensus regarding Christian attitudes is far from applicable as there has been, and continues to be, a wide range of denominational,

organizational and individual responses to the Theory of Evolution within the Christian community. However, it does appear –similar to the outpour of environmental declarations–that church publications in support of evolution have increased since the socio-political events of the 1960s and 1970s. Furthermore, despite numerous statements of compatibility between science and religion across various churches, a large percentage of the public maintains a view of incompatibility, especially regarding evolution (see Part Three: Review of Empirical Studies). It remains to be seen whether Christianity as a whole will reach an accord regarding evolution or remain divided.

## **Part Two: Review of Biblical Doctrine**

This Review of Biblical Doctrine provides a framework of the verses that are commonly referenced in the debate regarding God’s intended role for humanity in nature, and biblical evidence supporting the differing types of creationist belief. The following discussion includes only the most commonly cited verses, and focuses mainly on the implications of these verses and not on overarching themes of environmentalism or creation present in the Bible. Similarly, it is recognized that as biblical text is open to individual interpretations, the following discussion does not attempt to include all known or possible versions of interpretation, just the ones most prevalent in recent discourse. In order to complete this basic review, all verses are consistent with the King James Version of the Bible. A full list of the verses cited in this review is located in Appendix B. Lastly, because this thesis is concerned with social perception and not Biblical accuracy or inerrancy, this review focuses solely on the influence of the interpretations based on

the English translation of the Hebrew Bible, and does not examine the disputes regarding possible shortcomings in the translation.

### **Environmentalism in the Bible**

Countless verses and parables in the Bible highlight themes of nature, humanity's role in and relationship to nature and God's revelations to human kind through the natural world. In the ongoing debate started by Lynn White in the 1960s, these passages have been assessed as either leading to a mindset of anti-environment/"right of dominion" or pro-environment/"stewardship." The difference between these two viewpoints relies somewhat on choice of verse(s) and heavily on the interpretation of said verse(s). In this section, the main verses and interpretations thereof in favor of or against a religiously-based eco-conscious attitude will be presented and discussed.

### ***Anti-Environmental Attitudes and Biblical Justification***

When discussing the Bible in terms of its environmental themes or references to man's role in Nature, those searching to support a more anthropocentric, or a "less eco-conscious" viewpoint, mention numerous biblical verses that fall into one of four categories or "arguments."

The first argument is the idea that the earth, and all it contains, was created by God to serve the purpose of humans, "The heaven, *even* the heavens, *are* the LORD'S: but the earth hath he given to the children of men" (Psalm 115:16). This sentiment is further supported by the second, and the most common, argument that God gave human's "rule" or "dominion" over all of the animals and plants that reside in nature. Genesis



1:26 states “let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth” and is followed by verse 1:28 which echoes the text in verse 26, but adds the terms “subdue.” Following the Great Flood, God, again, reiterates the rule of humans over nature in stating, “into your hands are they [every beast of the earth] delivered” (Genesis 9:2), “You made him ruler over the works of your hands; you put everything under his feet” (Psalm 8:6), and “Every moving thing that liveth shall be meat for you; even as the green herb have I given you all things” (Genesis 9:3).

The third argument that is encountered is that humans have been given “dominion” because humans are set apart from nature due to the endowment of logos (John 1:9) and being created in the direct “image of God” (Genesis 1:27). The fourth argument, though the least frequent, is nevertheless important to a contra-nature view, and that is the belief that the earth is under God’s control and is not “destroyable” by the actions of humanity. God promised to sustain His Earth and all its cycles (Genesis 8:22) on which life depends by His own power (Beisner, 2010). Additionally, God’s covenant to Noah and “every living creature of all flesh” promises “the waters shall no more become a flood to destroy all flesh” (Genesis 9:15). The interpretation of these biblical passages may lead to a biblical justified view of human superiority in the order of nature.

### ***Pro-Environmental Attitudes and Biblical Justification***

The field of combining environmental and nature-based issues with religion is known as “eco-theology.” There are numerous tenets in this field that are regularly cited to support a viewpoint of “stewardship” rather than that of “dominion.”

The first tenet is that the earth is “sacred” as God said it was “very good” (Genesis 1:31) and holds intrinsic spiritual value as part of creation. Martin-Schramm and Stivers (2003) wrote that “if the foundation of all doing is the relationship of the self to God that inspires acts of love, then the beginning of environmental ethics is the appreciation of Spirit in Nature.”

The Second tenet is God’s command to serve and protect creation (Genesis 2:15) as “stewards” of God’s earth (Psalm 24:1). In undertaking the role of steward, God warns against the excessive waste and devastation of Nature, “... thou shalt not destroy the trees thereof by forcing an axe against them: for thou mayest eat of them, and thou shalt not cut them down (for the tree of the field is man's life)...” (Deuteronomy 20:19). Additionally, in Genesis 9 God makes his covenant, not just with Noah and his family, but with “every living creature of all flesh” (Genesis 9:15), which denotes the significance of plants and animals in the eyes of God.

A third tenet is that God commanded certain restraints to human productivity in order to benefit wildlife and the land. In Exodus God sets forth an agricultural schedule to benefit humans and animals, “the seventh *year* thou shalt let it rest and lie still; that the poor of thy people may eat: and what they leave the beasts of the field shall eat. In like manner thou shalt deal with thy vineyard, *and* with thy oliveyard” (Exodus 23:11). This schedule is again mentioned at greater length in Leviticus 25. God’s rest on the seventh

day of creation (Genesis 2:2-3) and the commandment to observe the Sabbath (Exodus 20:8) along with this agricultural model are seen as evidence of God's intention that humans consider and acquiesce to the needs of wildlife and the environment. In this vein, God frequently voices his disapproval of greed, violence and disobedience which leads to destruction of the land (Hosea 4:1-3; Zechariah 7:8-14), which displeases God, "Many pastors have destroyed my vineyard, they have trodden my portion under foot, they have made my pleasant portion a desolate wilderness. They have made it desolate, *and being* desolate it mourneth unto me; the whole land is made desolate, because no man layeth *it* to heart." (Jerimiah 12:10-11). In Revelation it is prophesized that the faithful will be rewarded while those who destroy the earth, shall be destroyed (Revelation 11:18). The fourth tenet is that, in the eyes of God, human and animals are comparable and connected. This connection between "man and beast" is expressed in Ecclesiastes 3:19, "For that which befalleth the sons of men befalleth beasts; even one thing befalleth them: as the one dieth, so dieth the other; yea, they have all one breath; so that a man hath no preeminence above a beast: for all *is* vanity." In Job 38-41, God compares humans to the animals to humble Job and in Luke 12:24 it states, "Consider the ravens....how much more are ye better than the fowls? A final tenet present in eco-theology is the Eschatological (end times) visions of cosmic harmony (Hitzhusen, 2007). In this harmony "The wolf also shall dwell with the lamb" (Isaiah 11:6), "the lion shall eat straw like the ox" (Isaiah 11:7), "dust shall be the serpent's meat" (Isaiah 65:25) and "They shall not hurt nor destroy in all my holy mountain" (Isaiah 11:9). Together these passages and tenets may lead to a biblically justifiable attitude of environmental consciousness.

## **Evolution in the Bible**

There exist far fewer verses in the Bible that relate to Evolution than nature. The principle Biblical evidence is not so much for or against evolution as it is in favor of either literal or metaphorical creationism, which is widely considered an opposing view to the Theory of Evolution. The vast majority of evidence supporting the varying creationist views is found in the first book, Genesis. The interpretation of these verses has led to much tension between those who interpret these verses literally versus those who interpret them symbolically.

### ***Biblical Support for Strict Creationism***

While the term “Creationism” can be used to indicate that a deity had some level of involvement with the creation process, it is most often used to mean “Strict Creationism,” which assumes a “strictly literal” interpretive view of the Bible and believes that God was the only power present in the creation of the universe. Strict Creationism believes in a “fiat creation” meaning “out-of-nothing,” and adheres to the notion that God created everything in its present-day form and did so in the manner described in the book of Genesis.

Following a literal interpretation, there are three lines of reason found in biblical text that are used to support a fiat creation performed by God. The first rationale in favor of Creationism is that God created the universe and everything within it as illustrated by the Genesis Creation Story. God as the ultimate creator is mentioned repeatedly throughout the Bible, for instance, Isaiah 42:5, Hebrews 11:3 and John 1:3 “All things were made by him; and without him was not any thing made that was made,” declare

that the entirety of the earth is God’s creation. In addition to creating the world, God is responsible for the creation of humans which he did “in his own image” (Genesis 1:27, 5:1; Colossians 1:15). The term “image of God” is taken to mean that humans were originally made in present-form and did not evolve from any other form as other animals have not been endowed with the same “intellectual capacities.” The main argument in favor of creationism, or more specifically against evolution, is that the chronological events found in the Genesis Creation Story do not match the scientific evidence for Evolution (Table 1).

	<b>Scripture says</b>	<b>Evolution says</b>
<b>The 6 Days of Creation</b>	Gen 1:11, 12, 21, 24, 25; 1 Cor15:38, 39 Everything multiplies "after its own kind"	Life forms are in a continual state of transition.
<b>Day 1</b> Light	Gen 1:3-19 Light was created before the sun.	No light existed before the sun.
<b>Day 2</b> Firmament	Gen 1:2 Oceans were created before land. Gen 1:7 Atmosphere between two hydro-spheres	Land existed before oceans. Atmosphere & hydrosphere contiguous.
<b>Day 3</b> Plants, Trees	Gen 1:11 First life was land plants Gen 1:11, 20, 21 Fruit trees were created before fishes. Gen 1:11-19 Plant life was created before the sun.	First life began in the waters. Fishes existed before fruit trees. Plants evolved after the sun.
<b>Day 4</b> Sun, Moon, Stars	Gen 1:14-19 The sun & stars were created after the earth. Gen 1:16 Stars were all created at once.	Sun & stars existed before the earth. Stars evolved at different times.
<b>Day 5</b> Creeping beings, Birds, Fishes, Whales	Gen 1:20, 21 Marine life was created all at once. Gen 1:20, 21 Birds & fishes were created on the same day. Gen 1:20-31 Birds & whales were created before reptiles.	Marine life developed gradually, from an organic blob. Fishes evolved hundreds of millions of years before birds. Reptiles evolved before birds & whales.
<b>Day 6</b> Beasts, Man	Gen 2:7 Man was made from the dust of the earth. Gen 2:5 Man was created before rain. Gen 2:21, 22 Man was created, then woman.	Man evolved from monkeys. Rain existed before man. Woman preceded man.
<i>Table 1: Discrepancies Between Scripture and Evolution Principles, Dew, 1998</i>		

Another discrepancy is found in Genesis 2:3 which affirms that on the seventh day God's work was "created and made." However, evolutionary principles suggest that "creation" is a continuing and ever-changing process. Furthermore, in order for evolution to have occurred, reproduction and death must have occurred. Yet, Romans 5:12 establishes that death did not occur until after man sinned. When these passages are interpreted in a literal framework, the Bible becomes incompatible with the Theory of Evolution; however, a metaphorical or symbolic interpretation of these passages does not necessarily oppose Evolution.

### ***Biblical Interpretations for Symbolic Creationism***

Several theories have been proposed that "accommodate" the science behind the Theory of Evolution with the biblical account of creation and include Theistic Evolution, Gap Theory, Day-Age Theory, Punctuated 24-Hour Theory, Apparent-Age Theory, and Scientific Creationism. The arguments for and against these accommodation theories are voluminous and exceedingly complex. This section briefly describes the foundational concepts of these theories in order to provide a cursory understanding of the various approaches to "Symbolic Creationism."

Theistic Evolution is the proposition that God is in charge of the biological process called "evolution" and directs and guides the unfolding of life forms over millions of years (Drews, 2000). This theory is sometimes referred to as "progressive creation," with a slight difference being that, in this view, "God interjected occasional acts of creation at critical points throughout the geological ages," such as the insertion of the human soul into a body that evolved from an ape-like ancestor (Morris).

“Gap Theory” or “Ruin-Reconstruction” contends that a “gap”—possibly lasting millions of years—existed between the first and second verse of Genesis 1 where “God created the heavens and the earth” and then the earth was “without form and void.” It is theorized that Lucifer was in charge of the world before this “gap” and after falling from grace (Isaiah 14; Ezekiel 28), God destroyed the first earth in a “Luciferian Flood,” later remaking the world in six literal 24-hour days (Taylor, 2013). This theory accounts for the usage of “*replenish* the earth” in Genesis 1:28 and allows for the earth to have existed for billions of years, while still permitting a fiat creation of present life.

The “Day-Age Theory” focuses attention on the use of the word “day” in Genesis 1. The Hebrew word for day is “*yôm*” and is used in multiple ways throughout the Bible including 1) the daylight period in the diurnal cycle (Genesis 1:5, 14, 16, 18), 2) a normal 24-hour period and 3) an indefinite time period (Psalm 90:10; 2 Peter 3:8) (Neissen, n.d.). In this theory, it is believed that each “day” of creation represents a large period of time of geological history and, thus, allows for evolution. A subset of the “Day-Age Theory” is the “Punctuated 24-Hour Theory,” which argues that the creation events of Genesis did in fact occur within a 24-hour period with long periods of time in between the creation “days” (“Nine views of creation,” 2015).

The “Apparent-Age Theory” seeks to reconcile the biblical account of a “young” earth with scientific evidence of an “old” earth by maintaining that the universe was created recently with a “built-in appearance of age, and so it looks old by whatever means of age measurement we apply to it, but in reality it is young” (Menninga, 1988).

The last theory is that of “scientific creationism.” This theory relies very little on direct scripture and instead seeks to support the rationale of a “young earth” model by

attempting to invalidate scientific findings showing an “old earth” and employing Flood Geology—the idea that all the materials that make up our fossil record were buried within a year due to a world-wide flood thousands of years ago (Weber,1980).

### ***Biblical Support for Evolution?***

The overwhelming majority of literature discussing evolution and the Bible either centers around the Bible supporting Creationism or dialogue on how the Bible does not conflict with Evolution. Overall, there are very few verses that have been referenced as directly supporting Evolution.

### ***Arguments against the Fiat Creation in Genesis***

Neyman (2005) argues that the Scripture references for the creation of plants and animals seem to support evolutionary theory better than it does fiat creation. To start, in the third, fifth and sixth day of creation God created plants, animals and human kind; however, the terminology used in these passages does not exactly match the mechanisms of creation that one would expect to find if all matter was created from nothing. In Genesis 1:11 and 1:20 God said “Let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself, upon the earth: and it was so,” and God said, “Let the waters bring forth abundantly the moving creature that hath life, and fowl that may fly above the earth in the open firmament of heaven.” Unlike in Genesis 1: 3, 6, and 9 where God created light, firmament and the waters by stating “Let there be...,” here God said “Let the earth and waters ‘bring forth’ ” abundant life. Regarding the creation of Adam and Eve, it states that “God formed man of the dust of



the ground” (Genesis 2:7) and “the rib, which the LORD God had taken from man, made he a woman” (Genesis 2:22). In both cases, man and woman are shaped from already existing materials, which is dissimilar to the concept of a fiat creation.

### ***Problems with the “Kind” Argument***

Strict Creationists will also argue that the kinds reproduce after their own kind, thus eliminating the possibility of their evolving into other kinds; however, this does not address reproduction which could lead to evolving creatures (Neyman, 2005). During the Genesis Creation, the majority of verses use the terms “let there be” or “bring forth,” and in these verses the life created is created according to its kind. Yet the only verse that mentions reproduction is Genesis 1:22, “And God blessed them, saying, be fruitful, and multiply, and fill the waters in the seas, and let fowl multiply in the earth.” In this verse, “kind” is not mentioned, which would lead to the possibility that reproduction was either not intended to be strictly between “kinds,” or that it was known that reproduction could create circumstances that would make staying within the “kinds” that were present at the beginning impossible. On the other hand, when discussing plant life the term “kind” is used as Genesis 1:12 states that “the earth brought forth grass, and herb yielding seed after his kind, and the tree yielding fruit, whose seed was in itself, after his kind.” This difference would make sense in so far as an orange tree produces oranges, a tomato plant produces tomatoes and the fruit of any fruit bearing plant at any point in time will have been the same kind as its parent plant. However, there is no command for plants to reproduce and fill the earth after their own kind, only that they already bear fruit of their kind.

### ***Other Biblical Support of Evolution***

As previously mentioned, there are very few direct verses mentioning evolution. In addition to the interpretation of the first story of Creation (Genesis 1:1-2:3) in which God creates animals before humans, some Christians mention Ecclesiastes 3:18 (“I said in mine heart concerning the estate of the sons of men, that God might manifest them, and that they might see that they themselves are beasts”) and a verse (19:19) in the deuterocanonical Book of Wisdom (“this is just what happened—land animals became aquatic, swimming ones took to the land”) as relating to evolution; however, their context and interpretation can be disputed.

### **Conclusion**

The influence of the Bible on a person’s environmental consciousness and attitudes is contingent on that person’s interpretation of the numerous verses and parables relating to nature. However, regardless of whether a person takes a dominion of stewardship position, the Bible does place great significance on humanity’s involvement with the land and wildlife. Regarding evolution, there is no direct mention of the evolutionary process, thus, there is greater emphasis on whether the text in the Genesis Creation Story precludes or permits the acceptance of scientific evidence relating to human origin.

### **Part Three: Review of Empirical Studies on Christian Environmentalism and Evolution Acceptance**

The final section of this literature review discusses some of the most important and well-known empirical research studies relevant to the topic of environmental attitudes and behaviours and evolution acceptance amongst Christians. The first section

of this review examines the conclusions of studies conducted on various environmental characteristics amongst Christians, while the subsequent section examines the past and current state of evolution belief and disbelief using primarily statistical data.

## **Studying Environmentalism**

### ***Origins and Historical Development***

In 1967, historian Lynn White, in his now infamous publication “The Historical Roots of Our Ecological Crisis,” contended that Christianity has led to our present environmental devastation by perpetrating anthropocentric values, creating “dualism” between man and nature and justifying resource exploitation. This linkage between Christian beliefs and anti-environmental dogma became known as “the White Thesis,” and is widely regarded as the stimulus for decades of subsequent research regarding the relationship between religion and the environment.

Following the release of “the White Thesis,” a debate formed on whether Christianity could be unequivocally categorized as an enemy of nature and environmentalism; this became the focus for socio-religious research during the 1970s and 1980s. At the beginning, a large number of studies supported White’s theory; however, at that time, scholars had difficulty empirically testing a claim that was based in historical analysis and the inventories used to measure environmental attitudes were underdeveloped and later refuted. As interest in this emergent field grew and research continued throughout the 1990s and 2000s, successive studies revealed both positive and negative correlations between religion and environmentalism and a preponderance of research achieved mixed results.

A simple linkage that had been so clearly and fervently asserted has since developed into an intricate and multifaceted issue. The question of whether Christianity is inherently counter-environmental has progressed to a level that seeks to illuminate supplementary factors affecting a person's attitude toward nature. It is hoped that these third variable studies will help explain the complex web of socio-political, educational, cultural, and personal values that shape environmentalism within a religious context.

### ***Empirical Evidence: Environmentalism***

The first direct empirical study of "the White Thesis" was conducted by Hand and Van Liere (1984) who hypothesized that "individuals more committed to the Judeo-Christian tradition would more strongly accept the dominance of nature doctrine and subsequently have lower levels of concern for environmental problems." The study found that Christians displayed higher commitment to a "mastery-over-nature" orientation than non-Christians and were less concerned with environmental issues such as pollution control. Other studies at this time (i.e. Weigel, 1977; Kellert & Berry, 1980; Shaiko, 1987) found similar "dominance over nature" acceptance among Christian respondents and this measure was assumed to be an indication of low environmentalism. However, it was concluded that a "mastery over nature" orientation is not an accurate gauge for environmental behaviour, as it can lead to attitudes of "stewardship" and high environmental concern (Shaiko, 1987; Biel & Nilsson, 2005). In addition, later studies found that dominion is not a belief that is reinforced by religious affiliation or doctrine (Woodrum & Hoban, 1994; Eckberg & Blocker, 1996; Wolkomir et al., 1997a, 1997b; Hitzhusen, 2007).

A dominance orientation was not the only measure of environmentalism. During the 1980s and early 1990s, religious sociologists used belief in biblical literalism (Eckberg & Blocker, 1989; Greeley, 1993; and Woodrum & Hoban, 1994; Guth et al., 1995), regularity of church attendance (Kanagy & Nelsen 1995), being born again (Sherkat & Ellison 2007), frequency of prayer, and “personal religiosity” (Boyd, 1999) to test environmental concern and commitment (Berry, 2013). The majority of these studies yielded mixed results. For instance, Eckberg and Blocker (1989) and Guth et al. (1995) determined that biblical literalism or “belief in the Bible” was a predictor of low environmental concern while other authors (i.e. Wolkomir, et al, 1997a; Greeley, 1993; Klineberg et al., 1998 ; Shultz et al., 2000) found little to no difference between biblical and non-biblical literalists in the amount of pro-environmental behaviours performed; however, Schultz et al.’s (2000) study revealed that Christian beliefs were negatively related to eco-centrism and positively related to anthropocentrism, indicating that Christian beliefs lead to *more* concern for people than animals and plants.

Certain studies have demonstrated a negative effect when correlating pro-environmental spending behaviours with Christian beliefs. For example, it was shown that individuals displaying strong Christian beliefs are less likely to support spending for environmental protection (Kanagy et al., 1994; Klineberg et al., 1998; Truelove & Joireman, 2009), perform fewer pro-environmental political behaviours (Truelove & Joireman, 2009) or “culturally green” behaviours such as eating organic produce or reducing driving habits (Eckberg & Blocker, 1996). Several studies attributed inconsistency in the findings to religious fundamentalism stating that “the negative effect of Christian ‘theology’ seems to be largely an effect of fundamentalism” (Eckberg &

Blocker, 1996) and proposed that while religious fundamentalism negatively predicts environmentalism, “religious affiliation strength has positive effects on individual environmental concern” (Woodrum, & Wolkomir, 1997).

When religious fundamentalism is excluded, research has pointed to a possible positive effect of religion on pro-environmental attitudes (Haluza-Delay, 2000; Hitzhusen, 2007) due to the tendency of Christians to believe nature is “sacred” (Eckberg and Blocker, 1996; Dietz et al., 1998; Greeley, 1993; Kempton, Boster, & Hartley, 1995). It has even been argued that Judeo-Christian tradition is a main cause of pro-environmental behaviour (i.e. Naess, 1989; Whitney, 1993). In 1995, Kempton et al. claimed that in the United States, “the most common sources of environmental values are spiritual and religious” after discovering an “openness to religiously motivated environmental concern” among respondents. The idea that “it is wrong to abuse God’s creation” was supported not only by Christians, but also by 68 percent of the non-religious respondents and 47 percent of atheists. In a similar fashion, Hawthorne and Alabaster’s (1999) study in the United Kingdom ranked “religious affiliation as a highly influential factor in environmental citizenship behaviour” and some studies have even concluded that religious Americans behave in more pro-environmental ways than secular people (Kanaby & Willits, 1993; Shibley & Wiggins, 1997).

Conversely, numerous studies have concluded that Christian religious beliefs have no effect on a person’s likelihood to be more or less environmentally concerned (Ester & Seuren, 1992; Black, 1997; Dekker et al., 1997; Kim, 1999) and are weak predictors of environmentalism (Boyd, 1999). Kanagy and Nelsen (1995) found Christians to be less environmentally supportive in some measures, but effects diminish with the addition of

controls. Hayes and Marangudakis (2000) concluded that “overall, religious identification is a relatively weak and inconsistent predictor of environmental attitudes and behaviour across nations” and “there is no significant difference between Christians and non-Christians concerning environmental attitudes” (2001).

The divergent results obtained by sociologists and religious researchers since “the White Thesis” may be partly due to contrasting values in Christian doctrine. Christian teaching embraces values that promote the welfare of people and nature, as well as values that legitimize the exploitation of nature (Biel & Nilsson, 2005). Therefore, these contradictory views can be partially attributed to specific parts of the Bible being emphasized in creating causal links between religious values and environmental concern and behaviour (Gardner & Stern, 1996). A second confounding issue may lie in the methodology used to assess beliefs and attitudes. For instance, certain studies have neglected to control for important variables (i.e. Eckberg & Blocker, 1989), while others have used a single or ambiguous measure of environmental concern (i.e. Greeley, 1993) (Biel & Nilsson, 2005). Additionally, other studies employed questions that were not adequate measurement for pro-environmental attitudes or behaviour (i.e. Greeley, 1993; Hayes & Marangudakis, 2001). This methodological concern is especially relevant in light of research that has found that the relationship between Christian beliefs and environmentalism is contingent on the way in which environmentalism is measured (Klineberg, McKeever, & Rothenbach, 1998). However, to fully gain an accurate understanding of the relationship between environmentalism and religion and explain these inconsistent results, research is needed that moves beyond simply testing the

Christianity–environmentalism relationship and instead investigates the mechanisms underlying this relationship (Truelove & Joireman, 2009).

### **Evolution Polls**

The “Evolution Debate” has proved to be a persistent and impassioned topic in the U.S. education system and American culture in general. Since the late 1970s, various research organizations have been assessing and tracing the public’s acceptance of and attitudes toward the Theory of Evolution. Although not extensive, some research has been conducted as to the factors influencing a person’s level of acceptance.

In 2005, a Gallup poll showed that the majority of Americans are interested in the origins of the human race with 76 percent of respondents reporting that they contemplate the various explanations for human existence a moderate to great amount, and “which theory is correct” greatly matters to 66 percent (Gallup, 2014). Overall, surveys measuring acceptance of evolution in the U.S. have shown a consistent two-to-one acceptance to rejection ratio. According to a 2013 Pew Research Center analysis, six-in-ten Americans say that “humans and other living things have evolved over time,” while a third reject the idea of evolution, saying that “humans and other living things have existed in their present form since the beginning of time” (Pew Research Center, 2013). In 1993, 1994, and 2000, the General Social Survey (GSS) asked “‘how true’” is the statement: “‘Human beings evolved from earlier species of animals,’ and 53 percent called the statement definitely or probably not true (Mazur, 2005). In a study done by GfK Public Affairs & Corporate Communications (2014), only 31 percent were extremely/very confident that “human beings evolved through a process of natural



selection” whereas 24 percent were somewhat confident and 42 percent were not at all confident. Similarly, a 2013 Harris poll indicated that 47 percent of respondents believed in evolution, 29 percent don't believe in evolution, and 25 percent were not sure. In the same study, longitudinal results since 2005 revealed that believers in "Darwin's Theory of Evolution" gained five percent and believers in creationism lost three percent, which is not a significant change (Harris, 2013). A study by the Pew Research Center (2013) asked respondents who believed that humans evolved over time for their views on the processes responsible for evolution. Roughly a quarter of adults (24%) said that “a supreme being guided the evolution of living things for the purpose of creating humans and other life forms,” while about a third (32%) said that evolution is “due to natural processes such as natural selection.” Additionally, Gallup polls have shown barely any shift in the percentage of Americans believing that “God created human beings pretty much in their present form at one time within the last 10,000 years or so” (Newport, 2014). Since 1982, Gallup has conducted 12 general population surveys asking

participants questions related to the origins of humans. In the latest poll (Gallup, 2014), 31 percent of respondents agreed that “humans evolved

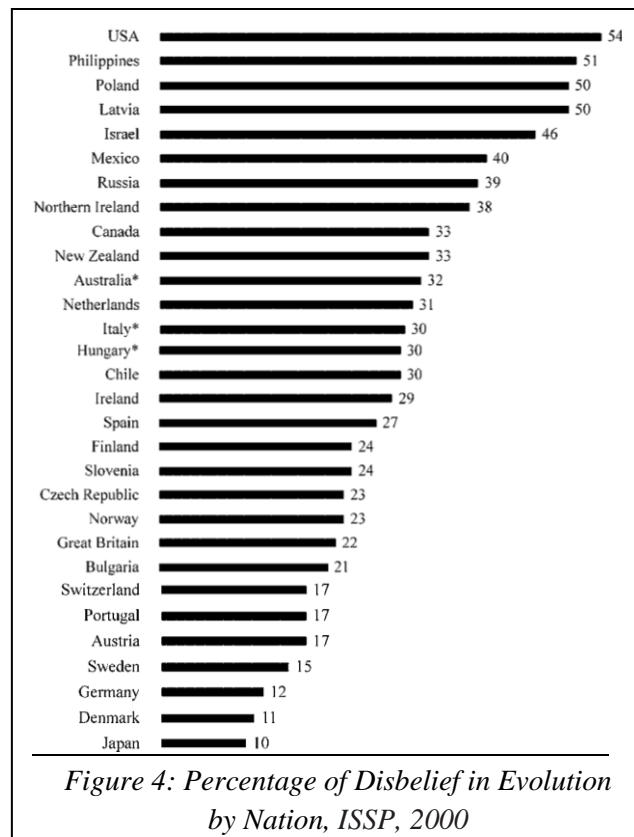
	Humans evolved, with God guiding	Humans evolved, but God had no part in process	God created humans in present form	No opinion
	%	%	%	%
2014 May 8-11	31	19	42	8
2012 May 3-6	32	15	46	7
2010 Dec 10-12	38	16	40	6
2008 May 8-11	36	14	44	5
2007 May 10-13	38	14	43	4
2006 May 8-11	36	13	46	5
2004 Nov 7-10	38	13	45	4
2001 Feb 19-21	37	12	45	5
1999 Aug 24-26	40	9	47	4
1997 Nov 6-9	39	10	44	7
1993 Jun 23-26	35	11	47	7
1982 Jan	38	9	44	9

*Figure 3: Creationist and Evolution Beliefs (1982-2014), Gallup, 2014*

with God guiding,” 19 percent agreed that “Humans evolved, but God had no part in the process,” and 42 percent agreed that “God created humans in present form.” In addition to illustrating that an overwhelming majority of the U.S. believes God had a role in human creation (73%), it also shows the consistency of these opinions over time with percentages varying less than 10 percent in each category ( “God guiding process” range: 31%-40%, average: 36.5 %; “God not involved” range: 9%-19%, average: 12.9%; “God created humans” range: 40%-47%, average: 44.4%) (Figure 3).

Furthermore, this disbelief in evolutionary principles is not a global constant. Citizens of the U.S. are less likely than are citizens of Europe and several non-European nations to believe that humans evolved from an earlier species (Mazur, 2005). A 2001 “Euro-barometer” poll composed of true-false questions reported that only 17 percent of

Europeans denied that humans “evolved from older animal species” (Directorate-General for Research, 2001). In 1993 and 2000, the International Social Survey Programme (ISSP; ISSP Research Group, 1995 & 2003) asked 30 nations the GSS’s evolution question and in both years the United States comprised the largest population of disbelief at 54 percent (Figure 4).



Several theories have been proposed to explain this phenomenon, including the association of creationist belief with conservative political views, regional culture (Southern), lifestyle influence (rural), minority subcultures or closed mindedness/resistance to scientific evidence (Mazur, 2005); however, the most popular theories attributes Americans' anti-evolutionary stance to "strong religion and weak education." In this 2005 study, it was found that religious belief is the "primary correlate"—and may be the chief determinant—of Americans' attitudes toward the life-sciences claim that humans evolved from earlier species (Mazur, 2005), and that measurement of religiosity explains far more variation in evolutionary belief than do education and age. This theory may explain the trend of American disbelief, seeing as creationism (including intelligent design) is predominantly a Protestant and predominantly a U.S. phenomenon (Martin, 2010), although complete disbelief in the evolutionary process differs among denominations.

A 2005 Gallup poll asked about the relationship between science and religion, and 24 percent said the two "agree with each other," 35 percent said they "conflict" and 36 percent said they are "not related" (Gallup, 2014). In the most recent Gallup poll (2014), when asked whether "the Theory of Evolution is consistent or inconsistent with your religious beliefs" the responses were equally divided (consistent: 46%; inconsistent 46%). Evolution appears to be a pivotal issue in creating this schism between science and religion. Fifty-three percent of both Protestants and Catholics in the U.S. feel that "science and religion are often in conflict," with 41 percent of that group referring specifically to evolution as an area of conflict (Pew Research Center, 2009). Protestant groups are divided on the issue, with more "mainstream" denominations such as

Lutheran, Methodist, and Presbyterian accepting evolutionary biology as being compatible with their faith, and more fundamentalist or Pentecostal groups denying compatibility or rejecting evolution (Martin, 2010). A Pew Research study (2008), measuring acceptance of evolution among religious denominations, asked whether “Evolution is the best explanation for the origins of human life” and 35 percent of protestants, 58 percent of Catholics, and 55 percent of orthodox practitioners agreed. Agreement amongst atheists, agnostics, secularists was 87 percent, 87 percent, and 77 percent, respectively.

Not only have trends between Christian affiliation or denomination and rejection of evolution been associated, there is evidence to suggest that the extent to which a person practices Christianity may determine his or her likelihood to accept evolution. Mazur (2005) found that Christian religiosity was the strongest correlate of disbelief in evolution, and other research confirms that, across many religious traditions, the more highly committed tend to be less likely to believe in evolution (Pew Research Center, 2008). Among the public overall, nearly two-thirds (63%) of those who attend religious services at least once a week reject the idea of evolution, compared with only a third (33%) of those who attend less often (Pew Research Center, 2008). These findings were

upheld in  
the 2012  
Gallup Poll  
that found  
nearly 60  
percent of

	Humans evolved, God guided process	Humans evolved, God had no part in process	God created humans in present form within last 10,000 years
	%	%	%
Attend church weekly	25	3	67
Attend church almost every week/monthly	31	10	55
Attend church seldom/never	38	26	25

May 3-6, 2012

*Figure 5: Church Attendance vs. Acceptance of Evolution, Newport, 2012*

Americans who attend religious services weekly chose the creationist alternative, compared with 25 percent of those who say they seldom or never attend church (Figure 5) (Newport, 2012). An in-depth study by Virginia Commonwealth University (VCU) revealed numerous associations between science and religiosity. Similar to Gallup and Pew Research, VCU found those who were somewhat religious tended to believe that “God guided the process” (38%) versus those that were moderately to highly religious (28% and 20%) or not religious at all (15%) (Funk & Huff, 2010).

Moreover, only 18 percent of moderately to highly religious people supported the Theory of Evolution, while this percentage rose to 57 percent among non-religious people. Responses of participants with varying levels of daily religious commitment (high, medium, low, none) had no significant difference regarding how much attention a person pays to scientific developments and perceived societal benefit from science. However, those whose daily lives were highly influenced by religion were less likely to view “scientific research as essential for improving human quality of life” and more likely to see science as “not paying enough attention to moral values.” Regarding compatibility, 56 percent of highly religious participants felt that evolution conflicts with their beliefs, and 30 percent felt religion and evolution were compatible; this rose to 46 percent among moderately and somewhat religious people (Funk & Huff, 2010). Lastly, a survey conducted by Lifeway (2012) asked 1,000 American Protestant pastors to respond to the statement, “I believe God used evolution to create people” where 73 percent of pastors disagreed (with 64% strongly disagreeing) and 12 percent each somewhat agreed and strongly agreed (Roach, 2012). Evangelical pastors were more likely than their mainline colleagues to strongly agree that Adam and Eve were literal

people (82% vs. 50%) (Roach, 2012). Only 36 percent of pastors teach on creation and evolution more than once a year, 26 percent teach on it once a year, and 29 percent rarely teach, and eight percent never teach on creation or evolution (Roach, 2012).

### ***Conclusion***

The overall trends of these polls reveal that 1) the U.S. is a global leader regarding disbelief in evolution, 2) a majority of Americans believe in divinely-guided human development process and do not fully accept the Theory of Evolution, and 3) the more religiously active a person is, the more likely he or she will be to reject evolution. These results have shown minimal changes over time, and reinforce the notion that a Christian belief system may negatively impact a person's willingness to accept the Theory of Evolution.

### **Literature Review Conclusion**

Review of the available historical, doctrinal and empirical information regarding environmentalism and evolution within the Christian sphere illuminates the exceedingly complex and varying relationship between these fields. The variation of views present throughout the past—and which has been seen in contemporary research—might be caused by divergent interpretations of scripture, differences in denominational values, and/or regional, political, and other social factors. A majority of these socio-political factors have been investigated in regard to environmentalism or evolution and Christianity, and an impressive amount of knowledge has been gained. However, these studies have approached research in the framework of how socio-political or religious

factors affect understanding and behaviours toward the environment or evolution, and not how these two science-based fields might be related more directly to one another than to specific Christian principles or religious behaviours.

The remainder of this thesis strives to illuminate the potential link between a positive or negative environmental stance and a positive or negative view of evolution within the Christian mindset. By conducting the following survey research with the help of nationwide Christian clergy, it is hoped that a correlation between pro-environmental attitudes and acceptance of evolution can either be supported or rejected. Either outcome will help to inform knowledge regarding how science-based political issues and Christian beliefs interrelate. In addition, assessment of the effects of denominational, demographic and doctrinal interpretation discrepancies on these two attitude variables will be performed.

## **Methodology**

### **Participants**

#### **Clergy**

In order to test the relationship between the acceptance of evolution and pro-environmental attitudes within the context of Christianity, clergy members nationwide were selected for participation. The rationale to focus exclusively on Christian clergy members to test these two variables and not the general public, or church attendees, was decided based on four factors. First, there is greater accessibility to contact information for church leadership than church goers. Second, a comparable level of moderately-high to high religiosity amongst participants was desired as numerous studies have shown that level of religious commitment and disbelief in evolution are positively correlated. In these religion/evolution polls, religious commitment levels were determined by frequency of attendance and/or frequency of prayer. Participants who attended church weekly or almost weekly, and who reported praying one or more times per week were considered to be moderately-high to highly religious. Considering these criteria and choice of vocation, for the purpose of this study, it was assumed that clergy members have a moderately-high to high level of religious commitment. This assumption allowed for a larger number of survey questions regarding environmental and attitudes toward evolution by circumventing the need to test the religiosity of the respondent and eliminate surveys where a lower level of religious commitment was indicated. Third, it was also assumed that clergy would have read the Bible in its entirety versus reading completion of the general public (20%) or practicing Christians (61%) (Barne, 2013). This greater familiarity with the Bible would allow for inquiry regarding whether Biblical tenets and



specific verses influence the respondent's attitudes toward Nature and the origins of human creation. Last, a fairly high response rate was expected from clergy due to greater potential interest in research pertaining to their field of work and study.

## **Collection Methods**

### **Random Selection**

Six cities in each of the 50 U.S. states were chosen for the collection process. The cities selected were geographically dissimilar (>75 miles apart, and/or in different counties) and representative of the varying range of city population size according to the "State Population Type." The State Population Type is a measure and designation of a state's population range and was created for this study. After analyzing city population trends in numerous states, five categories of state population types were devised using the most appropriate combination of the following city size designations: Metropolitan (MET, 1,000,000+), Densely Urbanized Area (DUA, >250,000 and <1,000,000), Urbanized Area (UA, >50,000 and <250,000), Urbanized Cluster (UC, >10,000 and <50,000), Dense Rural (DR, >2,500 and <10,000) and Rural (R, >1,000 and <2,500). For states not containing a Metropolitan or a Densely Urbanized Area, multiple Urbanized Clusters or Rural city designations were applied with smaller ranges (i.e. UC=>10,000 and < 50,000, but UC1 =>25,000 and < 50,000 and UC2=>10,000 and < 25,000). Table 2 below shows the city designations and population ranges for all five state categories.

Type Five		Type Four	
MET	1,000,000+	DUA1	>500,000 and <1,000,000
DUA	>250,000 and <1,000,000	DUA2	>250,000 and <500,000
UA	>50,000 and <250,000	UA	>50,000 and <250,000
UC	>10,000 and < 50,000	UC	>10,000 and < 50,000
DR	>2,500 and <10,000	DR	>2,500 and <10,000
R	>1,000 and <2,500	R	>1,000 and <2,500
Type Three		Type Two	
DUA	>250,000 and <500,000	UA1	>100,000 and <250,000
UA1	>100,000 and <250,000	UA2	>50,000 and <100,000
UA2	>50,000 and <100,000	UC1	>25,000 and < 50,000
UC	>10,000 and < 50,000	UC2	>10,000 and < 25,000
DR	>2,500 and <10,000	R1	>1,000 and <2,500
R	>1,000 and <2,500	R2	>1,000 and <2,500
Type 1			
UA	>50,000 and <100,000		
UC1	>25,000 and <50,000		
UC2	>10,000 and < 25,000		
DR	>2,500 and < 10,000		
R1	>1,000 and <2,500		
R2	>1,000 and <2,500		
<i>Table 2: State Population Type and City Population Range Criteria</i>			

Utilizing state population information from the 2010 U.S. Census Bureau, states were given a “State Type” according to the total population of their most populated city. After assessment, there were six Type Five states, 16 Type Four states, 10 Type Three states, 13 Type Two States and five Type One states (list of state designations is available in Appendix C). It must be noted that several states were given a dual state type with a combined/modified city population range scale based on the unique city population spread for that state. In all cases this was due to the state having a very large population in one city which was disproportionately large compared to the rest of the cities in that state. This caused the particular state to be placed in a larger state type category although cities with populations fitting the second and sometimes third designations for population range were not present. These states were New Mexico, Massachusetts, Maryland, Oregon, Tennessee, Hawaii, Idaho, Alaska, and Vermont.

After six cities with appropriate location and population size were selected for all 50 states, a combination of chamber of commerce local business listings, Yahoo!, Google and Church.org database searches were used to locate Christian churches. Mormon, Jehovah witness, Mennonite and Jewish churches were omitted from collection, as these branches exclude portions of the Bible or use additional religious materials or doctrines to inform their beliefs and practices. In order to be selected for distribution, the church had to have a functional web-site with a direct e-mail address to the church leader (i.e. pastor@churchname.org, or a personal e-mail address pastorbob@gmail.com or Bob123@hotmail.com). General church e-mails (i.e. info@churchname.org) were included only when it was indicated as the best method for contacting the clergy member. An average of 70 churches per state and a total of 3,578 e-mail addresses were collected between the dates of February 16th and 22<sup>nd</sup> 2015. Effort was made to collect a comparable number of churches from each denomination for each city and state. However, due to extreme variation in the prevalence of certain denominations in certain regions, this could not be accomplished for all states. As a result, a representative sample was taken that reflected the available denominations in each of the six cities chosen for the state except Utah. It was found that all selected collection cities for Utah, save for Salt Lake City, yielded fewer than five non-Mormon churches with contact information. In order to obtain a larger number of churches for the state, the entire state, and not individual cities, was searched for churches.

### **Targeted Selection**

In addition to the general random distribution, three groups whose position on evolution was already confirmed were contacted. These groups were incorporated into the study in an attempt to ensure that data were gathered from participants whose beliefs regarding evolution spanned across the range of acceptance, which may have been missed in the general distribution. The groups selected included a pro-evolution group, an intelligent design group, and a creationist group.

### ***Pro-Evolution***

The Clergy Letter Project was established in 2004 by biologist and Provost for The Evergreen State College in Olympia, WA, Michael Zimmerman, in order to demonstrate the support of evolution by U.S. clergy members. The Christian Clergy Letter (Zimmerman, 2004) states that “the timeless truths of the Bible and the discoveries of modern science may comfortably coexist” and that “the theory of evolution is a foundational scientific truth.” As of March 2<sup>nd</sup>, 2015, a total of 13,001 clergy members had signed the Letter. Using the names and church addresses listed on the Evolution Weekend web-site, 178 direct e-mail addresses of signers were retrieved from the respective church web-site.

### ***Intelligent Design***

In 1991, Bruce Chapman and George Gilder founded the Discovery Institute in Seattle, Washington. The organization focuses on “the role that science and technology play in our culture” and “supports the advancement of free markets, and illuminates

public policy” and is a proponent of intelligent design. Although a list of churches subscribing to the Discovery Institute Ideology could not be located, a list of 59 addresses for churches across the U.S. who co-hosted the “Science and Faith” Simulcast in 2014 (a Discovery Institute event) was found via the Discovery Institute web page. Of the churches listed, 48 had functional church web-sites with e-mail addresses available, and a total of 70 surveys were sent out (numerous churches had co-pastors with direct e-mails).

### ***Creationism***

The Creation Letter (Breedon, 2008) was created by writer and creation advocate, Tony Breedon, in response to Michael Zimmerman’s pro-evolution Clergy Letter. The Creation Letter “affirms the literal, historical truth of God’s Revealed Word” and as of March 3<sup>rd</sup>, 2015 had 76 signers. Due to the signers not being limited to clergy, lack of church web-sites and several signers not posting their affiliated establishment, a total of 13 e-mails were collected from the addresses posted on the creation letter web-site.

### **Distribution**

Between February 24<sup>th</sup> and 26<sup>th</sup>, 2015 3,839 e-mails were sent to the selected clergy members using the SurveyMonkey e-mail distribution function with a one week delayed reminder to unresponded recipients. The anticipated response rate was five percent.

## **Survey Measurement**

The questionnaire for this study consisted of 37 questions (five demographic, 21 environmental measures, 11 evolution measures), and was created using SurveyMonkey software. A complete copy of this survey is located in Appendix D.

### ***Environmentalism Measurement***

#### ***Four Dimensions***

In order to evaluate the participant's level of environmentalism, the survey design incorporated the four dimensional indicators proposed by Sanchez and Lafuente (2010) as a standard measurement of "Environmental Consciousness," which is defined as "specific psychological factors related to individual's propensity to engage in pro-environmental behaviours" (Zelezny & Shultz, 2000). The dimensional indicators include "Affective" (perception about environmental conditions), "Cognitive" (level of information), "Dispositional" (attitudes toward action) and "Active" (engagement in pro-environmental behaviours). This four measurement model has been defined and tested in various other studies such as Kaiser et al. (1999a, 1999b) whose measures included Knowledge (EK), Values (EV), Intention (EBI) and Responsibility Feelings (RF). Furthermore, in their paper "Environmental Concern: Conceptual and Measurement Issues," Dunlap and Jones (2002) compare two historical measures of environmentalism. The first, the "Policy Approach" (Heberlien, 1981), uses the criteria of "Cause/Responsibility (Solutions), Seriousness, Support (intention) and Behaviour" to assess an individual's attitudes toward environmental policies. The second, the "Theoretical Approach," uses a four dimensional criteria of "Cognitive, Affective, Conative and

Behavioural” from the psychology and attitude theory (Ester, 1981) to focus on individuals’ expression of concern. However, Schaffrin (2011) argues that these two measures (i.e. “Policy Approach” and “Theoretical Approach”) can be combined based on the “similarities between the components,” as both contain an aspect of Knowledge, Emotive/Evaluative, Policy Support and Action. The latter mentioned four aspects are comparative to both Sanchez and Lafuente’s, and Kaisers’ measurement dimensions. Additionally, questions testing for these four dimensions in varied ratios can be located in international questionnaires such as the International Society of Sustainability Professionals (ISSP; 1995, 2003, 2012) and the Commitment to Environmental Sustainability Scale (CESS) (Cotton & Alcock, 2012).

In addition to defining a four dimensional model, Sanchez and Lafuente outlined sub-categories, or “facets”

within these dimensions that comprised the dimension (Table 3). In order to assess these “facets” questions were either borrowed from the ISSP, the CESS, Pew Research Center and the Revised New Environmental Paradigm (NEP) or self-written and

<b>Dimension</b>	<b>Facets</b>
Cognitive	Environmental Information Specific Knowledge
Affective	Perceived severity of the environmental situation Endorsement of general pro-environmental world-view Endorsement of policy paradigms
Dispositional	Willingness to assume costs Feelings about individual action Attitudes toward low-cost and high-cost individual pro-environmental behaviours and collective pro-environmental behaviours
Active	Low-cost individual behaviour High-cost individual behaviour (lifestyle) Collective behaviour

*Table 3: Dimensional Facets, Sanchez & Lafuente, 2010*

tailored to the specific participant group. Overall, eight questions assess the Cognitive Dimension, six assess Affective, three assess Dispositional and four assess Active.

### ***Consideration of Other Measurements***

#### ***The Revised New Environmental Paradigm***

At present, the most widely applied measure of pro-environmental orientation is the Revised New Environmental Paradigm, frequently referred to as simply “the NEP” or “the Revised NEP.” The original NEP was created by Dunlap and Van Liere in 1978 and contained 12 statements that attempted to determine a population’s transition from the “dominant social paradigm” (DSP) to a more environmentally conscious world-view. The NEP was later revised and expanded to 15 questions in 2000 by Dunlap et al. in order to 1) tap a wider range of facets of an ecological world-view, 2) offer a balanced set of pro- and anti- NEP items and 3) avoid outdated terminology. However, the Revised NEP has received criticism in three main areas as discussed by Anderson (2012). First, it has been argued that the scale is missing certain elements of a pro-ecological world-view. Second, certain research has found that links between pro-environmental NEP results and pro-environmental behaviours are weak. Third, although Dunlap and Van Liere claim that the NEP scale only measures the one dimension (i.e. endorsement of a pro- or anti-environmental world-view), studies have shown that the NEP may capture more than one world-view. For this particular study, it was decided that a design that measured world-view, as well as behaviour, values and awareness, would be the most affective to accurately determine the respondent’s pro-environmental consciousness.



### *Evolution Measurement*

Respondents' attitudes regarding the "Theory of Evolution" were assessed using primarily questions from national and international polls. Peer-reviewed literature regarding specific approaches used for gauging attitudes toward evolution could not be located. Instead, this section was informed mainly by analyzing survey layout, standard terminology and recurring question format throughout evolution questionnaires distributed by Harris Interactive (2009), Pew Research Center (2005, 2006, 2007, 2013), National Opinion Research Center (Bishop, 2006), Virginia Commonwealth University (2010), Louisiana State University (2009) and Gallup, Inc. (2005, 2008, 2009, 2010, 2012, 2014), the latter of which has been surveying attitudes toward evolution since 1982. After review, three assessment criteria were established which included 1) understanding of evolutionary processes, 2) perception of conflict with religion and 3) general acceptance of evolution. Staple questions were borrowed from the formerly-mentioned polls and additional questions were developed to assess specific issues related to religion and science. The evolution section contained six Knowledge questions, two Perception of Conflict questions and three Acceptance questions.

### **Data Analysis**

#### **Quantitative Analysis**

##### *Multiple Choice Responses*

Data was exported from SurveyMonkey to Excel in both a text and numeric value format. Likert scale questions were designed with answer weights of one to five. All answers to the other non-Likert scale questions were given a numeric value of one to five.

A score of one indicated the lowest measure of environmental knowledge, behaviour, values, etc. and low evolution acceptance, knowledge, etc. while a five indicated the highest measure. Questions were categorized according to their respective dimension (Environment: Cognitive, Dispositional, Affective, and Active; Evolution: Understanding, Perception of Conflict with Religion and Acceptance) and the scores were averaged to produce a “total” for each of the seven dimensions. Scores for the environmental and evolution dimensions were averaged to produce an overall “environmental total” and “evolution total.”

JMP statistical software was used to perform a multivariate correlation analysis between each of the four environmental and three evolution dimensions, as well as a correlation between the environmental and evolution totals.

### ***Open-ended Responses***

Two optional essay/comment-style questions (ENV Q21, EVOL Q14) were included which asked clergy to discuss any biblical passages used to inform their view on environmentalism or evolution. Responses citing specific Bible verses were grouped according to “Book” and compared against the respective environmental and evolution total of that clergy member in order to determine whether a trend was present between certain verses and total score.

### ***Comparative Analysis***

Environmental and evolution totals were analyzed according to each demographic factor (i.e. religious denomination, U.S. region, gender, age, education level, affiliation

with pro- or anti- evolution groups, and rurality) to determine whether totals were significantly different between demographic groups. The data were tested for equal variance (Levene's Test) and normal distribution (Shapiro-Wilk's Test). Because all demographic data failed to meet these assumptions (i.e. data contained unequal variances and non-normal distribution) p-values for significant difference were conducted using Monte Carlo Resampling in Excel-Resampling 2007 for age, gender, rurality and affiliation. Due to a greater number of demographic categories, significant difference between dimensions for U.S. region and religious denomination was determined using a non-parametric Steel-Dwass All Pair comparison analysis in JMP.

For all non-open-end survey questions, visual graphs of data were produced using Excel 2007. Data for environmental questions Q9, and Q14 and evolution questions Q1, Q2, Q4, Q6, Q9 and Q13 were compared against available poll data from Pew Research (ENV Q9, Q14) and Gallup (EVOL Q1, Q2, Q4, Q6, Q9, Q13).

## Results

SurveyMonkey collected 666 responses between February 16<sup>th</sup> and 22<sup>nd</sup>. After elimination of respondents with incomplete or missing data (55) and those indicating a religious denomination outside the scope of this study (i.e. Unitarian, Mennonite, Mormon, etc.), a total of 601 surveys were analyzed. A complete list of data figures is located in Appendices E-H.

### Demographic Results

Of the 12 religious denominations surveyed, Episcopalian/Anglican had the highest percentage of responses at 14%, followed closely by Lutheran (13%), Baptist (13%) and Methodist/Wesleyan (13%). Non-denominational and Presbyterian both made up 10 percent of responses, while Congressional/Reformed and Catholic were both nine percent. The fewest responses were collected for Evangelical (5%), Pentecostal/Charismatic (4%), Restoration (1%) and Orthodox (1%).

Regarding regional location of church, South Atlantic (16%), Mountain (15%), East North Central (15%), West North Central (14%) and West South Central (11%) each comprised more than 10 percent of total responses, whereas Pacific (9%), New England (8%), Mid-Atlantic (6%) and East South Central (4%) were less than 10 percent.

Region	States
<b>South Atlantic</b>	DE, FL, GA, MD, NC, SC, VA, DC, WV
<b>Mountain</b>	AZ, CO, ID, MT, NV, NM, UT, WY
<b>West North Central</b>	IA, KS, MN, MO, NE, ND, SD
<b>East North Central</b>	IL, IN, MI, OH, WI
<b>West South Central</b>	AR, LA, OK, TX
<b>Pacific</b>	AK, CA, HI, OR, WA
<b>New England</b>	CT, ME, MA, NH, RI, VT
<b>Mid-Atlantic</b>	NJ, NY, PA
<b>East South Central</b>	AL, KY, MS, TN
<i>Table 4: States Divided by Census Regions</i>	

The largest age group to respond was 55 to 64 (38%), followed by 45 to 54 (21%), 35 to 44 (17%), 65 or older (13%) and 25 to 34 (11%). The sixth age bracket (under 25) only received one response, and was, therefore, excluded from comparative analysis.

Reported education level of respondents was as follows: 68% held a Graduate degree, 22% held a Doctoral degree and 8% had at least a Bachelor’s degree. Those with a High School diploma or G.E.D. or Associate degree accounted for two percent and one percent, respectively. Respondents were not asked what type of degree they held.

The majority of respondents were male (79%) with females making up less than a quarter (21%). In addition, gender ratios within the denominations were highly

disproportional, except for Episcopalian/Anglican where response rates from men and women were equal (Figure 6).

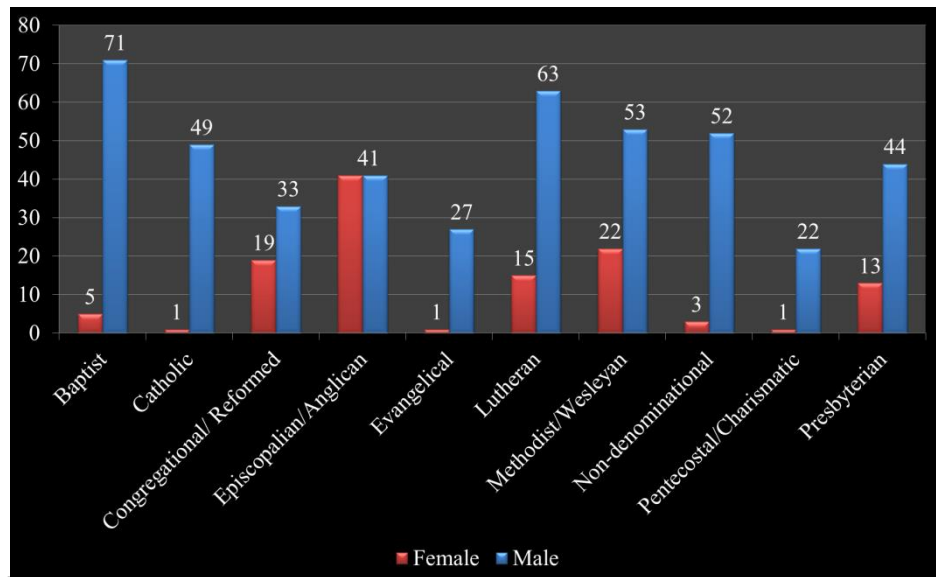


Figure 6: Number of Respondents Divided by Denomination and Gender

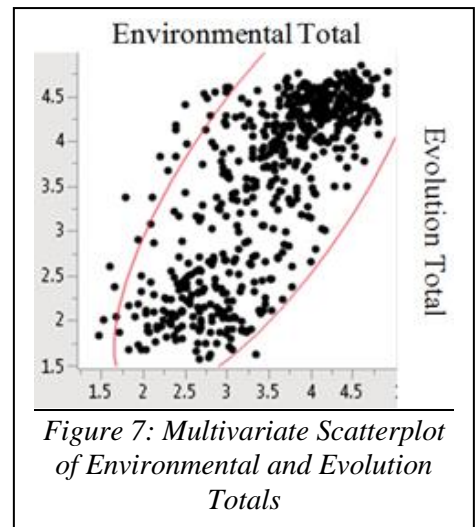
## Analyzing and Interpreting the Results

### Environmental and Evolution Correlations

This thesis set out to determine whether there is a significant relationship between environmental consciousness and attitudes toward evolution, and to investigate the nature

and compositional factors of this relationship. In order to respond to this query, a multivariate pairwise analysis between the Environmental and Evolution Totals of the respondents as well as between all seven dimensions totals was conducted and revealed several notable relationships. Note that for the following results the “r” correlation factor (r=0.000 to 1.000) indicates the strength of the correlation with r=1.000 signifying a perfect positive correlation and r=0.000 indicating no correlation.

The correlation between all environmental dimensions (Environmental Total) and all evolution dimensions (Evolution Total) was  $r=0.769$  (Figure 7). The strength of this correlation factor supports the hypothesis that a significant relationship does exist between a person’s views on the environment and evolution, and that this relationship is positive and linear. In



In addition, there appears to be a polarized composition of the scatterplots in Figure 7, with a higher concentration of respondent totals falling in the upper right and lower left portion of the line. These groupings illustrate that, while the relationship is linear, attitudes are not evenly distributed across the spectrum, but instead tend to separate toward opposite ends. These polarized groupings are not surprising given the political nature of environmentalism and evolution.

Because this analysis illustrates that the environmental and evolution beliefs of highly religious Christian individuals fall along a spectrum and are not unified regarding one perspective, it is, thusly, concluded that a person’s devotion to the Christian doctrine

should be used as a general predictor of that person’s stance regarding these issues.

However, the positive and linear correlation between pro-environmental and pro-attitudes toward evolution and vice versa might be more related to a person’s general underlying attitude toward scientific authority regardless of religious affiliation or religiosity.

### Dimension Correlations

In addition to the overall correlation between the environmental and evolution totals, the four environmental dimensions (Cognitive, Dispositional, Affective and Active) and three evolution dimensions (Knowledge, Perception of Conflict and Acceptance) were correlated with each other to establish how these components of environmentalism and attitudes toward evolution interrelate to one another.

### Environmental Dimensions

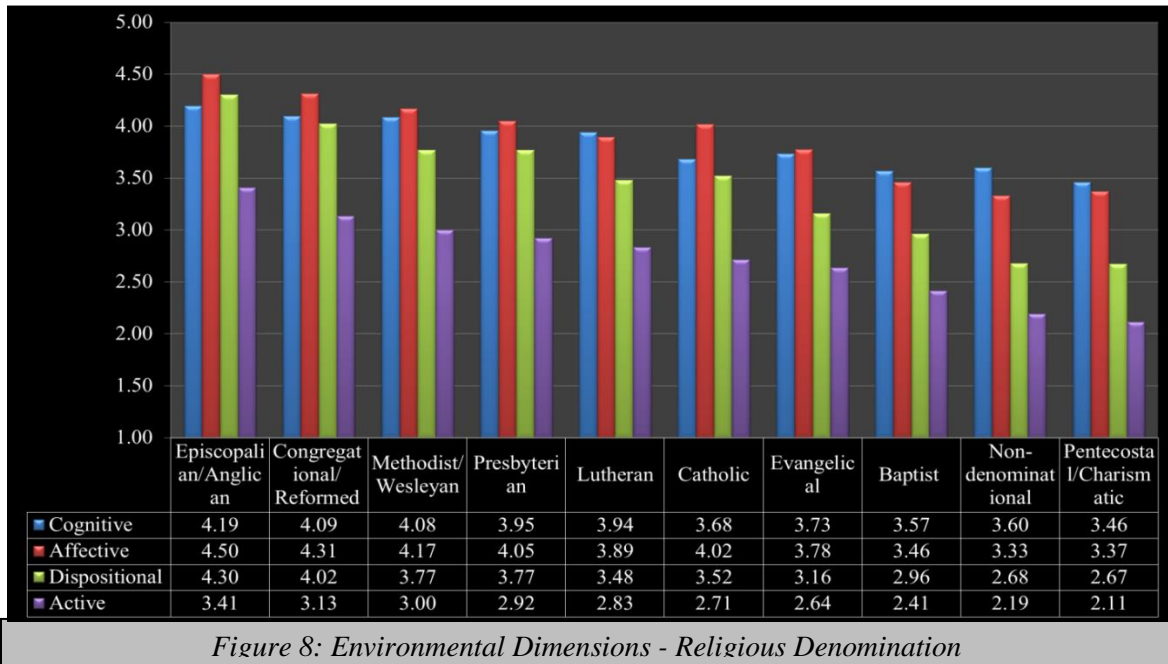


Figure 8: Environmental Dimensions - Religious Denomination

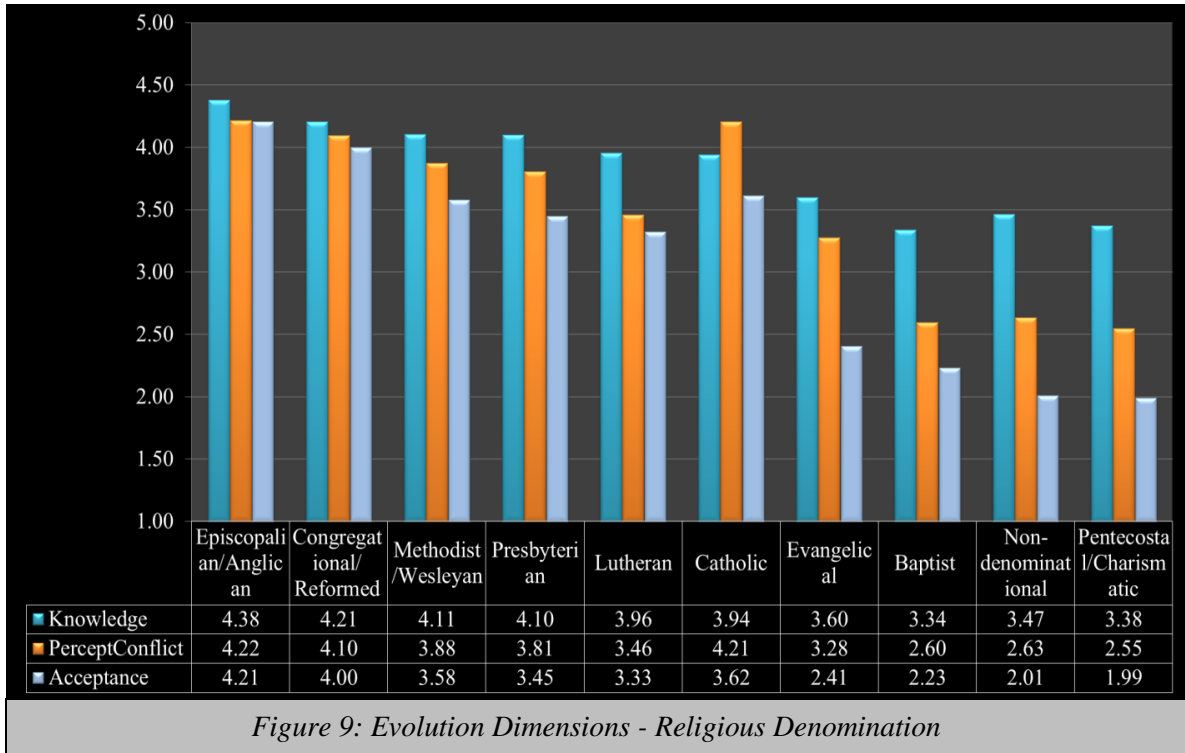
Among the environmental dimensions, the strongest relationships were between Dispositional Total and Affective Total ( $r=0.849$ ) and Dispositional Total and Active Total ( $r=0.789$ ). Additionally, Active and Affective Totals had a high correlation at  $r=0.744$ . These high correlation factors between the Dispositional, Affective and Active scores suggests that the respondent's intention/disposition toward pro- environmental consciousness is strongly tied to the likelihood that (s)he will hold pro-environmental values and exhibit pro-environmental behaviours and vice versa. However, Active Totals (2.01-3.41) were consistently the lowest scoring dimension across denominations (Figure 8), demonstrating that a person who values the environment may not behave in an eco-conscious manner at the same rate.

Cognitive and Active Totals had the weakest correlation ( $r=0.544$ ) between any of the environmental dimensions, followed by Cognitive and Affective ( $r=0.567$ ) and Cognitive and Dispositional ( $r=0.561$ ). The low correlation between Knowledge and the three other dimensions indicates that attitudes and actions regarding the environment are more strongly influenced by the value that a person places on the environment rather than his/her direct scientific knowledge of environmental function. It might also be the case that the questions used to assess the respondent's knowledge of nature were too simplistic and/or too few to accurately gauge the environmental literacy of this highly educated sample. However, it must also be noted that the low correlation of the Cognitive dimension with the other dimensions does not necessarily thwart the notion of scientific authority as an underlying variable. The Cognitive questions in this instance sought to determine the respondent's *personal* knowledge regarding ecology, not his/her attitudes toward the knowledge provided by those in the scientific community. The low Cognitive



correlation may even support the idea that a person’s environmental values, intentions and behaviours can be influenced by acceptance or rejection of scientific authority regardless of personal knowledge level.

*Evolution Dimensions*



Between the evolution dimensions, there was a high correlation between Acceptance Total and the Perception of Conflict Total ( $r=0.8031$ ). It must be noted that in this thesis a high score for “Perception of Conflict” indicates that the person perceives “no” conflict between religion and science, while a low score indicates that there is perceived conflict. The high correlation between accepting the Theory of Evolution and seeing no conflict with Biblical tenets implies that acceptance of evolution may be contingent on the belief that evolutionary science does not conflict with or is unrelated to religious scripture. This notion is further supported by the fact that Knowledge stayed

relatively stable (4.38-3-34; Figure 9) and had a weaker link to Acceptance ( $r=0.723$ ) and Perception of Conflict ( $r=0.662$ ) than Acceptance had with Perception of Conflict ( $r=0.8031$ ). Similar to the Environmental Dimensions, this suggests that acceptance of evolution may be more strongly tied to the presence of lack of perceived conflict between the Bible and evolutionary principles than to general knowledge of evolution. However, as with the Cognitive dimension, the questions used to assess Knowledge of evolution may have been overly limited or insufficient given the education level of the respondents. In addition, the Knowledge questions utilized in this study were aimed at determining *personal* scientific understanding of evolution concepts and not the respondent's understanding of the scientific evidence offered by the science community. Again, this finding may support the idea that an individual's Acceptance of evolution or Perception of Conflict may be influenced by perception of scientific authority despite having low or high personal knowledge.

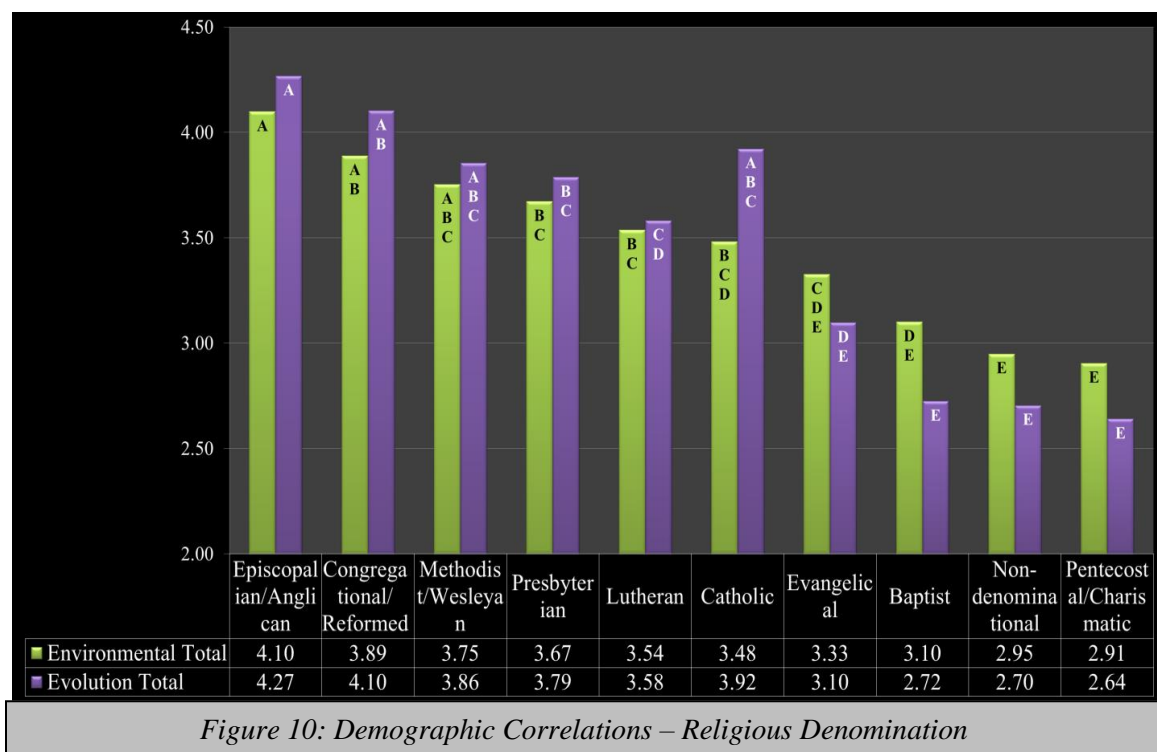
### ***Environmental vs. Evolution Knowledge***

Lastly, high or low knowledge of evolution did not necessarily correlate to high or low environmental knowledge ( $r=0.578$ ). This could be a result of the environmental knowledge assessment questions being less difficult than the evolution knowledge questions, environmental information being more widely publicized or perhaps those interested and well-versed regarding one of these fields may not necessarily be interested or well-studied in the other.

## Demographic Correlations

The following results section reviews the seven demographic categories that were included in this study (religious denomination, region, gender, age, education level, rurality, and organization affiliation) in order to determine whether demographic trends are present and how these trends compare to other research.

### *Religious Denomination*



Among the 12 surveyed Christian denominations, the scores for those with at least 10 respondents were compared for significant difference (Figure 10), which excluded the Orthodox/Eastern (n=3) and Restoration Denominations (n=7). Although efforts were made to collect an even sample number of denominations, Orthodox/Eastern and Restoration were underrepresented due to either lack of presence on the internet or in the cities selected for surveying.

Episcopalian, Congregational and Methodist were the highest scoring denominations for Environmental Total (3.67 – 4.10) and there was no significant difference between them. Episcopalian, Congregational, Methodist plus Catholic were the highest on Evolution Total (3.86-4.27) with no significant difference. Evangelical, Baptist, Non-denominational and Pentecostal had the lowest scores regarding both Environmental (2.91-3.33) and Evolution (2.64-3.10) Totals and did not differ significantly.

Additionally, these four lower scoring denominations displayed higher Environmental Totals than Evolution Totals, while the six higher scoring denominations all displayed higher Evolution Totals relative to their Environmental Totals. This is believed to have occurred due to Evangelical, Baptist, Non-denominational and Pentecostal having Perception of Conflict and Acceptance scores that were substantially lower than the six other denominations.

### ***Region***

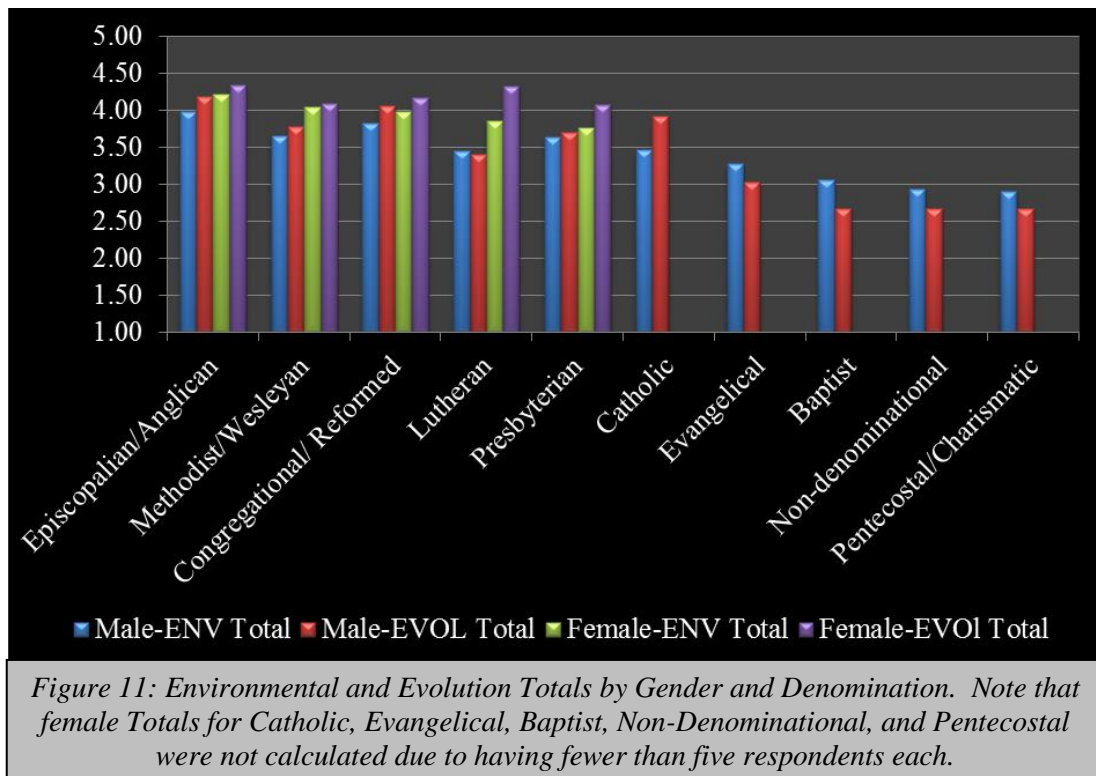
New England scored the highest in Environmental Total (3.82), but this score was only significantly higher, statistically, than the West South Central (3.34) and Mountain (3.25) regions, which were not significantly different from the remaining six regions. New England also scored highest in Evolution Total (3.87). However, there was no statistically significant difference between any of the regions.

### ***Education***

Respondents who indicated they held a Graduate or Doctoral degree scored significantly higher ( $p \leq 0.001$ ) on both Environmental and Evolution Totals than those holding a Bachelor Degree. However, Totals between Graduate and Doctoral degrees were not significantly different. The High School Diploma or equivalent ( $n=9$ ) or an Associate's Degree ( $n=6$ ) categories were not analyzed due to having too few respondents.

### ***Gender***

Additionally, Environmental and Evolution Totals for the women were significantly higher than the men's Totals ( $p \leq 0.001$ ). These findings are supported by previous research. Numerous studies on environmental concern have consistently found that women have modestly stronger pro-environmental values, beliefs, and attitudes than



men (Xiao & McCright, 2013; Davidson & Freudenberg, 1996; Zelezny et al., 2000; Dietz et al., 2002; Arnocky & Stroink, 2011). Regarding attitudes toward evolution, Price and Bohon (2012) found that women who believe in evolution are the group with the greatest level of environmental concern.

However, because women within the Episcopalian denomination accounted for 34 percent of total female respondents, a comparative analysis of means was conducted including both gender and denomination in order to test whether Episcopalians scored highest due to 50 percent of respondents being female (Figure 11). Because both Episcopalian men and women had the highest Environmental and Evolution Totals for their gender group, it is concluded that the high ratio of Episcopalian female respondents—relative to other denominations—did not cause the Episcopalian Environmental and Evolution Totals to be artificially high.

### *Age, Rural and Affiliation*

Between age groups, the only significant difference was between the Evolution Totals between 45-54 and all other age groups [not including under 25, which was not analyzed (n=1)]. It is unclear as to why the 45-54 group scored lower regarding evolution than the other groups, and why the Environmental Total for this group was not different. One potential factor might be that 45-54 olds would have been in school during the 1970s and 1980s when some states and counties were prohibiting the teaching of Evolution. However, it is unknown whether these specific respondents for this age group were affected by this event.

Scores for Environmental and Evolution Totals for rural and non-rural respondents showed a significant difference with respondents living in cities with a

population greater than 10,000 scoring an average of 0.34 and 0.43 points higher, respectively.

Lastly, as expected, respondents who signed the pro-evolution “Clergy Letter Project” (9% of total) scored significantly higher than “unaffiliated respondents” (89%) whose scores were significantly higher than those affiliated with the pro-intelligent design “Discovery Institute” (2%). Because only one response was collected from the group signed onto the “Creation Letter,” a correlation was not conducted for this category.

### **Analysis of Dimension Questions by Religious Denomination**

In addition to considering the correlations among the religious denominations using Environmental and Evolution Totals, individual survey questions were analyzed to more closely examine the denominational variation within the four environmental and three evolution dimensions. The following results section also compares responses of Clergy with research conducted by Gallup and Pew Research on the general public.

#### ***Environmental Dimensions***

##### ***Cognitive***

To begin, when respondents were asked to select the statement closest to his or her views on Climate Change (Figure 12), more than 50 percent from six of the denominations (51%, Catholic- 85%, Episcopalian) indicated that Climate Change is the result of anthropogenic changes to the environment and fossil fuel combustion. Evangelical (61%), Baptist (70%), Non-denominational (79%), and Pentecostal (68%)

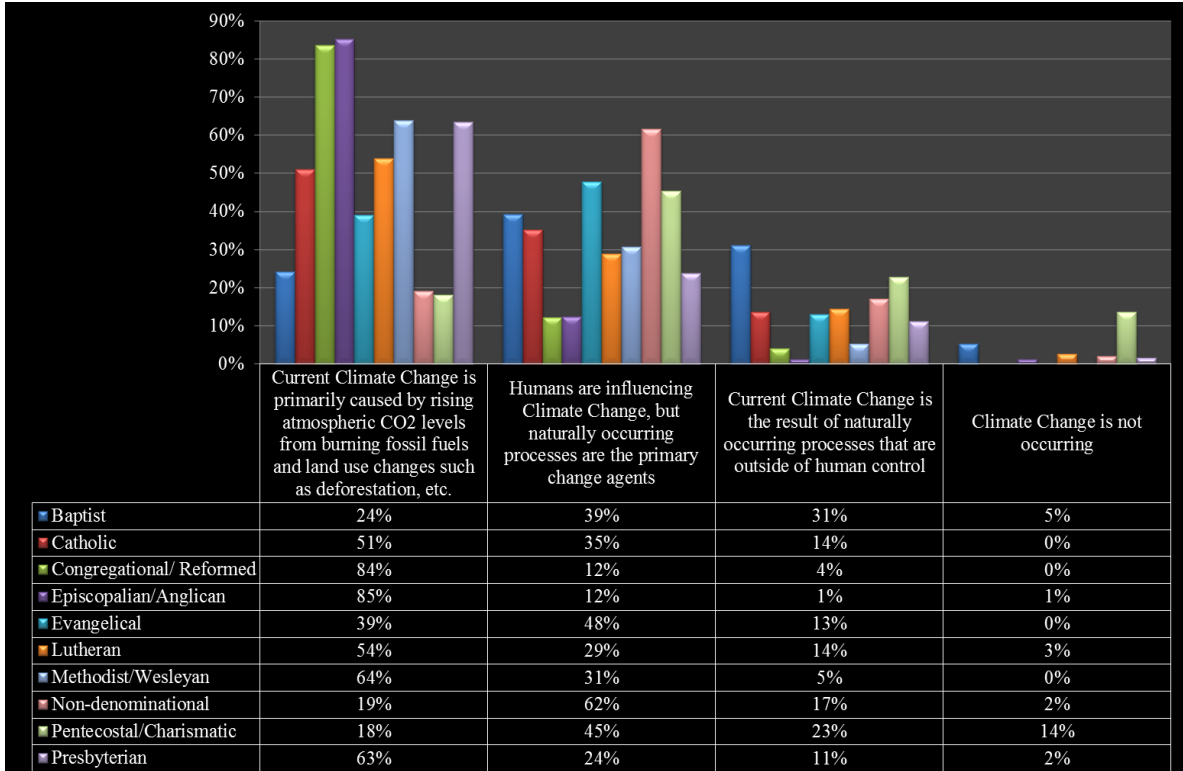


Figure 12: Environmental Question 2 , “Which of the following statements comes closest to your views on Global Climate Change?”

had high percentages indicating naturally occurring processes as the primary cause of Climate Change. Those stating that Climate Change is “not occurring” accounted for zero to five percent of each denomination, except for Pentecostal at 14 percent.

These percentages were similar to responses given on whether there is “a consensus among climate scientists regarding the current rate of Global Climate Change being human-induced.” More than 60 percent (64%, Evangelical – 91%, Episcopalian) believe there is a consensus that current Climate Change is “human-induced,” while more than 30 percent of Catholic (30%), Baptist (36%), Pentecostal (37%) and Non-denominational (44%) believe there is “no consensus,” and zero to five percent (Pentecostal) of respondents believe there is consensus that “earth is not experiencing Climate Change.”



Respondents were prompted to self-report how “informed they felt on issues related to the environment.” An average of 16 percent (4%, Evangelical – 28%, Presbyterian) felt “highly informed,” an average of 48 percent (23%, Pentecostal – 53%, Episcopalian) felt “informed,” 31 percent (19%, Episcopalian – 55% Pentecostal) felt “moderately informed,” nine percent (4%, Evangelical – 16%, Non-denominational) felt “somewhat informed” and an average of less than one percent (0%, - 5%, Pentecostal) felt “not informed.” These self-reported knowledge levels were compared against the average of their corresponding Environmental Cognitive scores to determine whether self-reported knowledge was an accurate predictor of environmental knowledge. It was found that those who reported being “Informed” (3.95), or “Moderately Informed” (3.85), on average, scored higher than those who reported being “Highly Informed” (3.83) or “Somewhat Informed” (3.79). This non-linear association further substantiates the speculation that the knowledge questions employed in this survey were not well-suited to assessing the breadth or depth of respondent knowledge on environmental subjects.

Four of the six Environmental Cognitive assessment inventories asked specific science-based questions pertaining to processes and factors affecting the atmosphere and environment. The respondents’ scores were consistently high with 87 (Congregational) to 100 (Catholic and Pentecostal) percent stating that “Trees and other plants reduce CO2 levels through photosynthesis” was “definitely/probably true,” and 65 (Baptist) to 96 (Congregational) percent stating that the “loss of biodiversity has no impact on the human population” is “definitely/probably false.”

The following two questions were taken from Pew Research surveys of the general public. On both of these questions clergy chose the correct answer for “what gas

is most present in the Earth’s atmosphere” (47%, Presbyterian – 73% Non-denominational) and “what resource is extracted by ‘fracking’” (84%, Evangelical – 99%, Episcopalian) at much higher rates than the public (20% and 51% correct), which is likely due to the high rate of college and post-college education amongst the clergy surveyed.

*Affective*

Clergy were presented with nine general environmental issues and asked to select how concerned they were about each issue (Figure 13). The issue of water pollution (470), air pollution (430) and toxic chemicals (428) were of greatest concern, most likely

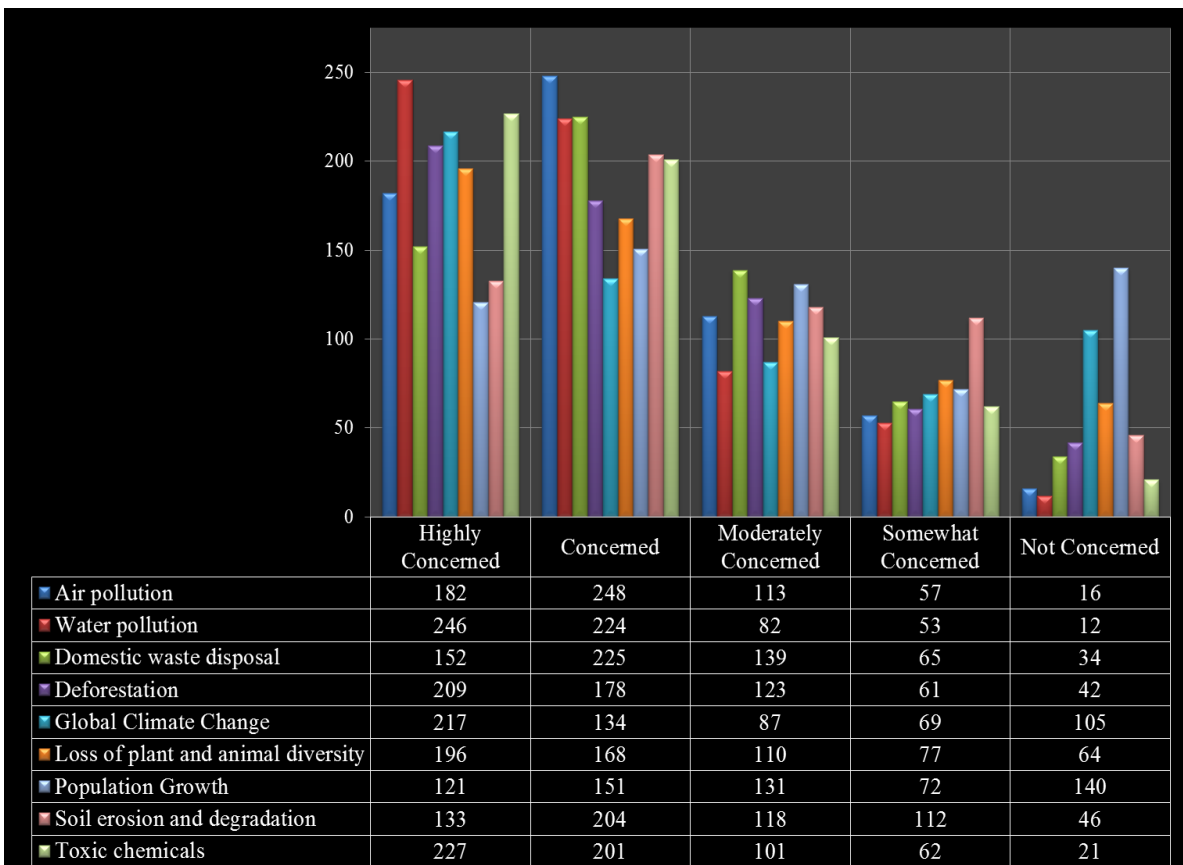


Figure 13: Environmental Question 5, “How concerned are you regarding the impact of the following issues?”

due to their immediate, negative effect on human, plant and animal health. Soil erosion (230), waste disposal (204), and population growth (203) were of moderate concern, while population growth (140) and Climate Change (105) were the least concerning. The low concern for population growth may result from the belief that either population growth will not adversely affect the environment or that having more people exist is worth any potential environmental detriment. Also, it should be noted that while population growth was the lowest scoring in the “highly concerned” category, Climate Change had the third highest score in this category. This suggests that concerns related to or acknowledgement of Climate Change is polarized.

Respondents were asked to report “how concerned” the people were in their region regarding environmental issues. These responses were compared against Environmental Totals for the nine regions. New England (81%), Pacific (66%), and Mid-Atlantic (46%) had the highest portion of “highly concerned/concerned” responses which correlated with Environmental Totals of 3.82, 3.73 and 3.71—on both scales these regions ranked first, second and third. East North Central (66%), East South Central (61%) and West North Central (57%) scored highest for “moderate concern,” and were ranked sixth (3.54), fourth (3.59), and seventh (3.34) for Environmental Totals—all three regions were within two ranks between regional perception and score totals. However, the region with the greatest discrepancy between perceived environmentalism and actual environmental score was Mountain, which was ranked fourth in both the “highly concerned” and “not concerned” categories, yet was ranked last (9<sup>th</sup>) in Environmental Total.

To further assess the environmental values of clergy, respondents were asked whether they agreed or disagreed with Pope Francis's stance that "humans have failed in our duty to protect God's creation." The majority, at an average of 78% (45%, Pentecostal – 99%, Episcopalian), strongly agreed or agreed with the statement. Catholics were second highest at 92% agreement, and Non-denominational (22%), Pentecostal (18%), Baptist (12%), and Evangelical (12%) were all above 10 percent on strong disagreement or disagreement. Catholics were second lowest in disagreement at two percent.

Three questions for assessment of environmental values were taken from the New Environmental Paradigm (NEP) assessment survey. The first two questions asked whether respondents agreed with the statements "People worry too much about human progress harming the environment," and "Humanity cannot continue on its present course without detrimental ecological consequences." The strongest agreement was displayed by Episcopalian (93%, 95%), Congregational (88%, 90%), Presbyterian (83%, 83%) and Methodist (82%, 83%). Non-denominational (36%, 26%), Baptist (31%, 19%), Pentecostal (24%, 24%), and Evangelical (21%, 20%) indicated the lowest levels of agreement for these statements. When respondents were asked whether they supported the idea that "Modern science will solve our environmental problems with little change to our way of life," the majority of the denominations showed high disagreement (69%, Baptist-92%, Episcopalian). The denominations agreeing the most with this idea were Non-denominational (10%), Presbyterian (10%), Lutheran (9%) and Methodist (8%).

### *Dispositional*

Three inventories were included in the survey to gauge respondent's intention toward environmental consciousness, which asked whether the respondents would "be willing to pay higher prices" to protect the environment, whether the government "should implement stronger regulations" to protect the environment and whether they, as a "spiritual leader," feel that (s)he have a "responsibility to ensure that those in the church are environmentally aware."

Episcopalian (88%, 86%), Congregational (67%, 80%), Presbyterian (65%, 69%) and Methodist (62%, 72%) were the four highest on willingness to pay higher prices and supporting stronger government regulation. Similarly, Congregational (92%), Episcopalian (87%), Presbyterian (81%) and Catholic (80%) were the highest on their agreement with the statement that spiritual leaders have an environmental responsibility. On the questions of "regulation" and "responsibility", Non-denominational (54%, 29%), Pentecostal (52%, 27%), Evangelical (29%, 17%), and Baptist (49%, 16%) had the highest levels of disagreement and lowest levels of agreement. Pentecostal (36%), Non-denominational (28%), Baptist (24%) and Catholic (14%) were the least willing to pay higher prices for environmental protection.

### *Active*

Clergy were asked to indicate how often "concern for the environment" influenced six different areas of potential personal pro-environmental action. "Waste reduction" and "daily energy conservation practices" scored the highest on "frequently to almost always" at 78 and 68 percent, while "method or frequency of transportation" was

only 32 percent for this category, but was the highest for “occasionally to rarely” at 51 percent and “never” at 16 percent. “The products/where you buy” and “the food you eat/where you purchase the food” scored relatively high for “occasionally to rarely” (both 42%) and “never” (10%, 11%). These percentages regarding environmental action may not accurately reflect the areas of the most concern, but rather the areas in which people have the most personal control or availability. For example, while someone might be highly concerned about air pollution and fossil fuel consumption, alternative transportation methods other than driving a personal vehicle may not exist or be easily accessible in their city or state of residence. Likewise, eco-conscious retailers and restaurants may not be present in numerous regions. Conversely, actions to reduce waste and conserve energy can be easily and quickly performed by individuals regardless of region. Regarding environmentally conscious personal efforts performed in the last two years, an average of 26 percent (4%, Evangelical/Pentecostal - 63%, Episcopalian) had “given money to an environmental group,” an average of 37 percent (13%, Pentecostal - 67% Episcopalian) had “signed a petition about an environmental issue,” only an average of nine percent (0%, Non-denominational/Pentecostal – 33%, Catholic) had “taken part in an environmental protest, or hearing” and 43 percent (7%. Catholic – 75%, Pentecostal) had not personally performed any pro-environmental action in the past two years. Additionally, the four denominations having the highest percentage of “no action” were Pentecostal (75%), Non-denominational (67%), Baptist (58%) and Evangelical (54%). As noted previously, the ability to perform these actions may be somewhat limited by availability in certain regions. Concerning interactions with congregation members (Figure 14), more than 50 percent of Episcopalian (58%) and more than 30 percent of

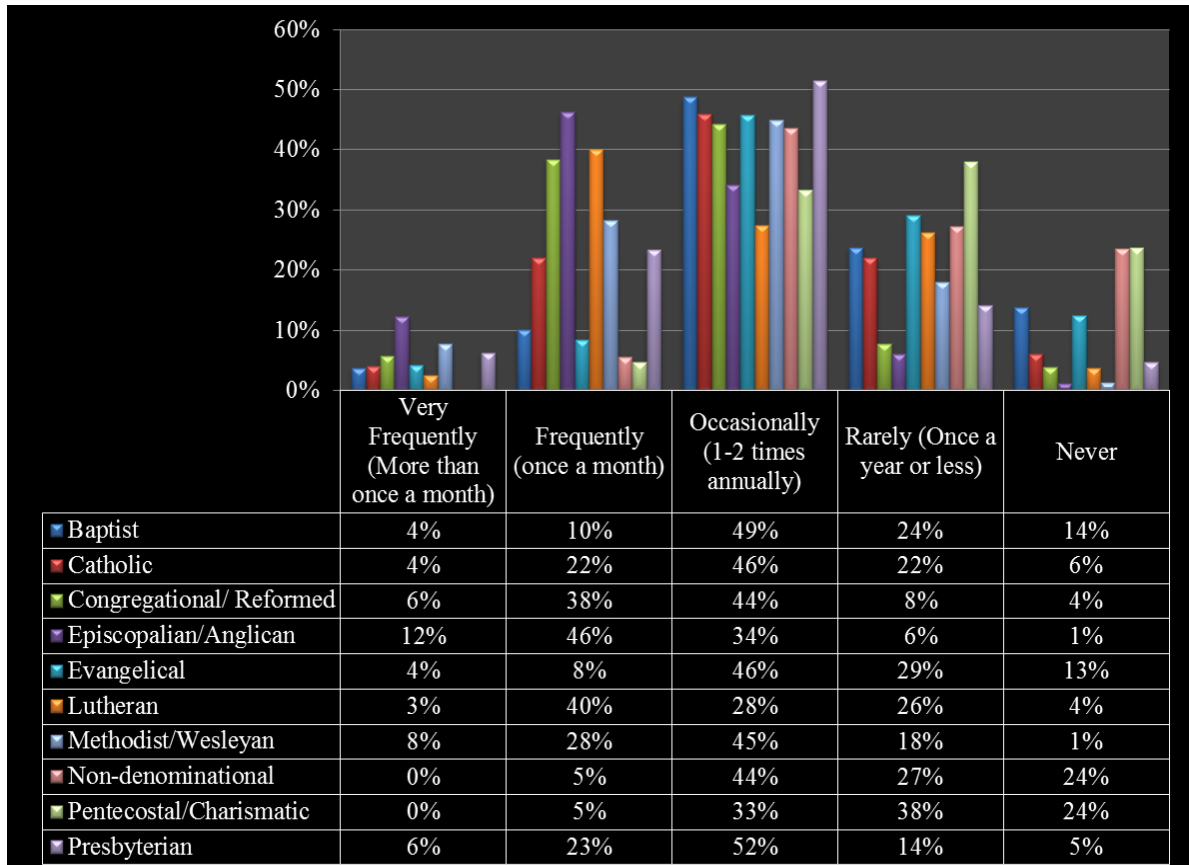


Figure 14: Environmental Question 18, “How often do you address environmental issues with your church members?”

Congregational (44%), Lutheran (43%) and Methodist (36%) reported addressing environmental issues “frequently to very frequently.” Whereas, more than 70 percent of Evangelical (75%), Baptist (73%), Non-denominational (71%), and Pentecostal (71%) discussed issues “occasionally to rarely” and these latter four denominations were also above 10 percent on “never” addressing environmental issues. While the previous two behavioural questions are somewhat reliant on regional availability, the similarity of results with this question indicate that the outcome of the previous questions may not be as affected by availability as by personal eco-conscious motivations.

Regarding methods of discussing these environmental issues, the majority (53%) indicated communicating issues during the sermon (39%, Baptist – 71%,

Congregational), and during one-on-one conversations (51%; 27%, Catholic – 65%, Lutheran), while communication through church e-mail or newsletter (27%; 3%, Non-denominational – 54%, Congregational) and church participation in or donations to environmental causes (19%; 3%, Pentecostal – 37%, Episcopalian) were less prevalent.

### *Environmental Dimensions Conclusion*

Overall, clergy members from all denominations were more knowledgeable regarding environmental issues and ecological processes than the general public, which is most likely a result of higher attained education levels. Episcopalian, Congregational, Presbyterian and Catholic clergy tended to respond more pro-environmentally on dispositional, Affective and Active questions, while Non-denominational, Pentecostal, Evangelical and Baptist tended to respond in a manner that is indicative of lower environmental consciousness. After consideration of the responses to the behaviour assessment for all denominations, it is likely that this dimension was the lowest of all seven dimensions due to regional or opportunity limitations.

### *Evolution Dimensions*

#### *Acceptance*

Research conducted by Gallup (2014) found that 31 percent of the general public believe that “humans evolved, but God guided the process,” 19 percent believe that “God had no part in the process” and 42 percent believe that “God created humans in present form” (Figure 15). Amongst clergy surveyed, all denominations had greater percentages than the public regarding the belief that “God guided the process” (57%, Evangelical –



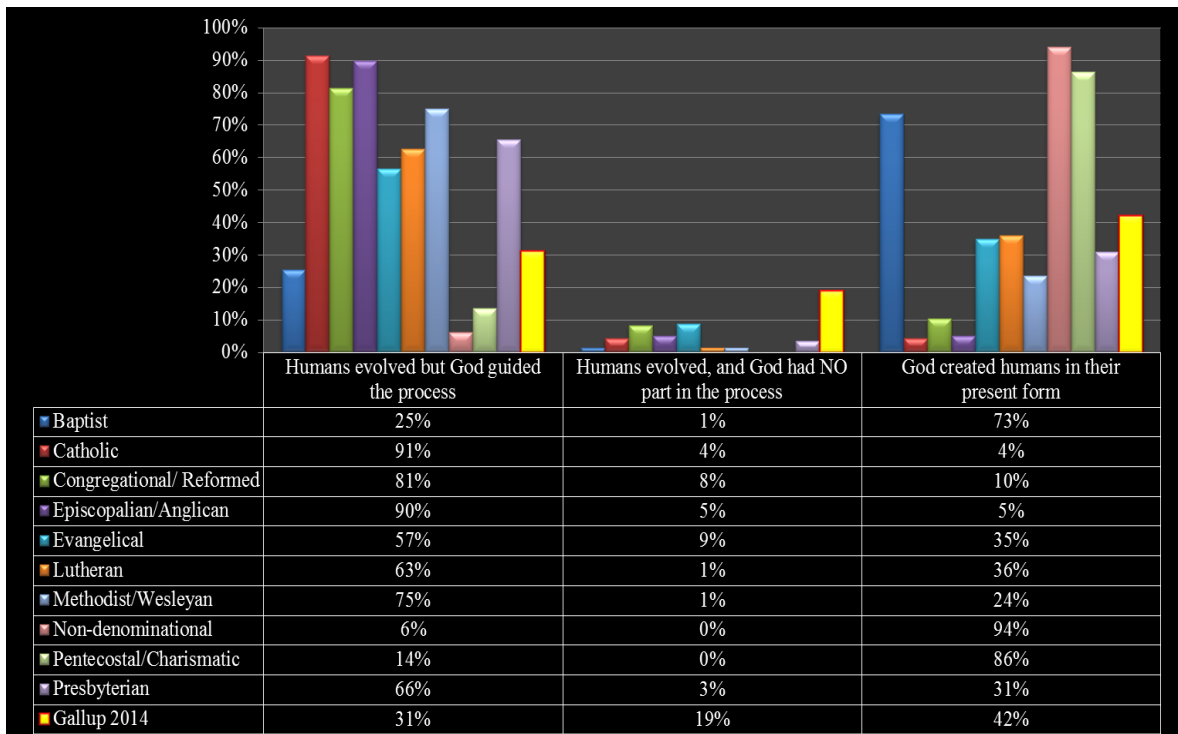
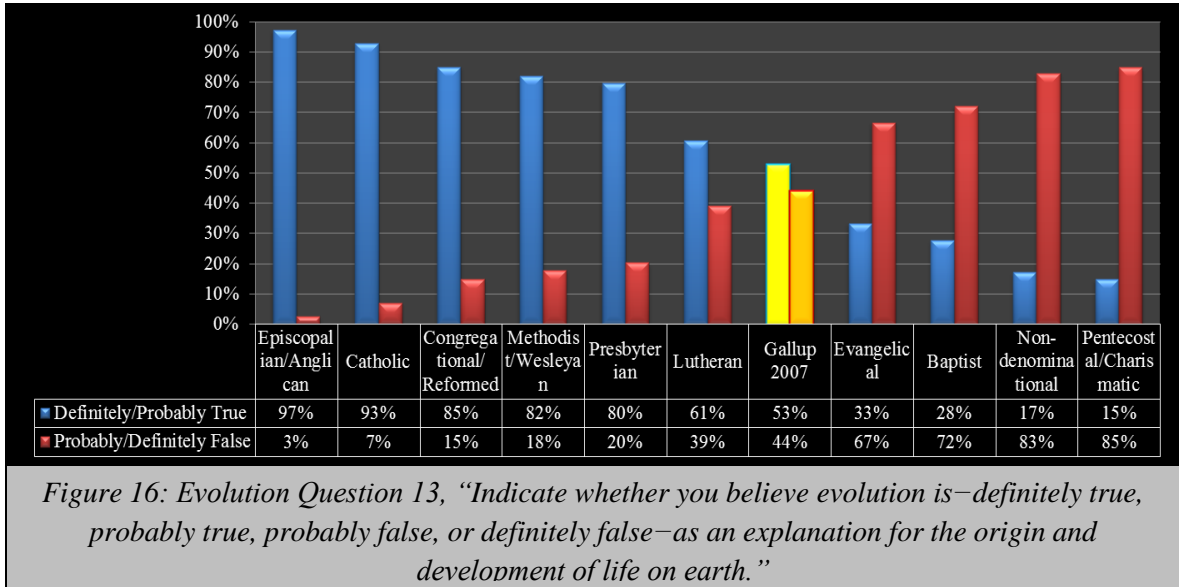


Figure 15: Evolution Question 2, “Which of the following statements comes closest to your views on the origin and development of human beings?”

91%, Catholic), except for Baptist (25%), Pentecostal (14%) and Non-denominational (6%). These three denominations were the only denominations to be more favorable to the belief that humans were created in “present form” at 73, 86 and 94 percent than the public (42%). All denominations had a smaller percentage (0%, - 9%, Evangelical) in favor of the belief that “God had no part in the process” than the public (19%).

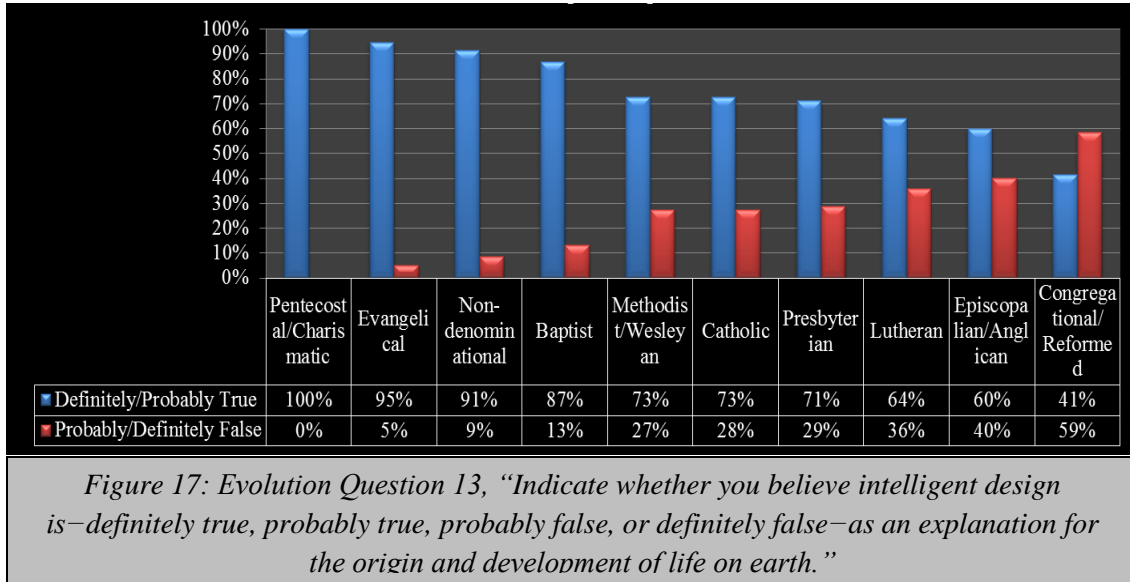
Comparably, when asked whether (s)he agreed or disagreed with the statement that the Theory of Evolution is “based on an overwhelming body of scientific evidence, which confirm its key ideas,” more than 50 percent of Episcopalian (93%), Congregational (81%), Catholic (76%), Presbyterian (70%), Methodist (70%), and Lutheran (61%) “agreed” or “strongly agreed.” Conversely, more than 50 percent of Non-denominational (81%), Baptist (71%) and Pentecostal (67%) “disagreed” or “strongly disagreed” with the statement.

To further measure acceptance of evolution, respondents were asked how true or false the following three theories for the development of life were: 1) evolution, 2) creationism and 3) intelligent design, and the responses were compared against those



collected in a 2007 Gallup poll. Episcopalian (97%), Catholic (93%), Congregational (85%), Methodist (82%), Presbyterian (80%), and Lutheran (61%) indicated “definitely/probably true” at a higher rate than the public (53%); and Evangelical (67%), Baptist (72%), Non-denominational (83%) and Pentecostal (85%) indicated that evolution was “probably/definitely false” at a higher rate than the public (44%) (Figure 16). These results were mirrored by the responses for creationism, where Pentecostal (95%), Non-denominational (94%), Evangelical (84%), and Baptist (77%) indicated “definitely/probably true” at a higher rate than the public (66%), while Lutheran (44%), Presbyterian (49%), Catholic (58%), Methodist (62%), Congregational (76%) and Episcopalian (88%) were higher than the public (31%) in indicating “probably/definitely” false.

There were no comparative data available regarding public opinion on intelligent design; however, belief that intelligent design was “Definitely/probably true” averaged 75 percent (41%, Congregational – 100%, Pentecostal) across the denominations. Response rates for “definitely/probably true” were greater than rates for “probably/definitely false” for all denominations except for Congregational (Figure 17).

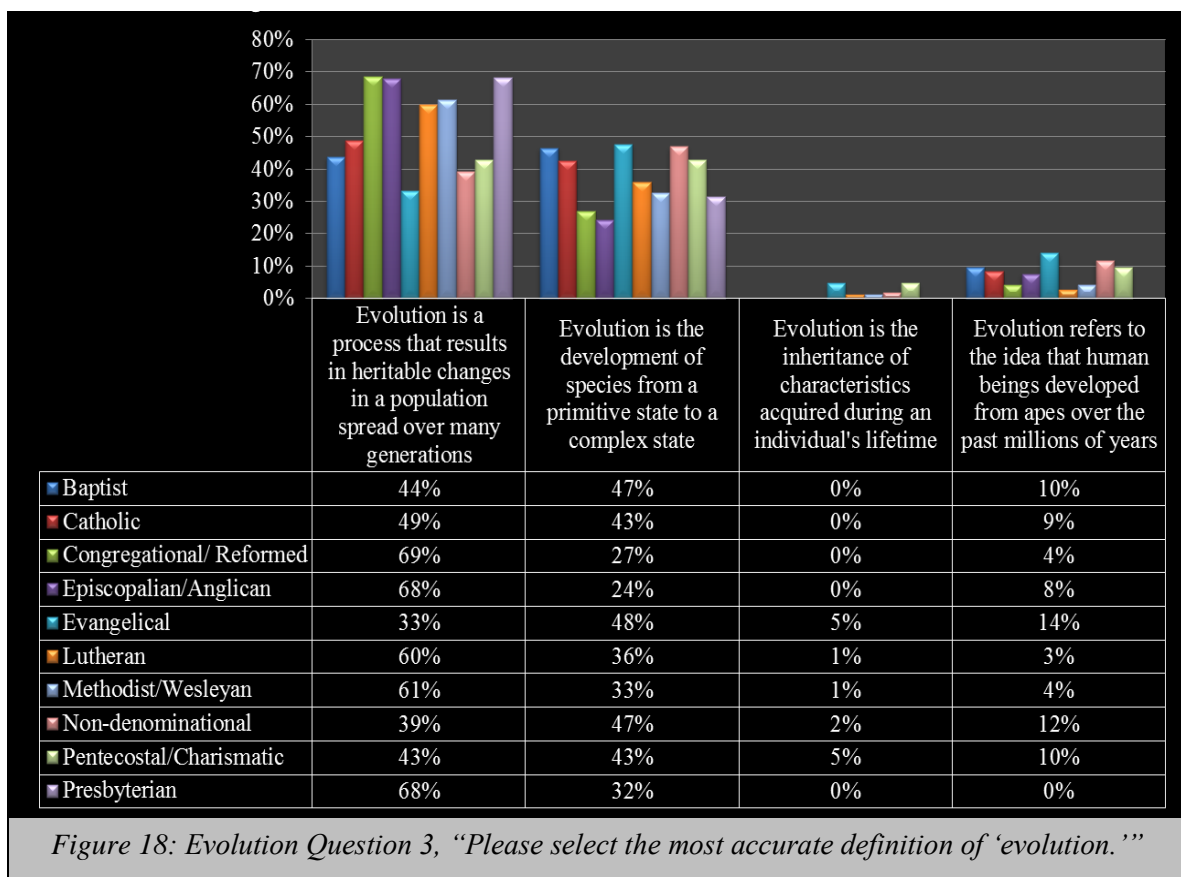


Although “intelligent design” is frequently considered to be a guise for “creationism,” the high rate of agreement amongst both pro- evolution and creationist denominations may indicate that intelligent design can be used to signify “creationism” as well as indicate a belief that, even though life likely developed through evolutionary processes, a divine entity was involved or at least present.

Lastly, clergy were surveyed as to whether they “favor or oppose” evolution, creationism, or both evolution and creationism being taught in public schools. These responses were compared against responses from the 2005 Gallup poll in which 75 percent favored teaching evolution only. Several denominations were more in favor of teaching evolution only than the public: Episcopalian (97%), Congregational (90%),

Presbyterian (90%), Methodist (89%), and Catholic (86%). In contrast, three denominations (Baptist, Non-denominational and Pentecostal) opposed exclusively teaching evolution or creationism. Moreover, these three denominations had the largest ratio of support among respondents for teaching both evolution and creationism in schools.

### Knowledge



On average, slightly more than half (53%; 33%, Evangelical – 69%, Congregational), of respondents correctly indicated that evolution is defined as “a process that results in heritable changes in a population over many generations” (Figure 18). The second most common answer at 38 percent (27%, Congregational – 48%, Evangelical) indicated that evolution was “development from a primitive to a complex state,” followed

by the “idea that humans developed from apes” at seven percent. More than 10 percent of Evangelical (14%), Non-denominational (12%), Baptist (10%), and Pentecostal (10%) selected this response. When asked whether “evidence of evolution is widely accepted within the scientific community,” a majority (78%; 43%, Pentecostal – 96%, Episcopalian) indicated that they believed it was accepted, while 25 percent believed that scientists have “serious doubts.” Among those who were skeptical, Non-denominational (49%), Pentecostal (38%), Baptist (38%) and Evangelical (30%) were all above 30 percent.

The self-reported knowledge level for evolution was compared against the average knowledge scores in these categories—as was done with the Environmental Cognitive scores. However, unlike the self-reported environmental knowledge levels—the higher self-reported knowledge level for evolution correlated with higher knowledge scores. Those who indicated they had heard or read a “large amount” had an average score of 3.99, while the scores for “moderate amount” were 3.85, a “small amount” was 3.72 and “little to none” was 3.14. This may be due more to inclusion of more challenging evolution Knowledge questions compared to the environmental Cognitive questions.

In addition, the response rates for clergy were compared to percentages from Gallup. All denominations had higher percentages (39%, Methodist – 61%, Baptist) than the public (34%) in the “large amount” category, Presbyterian (48%, Non-denominational (49%), Methodist (52%), Catholic (54%), and Evangelical (57%) had higher percentages than the public (47%) for a “moderate amount,” percentages for all denominations (0%,

Evangelical – 10%, Episcopalian) were smaller than the public (11%) for a “small amount” as were the percentages (0%, - 5%, Pentecostal) for “little to none” (6%, public).

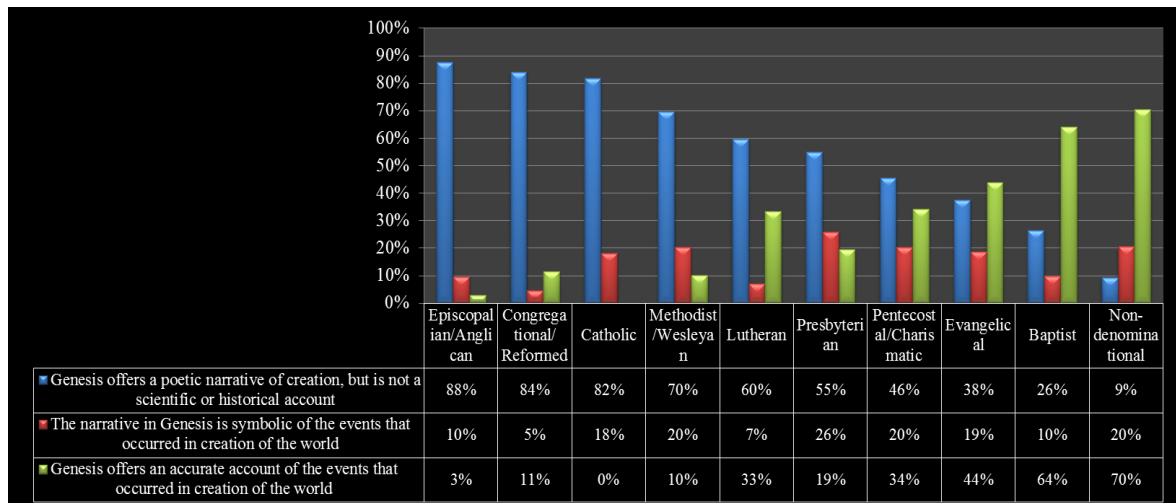
Three questions incorporated specific knowledge of biological and scientific definitions and processes. The first included three true-false style questions: 1) “Evolutionary mechanisms can explain why the overuse of antibiotics leads to antibiotic resistant bacteria,” 2) “Evolution occurs in populations and not individuals,” and 3) “Evolution is a theory about the origin of life.” For every denomination the percentage of total correct answers for the “antibiotic” questions were highest (47%, Baptist – 91%, Episcopalian), while the percentages of correct answers for the “origins” question had the smallest range of correct answers (32%, Pentecostal – 64%, Presbyterian). Episcopalian had the highest combined average of 74 percent, followed by Congregational at 70 percent and Presbyterian at 65 percent. Baptist (40%), Pentecostal (41%), and Non-denominational (48%) were all below 50 percent for average total correct.

Although only half of respondents selected the correct definition for “evolution,” a very large portion (88%; 79%, Pentecostal – 92%, Congregational/Lutheran/Methodist) accurately chose the correct definition for “natural selection”—traits possessed by organisms that survive to reproduce will increase in the population. Correspondingly, an average of 91 percent (80%, Baptist/Pentecostal – 100%, Congregational/Episcopalian) of clergy agreed that “the reproduction of animals and plants that are best suited to the environment cause subsequent generations to be better suited to the environment,” was “definitely/probably true.” A question prompting respondents to identify the correct definition of “evolution” followed by questions focusing on the processes involved in evolution were intentionally included in this survey in order to explore people’s

understanding of the mechanics of evolution when separated from the term “evolution.” More than 80 percent of Baptists, Pentecostal, Evangelical and Non-denominational supported the biological principles characterizing evolution, yet fewer than a third of respondents in these denominations indicated that evolution was “definitely/probably true.” This discrepancy suggests that a person’s initial response when asked about evolution may be more tied to the politics surrounding the term than agreement with the scientific principles of which it is comprised.

*Perception of Conflict*

Respondents were asked to indicate whether they believed that the Biblical creation story found in Genesis was “a poetic narrative, but not a scientific historical account”, “a symbolic narrative of the creation events,” or “an accurate account of the



*Figure 19: Evolution Question 12, “Please indicate the response that is most accurate regarding your view of the Biblical Creation Story in Genesis.”*

creation events” (Figure 19). More than half (56%) indicated that Genesis offers a “poetic narrative of creation,” followed by 29 percent who believed the Creation Story was “an accurate account” and 16 percent who say it is “symbolic.” The preponderance

of Episcopalian (88%), Congregational (84%), Catholic (82%) and Methodist (70%) respondents viewed the Genesis account as “poetic,” and were the least likely to indicate that it was “an accurate” account (0%, Catholic – 11%, Congregational). Methodist, Lutheran, Presbyterian and Pentecostal were not as strongly inclined toward a “poetic” interpretation, although a larger percentage in these denominations still favored “poetic.” On the other hand, Evangelical, Baptist and Non-denominational viewed the Genesis account as “accurate” at 44, 64 and 70 percent respectively, and these numbers were much higher than those favoring a “poetic” or “symbolic” view in these denominations.

Clergy were asked to indicate whether they thought that “In general, the ‘Theory of Evolution’ conflicts with their religious beliefs.” Their answers were compared with the 2014 Gallup poll percentages. The public was evenly split as to whether evolution was in “conflict”(46%) or “mostly compatible” (46%) with their religious beliefs. The majority of denominations—including Catholic (100%), Episcopalian (100%), Congregational (92%), Methodist (86%), Presbyterian (79%), Lutheran( 67%), and Evangelical (55%)—stated that the two were “mostly compatible,” whereas, 81 percent of Pentecostal, 80 percent of Non-denominational, and 72 percent of Baptist saw the two as being in conflict.

This general view of compatibility was echoed in the responses regarding the respondent’s view as to the “relationship between science and religion,” which was also utilized in the 2005 Gallup poll. Less than a quarter of the public (24%) believed that science and religion “generally agree with each other” while the responses from clergy averaged 83 percent (71%, Pentecostal – 91%, Catholic). More than a third (35%) of the public felt the two “generally conflict with each other” whereas, this percentage was six



percent for clergy (0%, Evangelical – 19%, Pentecostal). Lastly, the largest portion of the public (36%) felt that the two were “not related to each other in any significant way,” while this number dropped to an average of 11 percent for clergy (4%, Non-denominational – 19%, Episcopalian).

#### *Evolution Dimensions Conclusion*

As demonstrated in this section, denominations viewing Genesis as “poetic” or “symbolic,” showed more support for evolution being taught in schools, perceived evolution as more accepted by the scientific community, correctly selected evolution definitions and had overall higher acceptance. These observations are reflected by the high correlation factor between Acceptance and Perception of Conflict Totals, and reveal that interpretation of the Bible—specifically the creation narratives—may play the largest role in determining a christian’s beliefs regarding development of life and attitudes toward evolution. Lastly, denominations displaying more favorable attitudes toward evolution were more environmentally conscious (Episcopalian, Congregational, Methodist and Catholic) and denominations having the least support for evolution were less environmentally conscious among respondents in this sample (Non-denominational, Pentecostal, Evangelical and Baptist).

The rationale for this division amongst Christian denominations regarding environmental and attitudes toward evolution may be related to these denominations adhering to a more liberal or fundamental dogma, or containing an unequal proportion of socially or politically progressive or conservative church branches or church leaders.

### *Analysis of Biblical Influence*

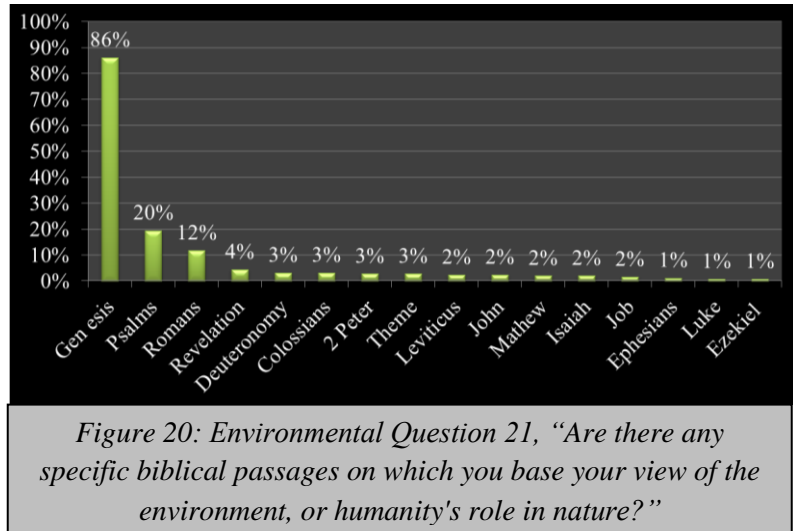
Two optional open-ended, comment/essay-style questions were included in the survey in order to determine whether respondents of differing environmental or evolution beliefs informed their views with distinct biblical passages or whether the same biblical passages were cited. The first scenario would suggest that either those with a specific view of the environment or evolution are more strongly influenced by specific passages, or that they are more likely to choose passages that coincide with already-existing beliefs. Conversely, if the same verses were cited as having influence, it would indicate that either the respondent's personal views regarding these topics affect interpretation of certain verses, or that the meaning inferred by these passages during the respondent's initial introduction influenced his or her beliefs in regard to the environment and evolution. However, it was determined that due to the preponderance of responses including only the names of biblical books, and the vast number of verses/chapters cited within books, a correlation of specific verses would not be possible. Instead, the overall composition of responses was organized according to the biblical books in which the verse(s) appears, and a correlation between scores and books was performed. A full list of responses for this section is located in Appendices I and J.

### *Biblical Text influencing Environmental Consciousness*

When asked whether there are any "specific biblical passages" on which clergy base their "view of the environment or humanity's role in Nature," 246 clergy gave responses, of which 86 percent indicated Genesis (1, 2, 8) as having significant influence. The second most prevalent book cited was Psalms (20%), followed by Romans (12%),

and Revelation (4%). Passages from 12 additional books were mentioned at a rate of one to three percent (Figure

20). The Environmental Total scores for clergy who cited one of the five biblical books with the most responses (Genesis, Psalms, Romans, Revelation and



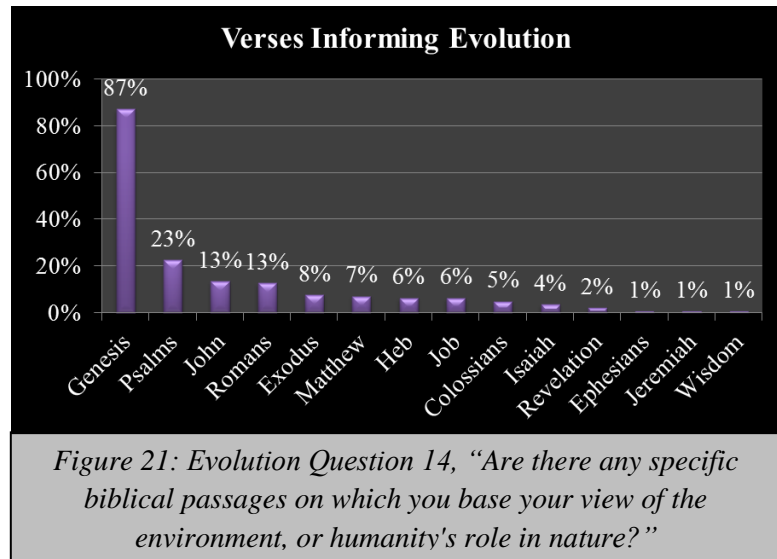
Deuteronomy) were collected and ranked from lowest to highest to analyze distribution. For each book the scores displayed an equal distribution from the lowest to the highest score. Additionally, there was a considerably large range between the lowest and highest score for each book, with Genesis having the greatest range at 3.46 and Revelation having the smallest at 1.90.

### *Biblical Text influencing Attitudes toward Evolution*

The second open-ended question asked whether there were any "specific biblical passages" on which clergy base their "view of the origins of humanity, or the world in general?" Appreciably fewer clergy responded to this question with only 142 responses in this section. Similar to the environmental responses, mention of Genesis (1,2, 8) accounted for 87 percent, followed by Psalms (23%), John (13%), Romans (13%) and Exodus (8%) (Figure 21). The Evolution Total scores for clergy were gathered according to verse for the top five books and analyzed for distribution and range. Again, an equal

distribution of scores was present for each book, and the ranges were observably large, with Romans having the smallest range (2.98) and Genesis having the largest (3.13).

Given these numbers, it is evident that interpretation is a significantly greater factor



regarding viewpoint than book or verse selection. However, because clergy were not compelled or prompted to explain why they chose the selected verse or book, how they interpret its meaning or how it influences their beliefs specifically, it is impossible to distinguish whether pre-existing attitudes influenced interpretation, or whether other factors encountered during biblical study shaped current beliefs.

Clergy noted a more varied range of verses and books as informing their views for the environment than evolution. This is understandable given the nearly ever-present theme or mention of nature (especially in Psalms) throughout the Bible, whereas, narratives regarding the creation of humans and animals are fairly limited. In addition, it is interesting to note that the books of Genesis, Romans, and Psalms placed in the top four for influencing books for both environmental and evolution views. This observation may provide further evidence for the theory that environmental consciousness is somehow linked with attitudes toward evolution.

## Conclusion

### Summary

Religion and Science have exerted powerful influence in shaping the knowledge, beliefs, policies, and motivations of individuals, groups, and nations across the globe throughout our history and present day. Nineteenth century scholars such as James Simpson, John Draper, and Andrew White helped to popularize the idea that Religion and Science are intrinsically contentious. Although this assertion of conflict, now known as “the Draper-White Conflict Thesis,” has been shown to be based on an overly simplistic and selective view of historical events and attitudes, nonetheless perceptions of conflict have continued and are frequently reinforced by debate surrounding modern political issues.

Currently, in the United States, the debate regarding the increasing rates of environmental destruction and the impending effects of Global Climate Change has become progressively polemic. While evolution continues to be a controversial subject. Both of these topics exert significant socio-political, religious and scientific impact in the public and private spheres. Since Lynn White’s 1967 publication, which condemned Christianity as the primary driver in our historical and contemporary environmental destruction, discussion of “environmentalism and Christianity” has intensified. The publication of “the White Thesis” provoked immense debate and empirical research on the subject of environmentalism and religion. With regards to Christianity and Evolution, there has been relatively less direct empirical research, but arguably more political strife as numerous historical writings and events have led to the idea that “Darwinism is atheism” (Hodges, 1874) and, therefore, Christianity and evolutionary biology must be at

odds. This idea has been bolstered in the social zeitgeist by the numerous court hearings that have taken place in an effort to prohibit or eliminate the teaching of evolution in public schools. The first attempt to enact legislation against the teaching of evolution occurred in 1922 when former United States Secretary of State William Jennings Bryan proposed House Bill 191 to the Kentucky state congress. Although the bill was defeated, soon after Tennessee, Mississippi, Arkansas, Oklahoma and Florida adopted anti-evolution policies in schools. These evolution-creation debates gained momentum in the 1970s and, even though most states today teach evolution, debates, legal proceedings and a perception of a negative relationship between Christianity and Evolution still exist. However, historical and empirical research reveals the complex and often poorly understood associations between Christianity and environmentalism and Christianity and Evolution. It is due to this shortcoming, and my own personal experience and observations that I decided to conduct further research into this field. Unlike the majority of previous studies testing correlations strictly between Christianity and environmentalism and Christianity and Evolution, this thesis took a different approach. I hypothesized that “general attitudes regarding both evolution and environmentalism might be more heavily influenced by an individual’s underlying acceptance or rejection of ‘scientific authority’ than to particular Christian values.” Additional questions of interest included whether there was significant attitude and behaviour discrepancies between denominations and other demographic factors, how U.S. Christian clergy compare to the general public regarding specific issues of national interest, and whether Environmental consciousness and Attitudes toward evolution are more strongly tied to selection or interpretation of certain biblical passages.

Quantitative survey methodology was employed in order to satisfy these enquiries. A questionnaire was developed that incorporated questions related to the four dimensions of environmental consciousness that have been routinely employed (Cognitive, Affective, Dispositional and Active), and three dimensions of attitudes toward evolution (Acceptance, Perception of Conflict with Religion, and knowledge) which were developed for use in this study. Questionnaires were distributed using SurveyMonkey. A total of 666 surveys were collected during a two-week period in February of 2015, and analyzed using Microsoft Excel and JMP statistical software. Multivariate analysis of results revealed that a 77% correlation exists between environmental consciousness and attitudes toward evolution in this sample group, which supports this thesis's hypothesis that these subjects may be more related to a person's attitudes toward "scientific authority" than to a Christian belief system. Additional relationship factors revealed in this analysis include the discovery that acceptance of evolution is more correlated with a person's perception of conflict between Religion and Science than on actual understanding of evolutionary principles. Similarly, the likelihood that an individual acts in a pro-environmental manner may be more linked to that person's environmental values and intention than to ecological knowledge. This seeming lack of significant connection between the Cognitive or Knowledge dimensions and the five other dimensions may indicate that a person's environmental values, intention and behaviour or acceptance of evolution might be more affected by the conclusions provided by the scientific community than to personal knowledge levels regarding specific scientific information.

Concerning denominational differences, those belonging to Episcopalian, Congregational, Methodist and Catholic denominations consistently ranked above average on pro-environmental and pro-attitudes toward evolution whereas, Non-denominational, Evangelical, Baptist and Pentecostal scored significantly lower for both environmentalism and evolution categories. When compared to the general public, the Christian Clergy surveyed for this study generally perceive there to be significantly less conflict between Religion and Science.

Finally, no correlation was found between selection of influential biblical books and overall Environmental or Evolution Total score, which suggests that interpretation of Biblical text is highly variant and, thus, use of specific verses should not be used as an indication of belief regarding these topics.

### **Application of Findings and Suggestions for Future Research**

The findings of this thesis help provide further insight into the combined field of religion and science, specifically U.S. Christianity and environmental and evolution science, and should be used to inform social and educational dialogue. For instance, the large number of Christian clergy who responded with strong support for pro-environmental values and actions contribute to the perspective that Christianity can lead to sentiments of stewardship and responsibility toward nature, and that one's Christian affiliation should not be automatically associated with indifference toward environmental and climate health. In the same vein, the high number of clergy who supported Evolution and the exclusive teaching of Evolution in schools should similarly dispel the presumption that "Christian" signifies "creationist." Christian leaders domestically and



internationally have played an important role in assisting with progress regarding numerous social, eco-justice, and environmental issues, and their support should continue to be sought, accepted and publicized. Regarding the denominations, educators and activists working toward greater environmental awareness and protection, or better understanding and acceptance of evolution, may benefit from discussion and collaboration with churches belonging to more progressive denominations such as Episcopalian, and Congregational.

Most importantly, this thesis should be used as motivation and as a starting point for future inquiry into the topic of Christianity and scientific authority. Because this thesis was—to my knowledge—the first study to look at these three variables concurrently, additional research is critically important. This thesis, although effective in laying groundwork, experienced certain limitations that should be considered when designing future studies. First, due to time constraints, the survey created for this study was relatively short and simple. Future studies would benefit from the addition of a greater number of questions, specifically, those seeking to establish knowledge of topic. A wider range of questions difficulties would help better establish knowledge thresholds. Second, the inclusion of questions aimed at determining the respondent's understanding of other scientific subjects and methods used by the respondent to acquire personal knowledge could prove helpful in defining the person's relationship with scientific knowledge. Third, this study included the 12 major Christian denominations in the U.S., and, while certain denominations are regarded as more progressive or conservative, within each denomination are church branches that tend toward one alignment or another. It would be advantageous to separate out these branches in order to ensure that each

denomination contains an equivalent representative sample of its conservative and progressive sectors. Fourth, the results of this thesis may have been influenced by limiting distribution to churches with an on-line presence and direct e-mail addresses. Fifth, response bias favoring those who were more environmentally concerned may have occurred. Future studies may benefit from using different data collection methods or ensuring that those with low or limited interest in the topics are included. Lastly, studies investigating the relationship between environmentalism and attitudes toward evolution among Christians, members of other religious traditions and the general public would provide insight about the existence of such patterns in the broader population, and be useful in determining whether the findings of this thesis are applicable across broad religious demographics.

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## **Appendices**

### **Appendix A**

#### **Official Church Statements Regarding Stance on Evolution**

##### **Roman Catholic Church**

In 1996, Pope John Paul II at the annual meeting of the Pontifical Academy of Sciences stated that “Today, almost half a century after the publication of the Encyclical, new findings lead us toward the recognition of evolution as more than a hypothesis.”

More recently, Pope Francis (2014d) during an address at The Pontifical Academy of Sciences stated that “The Big Bang, which nowadays is posited as the origin of the world, does not contradict the divine act of creating, but rather requires it. The evolution of nature does not contrast with the notion of Creation, as evolution presupposes the creation of beings that evolve.”

##### **Greek Orthodox Archdiocese of America**

“The created order is a space–time process, or rather a procession, orderly and sequential, journeying through life from something to something. Life is an important aspect of that procession from origin to perfection; it is through the evolution of life that the procession moves forward” (Greek Orthodox Archdiocese of America, 1996).

##### **Episcopal/Anglican Communion**

“...the House of Bishops concurring, That this 67<sup>th</sup> General Convention affirm its belief in the glorious ability of God to create in any manner, and in this affirmation reject the rigid dogmatism of the ‘Creationist’ movement, and be it further resolved.” (The Episcopal Church, 1982).

“Resolved, that the theory of evolution provides a fruitful and unifying scientific explanation for the emergence of life on earth, that many theological interpretations of origins can readily embrace an evolutionary outlook, and that an acceptance of evolution is entirely compatible with an authentic and living Christian faith...” The Episcopal Church, 2006).

## **Southern Baptist Churches**

“Evangelical Christianity and evolution are incompatible beliefs that cannot be held together logically within a distinctly Christian world-view” (Mohler, 2005).

“There is no way for God to intervene in the process and for it to remain natural.” Yet he is also quoted there as saying that “No Conservative Christian should deny there is a process of change that is evident within the animal kingdom. And there is even a process of natural selection that appears at least to be natural” (Mohler, 2009).

## **Methodism**

**Resolution (80839-C1-R9999): Evolution and Intelligent Design.** “Therefore be it resolved that the General Conference of the United Methodist Church go on record as opposing the introduction of any faith-based theories such as creationism or intelligent design into the science curriculum of our public schools” (UMC, 2008a).

**Petition 80050-C1-160.E: Science and Technology.** “...science’s descriptions of cosmological, geological, and biological evolution are not in conflict with theology.... We find that as science expands human understanding of the natural world, our understanding of the mysteries of God’s creation and word are enhanced” (UMC, 2008b).

## **Presbyterianism**

“Neither Scripture, our Confession of Faith, nor our Catechisms, teach the Creation of man by the direct and immediate acts of God so as to exclude the possibility of evolution as a scientific theory.” (PCUSA, 1969)

“Reaffirms that there is no contradiction between an evolutionary theory of human origins and the doctrine of God as Creator” (PCUSA, 2002).

## **Congregationalism**

“We acknowledge modern evolutionary theory as the best present-day scientific explanation of the existence of life on earth; such a conviction is in no way at odds with our belief in a Creator God, or in the revelation and presence of that God in Jesus Christ and the Holy Spirit” (UCBHM, 1992).

“Evolution helps us see our faithful God in a new way. Evolution also helps us see ourselves anew, as creatures who share a common origin with other species” (Rev. Thomas, 2008).

## **Lutheranism**

“In whatever way the process may be ultimately explained, it has come about that an idea which has been most thoroughly explored in the field of biology (lower forms of life evolving into higher) has by means of organismic analogy found universal application. Phenomena thus accounted for range from physical realities (evolution of the atoms and expanding galaxies) to man and his social experience (the evolution of cultural values) including his understanding of time and history (the evolutionary vision of scientific eschatology)” (Schick, 1965).

## **Pentecostalism**

**Assembly of God.** “Assemblies of God believers hold that the Genesis account should be taken literally,” and that, “ any evolutionary theory, including theistic evolution/evolutionary creationism, that claims all forms of life arose from a common ancestry is thereby ruled out” (AOG, 2014).

**Church of God.** “WHEREAS secular humanism and anti-God philosophies are being taught in our public educational systems; and WHEREAS there is a need for God’s people to unite against the teaching of evolution as a scientific fact; THEREFORE BE IT RESOLVED that we give our full support to the principle that where evolution is taught in our public schools, provision be made for teaching the Biblical alternative of creation” (COG, 1980).

## **Restorationism**

“We strongly endorse the document’s affirmation of our historic, biblical position of belief in a literal, recent, six-day creation” and “We reaffirm the Seventh-day Adventist understanding of the historicity of Genesis 1-11: that the seven days of the creation account were literal 24-hour days forming a week identical in time to what we now experience as a week; and that the Flood was global in nature” (Paulson, 2004).

## Appendix B

### Bible Verses (King James Version)

#### Genesis

**1:2.** And the earth was without form, and void; and darkness was upon the face of the deep. And the Spirit of God moved upon the face of the waters.

**1:3.** And God said, Let there be light: and there was light.

**1:6.** And God said, Let there be a firmament in the midst of the waters, and let it divide the waters from the waters.

**1:7.** And God made the firmament, and divided the waters which were under the firmament from the waters which were above the firmament: and it was so.

**1:9.** And God said, Let the waters under the heaven be gathered together unto one place, and let the dry land appear: and it was so.

**1:11.** And God said, Let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself, upon the earth: and it was so.

**1:12.** And the earth brought forth grass, and herb yielding seed after his kind, and the tree yielding fruit, whose seed was in itself, after his kind: and God saw that it was good.

**1:14.** And God said, Let there be lights in the firmament of the heaven to divide the day from the night; and let them be for signs, and for seasons, and for days, and years:

**1:15.** And let them be for lights in the firmament of the heaven to give light upon the earth: and it was so.

**1:16.** And God made two great lights; the greater light to rule the day, and the lesser light to rule the night: he made the stars also.

**1:17.** And God set them in the firmament of the heaven to give light upon the earth,

**1:18.** And to rule over the day and over the night, and to divide the light from the darkness: and God saw that it was good.

**1:19.** And the evening and the morning were the fourth day.

**1:20.** And God said, Let the waters bring forth abundantly the moving creature that hath life, and fowl that may fly above the earth in the open firmament of heaven.

**1:21.** And God created great whales, and every living creature that moveth, which the waters brought forth abundantly, after their kind, and every winged fowl after his kind: and God saw that it was good.

**1:22.** And God blessed them, saying, Be fruitful, and multiply, and fill the waters in the seas, and let fowl multiply in the earth.

**1:24.** And God said, Let the earth bring forth the living creature after his kind, cattle, and creeping thing, and beast of the earth after his kind: and it was so.

**1:25.** And God made the beast of the earth after his kind, and cattle after their kind, and every thing that creepeth upon the earth after his kind: and God saw that it was good.

**1:26.** And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth.

**1:28.** And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth.

**1:31.** And God saw every thing that he had made, and, behold, it was very good. And the evening and the morning were the sixth day.

**2:2.** And on the seventh day God ended his work which he had made; and he rested on the seventh day from all his work which he had made.

**2:3.** And God blessed the seventh day, and sanctified it: because that in it he had rested from all his work which God created and made.

**2:5.** And every plant of the field before it was in the earth, and every herb of the field before it grew: for the LORD God had not caused it to rain upon the earth, and there was not a man to till the ground.

**2:7.** And the LORD God formed man of the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul.

**2:15.** And the LORD God took the man, and put him into the garden of Eden to dress it and to keep it.

**2:21.** And the LORD God caused a deep sleep to fall upon Adam, and he slept: and he took one of his ribs, and closed up the flesh instead thereof;

**2:22.** And the rib, which the LORD God had taken from man, made he a woman, and brought her unto the man.

**5:1.** This is the book of the generations of Adam. In the day that God created man, in the likeness of God made he him;

**5:2.** Male and female created he them; and blessed them, and called their name Adam, in the day when they were created

**8:22.** While the earth remaineth, seedtime and harvest, and cold and heat, and summer and winter, and day and night shall not cease.

**9:2.** And the fear of you and the dread of you shall be upon every beast of the earth, and upon every fowl of the air, upon all that moveth upon the earth, and upon all the fishes of the sea; into your hand are they delivered.

**9:3.** Every moving thing that liveth shall be meat for you; even as the green herb have I given you all things.

## **Exodus**

**23:11.** the seventh year thou shalt let it rest and lie still; that the poor of thy people may eat: and what they leave the beasts of the field shall eat. In like manner thou shalt deal with thy vineyard, and with thy olive yard.

**20:8.** Remember the Sabbath day, to keep it holy.

## **Leviticus**

**25:2.** Speak unto the children of Israel, and say unto them, when ye come into the land which I give you, then shall the land keep a Sabbath unto the LORD.

**25:3.** Six years thou shalt sow thy field, and six years thou shalt prune thy vineyard, and gather in the fruit thereof;

**25:4.** But in the seventh year shall be a Sabbath of rest unto the land, a Sabbath for the LORD: thou shalt neither sow thy field, nor prune thy vineyard.

**25:5.** That which groweth of its own accord of thy harvest thou shalt not reap, neither gather the grapes of thy vine undressed: for it is a year of rest unto the land.

**25:6.** And the Sabbath of the land shall be meat for you; for thee, and for thy servant, and for thy maid, and for thy hired servant, and for thy stranger that sojourneth with thee,

**25:7.** And for thy cattle, and for the beast that are in thy land, shall all the increase thereof be meat.



**25:18.** Wherefore ye shall do my statutes, and keep my judgments, and do them; and ye shall dwell in the land in safety.

**25:19.** And the land shall yield her fruit, and ye shall eat your fill, and dwell therein in safety.

### **Deuteronomy**

**20:19.** When thou shalt besiege a city a long time, in making war against it to take it, thou shalt not destroy the trees thereof by forcing an axe against them: for thou mayest eat of them, and thou shalt not cut them down (for the tree of the field is man's life) to employ them in the siege:

### **Psalms**

**8:6.** Thou madest him to have dominion over the works of thy hands; thou hast put all things under his feet:

**24:1.** (A Psalm of David.) The earth is the LORD'S, and the fulness thereof; the world, and they that dwell therein.

**90:10.** The days of our years are threescore years and ten; and if by reason of strength they be fourscore years, yet is their strength labour and sorrow; for it is soon cut off, and we fly away.

### **Ecclesiastes**

**3:18.** I said in mine heart concerning the estate of the sons of men, that God might manifest them, and that they might see that they themselves are beasts.

**3:19.** For that which befalleth the sons of men befalleth beasts; even one thing befalleth them: as the one dieth, so dieth the other; yea, they have all one breath; so that a man hath no preeminence above a beast: for all is vanity.

### **Isaiah**

**11:6.** The wolf also shall dwell with the lamb, and the leopard shall lie down with the kid; and the calf and the young lion and the fatling together; and a little child shall lead them.

**11:7.** And the cow and the bear shall feed; their young ones shall lie down together: and the lion shall eat straw like the ox.

**11:8.** And the sucking child shall play on the hole of the asp, and the weaned child shall put his hand on the cockatrice' den.

**11:9.** They shall not hurt nor destroy in all my holy mountain: for the earth shall be full of the knowledge of the LORD, as the waters cover the sea.

**14:12.** How art thou fallen from heaven, O Lucifer, son of the morning! how art thou cut down to the ground, which didst weaken the nations!

**14:13.** For thou hast said in thine heart, I will ascend into heaven, I will exalt my throne above the stars of God: I will sit also upon the mount of the congregation, in the sides of the north:

**14:14.** I will ascend above the heights of the clouds; I will be like the most High.

**14:15.** Yet thou shalt be brought down to hell, to the sides of the pit.

**14:16.** They that see thee shall narrowly look upon thee, and consider thee, saying, is this the man that made the earth to tremble, that did shake kingdoms;

**14:17.** That made the world as a wilderness, and destroyed the cities thereof; that opened not the house of his prisoners?

**14:18.** All the kings of the nations, even all of them, lie in glory, every one in his own house.

**14:19** But thou art cast out of thy grave like an abominable branch, and as the raiment of those that are slain, thrust through with a sword, that go down to the stones of the pit; as a carcass trodden under feet.

**65:25.** The wolf and the lamb shall feed together, and the lion shall eat straw like the bullock: and dust shall be the serpent's meat. They shall not hurt nor destroy in all my holy mountain, saith the LORD.

## **Jeremiah**

**12:10.** Many pastors have destroyed my vineyard, they have trodden my portion under foot, they have made my pleasant portion a desolate wilderness.

**12:11.** They have made it desolate, and being desolate it mourneth unto me; the whole land is made desolate, because no man layeth it to heart.

## **Ezekiel**

**12:12.** Son of man, take up a lamentation upon the king of Tyrus, and say unto him, Thus saith the Lord GOD; Thou sealest up the sum, full of wisdom, and perfect in beauty.

**12:13.** Thou hast been in Eden the garden of God; every precious stone was thy covering, the sardius, topaz, and the diamond, the beryl, the onyx, and the jasper, the sapphire, the emerald, and the carbuncle, and gold: the workmanship of thy tabrets and of thy pipes was prepared in thee in the day that thou wast created.

**12:14.** Thou art the anointed cherub that covereth; and I have set thee so: thou wast upon the holy mountain of God; thou hast walked up and down in the midst of the stones of fire.

**12:15.** Thou wast perfect in thy ways from the day that thou wast created, till iniquity was found in thee.

**12:16.** By the multitude of thy merchandise they have filled the midst of thee with violence, and thou hast sinned: therefore I will cast thee as profane out of the mountain of God: and I will destroy thee, O covering cherub, from the midst of the stones of fire.

**12:17.** Thine heart was lifted up because of thy beauty, thou hast corrupted thy wisdom by reason of thy brightness: I will cast thee to the ground, I will lay thee before kings, that they may behold thee.

**12:18.** Thou hast defiled thy sanctuaries by the multitude of thine iniquities, by the iniquity of thy traffick; therefore will I bring forth a fire from the midst of thee, it shall devour thee, and I will bring thee to ashes upon the earth in the sight of all them that behold thee.

**12:19.** All they that know thee among the people shall be astonished at thee: thou shalt be a terror, and never shalt thou be any more.

## **Luke**

**12:24.** Consider the ravens: for they neither sow nor reap; which neither have storehouse nor barn; and God feedeth them: how much more are ye better than the fowls?

## **John**

**1:3.** All things were made by him; and without him was not any thing made that was made.

## **Romans**

**5:12.** Wherefore, as by one man sin entered into the world, and death by sin; and so death passed upon all men, for that all have sinned:

## **Corinthians**

**15:39.** All flesh is not the same flesh: but there is one kind of flesh of men, another flesh of beasts, another of fishes, and another of birds.

## **Colossians**

**1:15.** Who is the image of the invisible God, the firstborn of every creature:

**1:16.** For by him were all things created, that are in heaven, and that are in earth, visible and invisible, whether they be thrones, or dominions, or principalities, or powers: all things were created by him, and for him.

## **Hebrews**

**11:3.** Through faith we understand that the worlds were framed by the word of God, so that things which are seen were not made of things which do appear.

## **2 Peter**

**3:8.** But, beloved, be not ignorant of this one thing, that one day is with the Lord as a thousand years, and a thousand years as one day.

## **Revelation**

**11:18.** And the nations were angry, and thy wrath is come, and the time of the dead, that they should be judged, and that thou shouldest give reward unto thy servants the prophets, and to the saints, and them that fear thy name, small and great; and shouldest destroy them which destroy the earth.

---

## **Wisdom**

**19:19.** This is just what happened - land animals became aquatic, swimming ones took to the land.

## Appendix C

### Listing of U.S. State by State Type Designation

State Name	State Type	City Type	City Criteria
Arizona California Illinois New York Pennsylvania Texas	5	MET	1,000,000+
		DUA	>250,000 and <1,000,000
		UA	>50,000 and <250,000
		UC	>10,000 and < 50,000
		DR	>2,500 and <10,000
		R	>1,000 and <2,500
Colorado Florida Indiana Kentucky Michigan Nevada North Carolina Ohio Oklahoma Washington Wisconsin	4	DUA 1	>500,000 and <1,000,000
		DUA 2	>250,000 and <500,000
		UA	>50,000 and <250,000
		UC	>10,000 and < 50,000
		DR	>2,500 and <10,000
		R	>1,000 and <2,500
Maryland	4/1	DUA 1	>500,000 and <1,000,000
		UA	>50,000 and <100,000
		UC1	>25,000 and <50,000
		UC2	>10,000 and < 25,000
		UC3	>2,500 and < 10,000
		R	>1,000 and <2,500
Massachusetts	4/3/1	DUA 1	>500,000 and <1,000,000
		UA1	>100,000 and <250,000
		UA2	>50,000 and <100,000
		UC	>10,000 and < 50,000
		DR	>2,500 and <10,000
		R	>1,000 and <2,500
New Mexico	4/1	DUA 1	>500,000 and <1,000,000
		UA	>50,000 and <100,000
		UC1	>25,000 and <50,000
		UC2	>10,000 and < 25,000
		DR	>2,500 and < 10,000
		R	>1,000 and <2,500

Oregon	4/3/1	DUA1	>500,000 and <1,000,000
		UA1	>100,000 and <250,000
		UA2	>50,000 and <100,000
		UC	>10,000 and < 50,000
		DR	>2,500 and <10,000
		R	>1,000 and <2,500
Tennessee	4/3/1	DUA1	>500,000 and <1,000,000
		UA1	>100,000 and <250,000
		UA2	>50,000 and <100,000
		UC	>10,000 and < 50,000
		DR	>2,500 and <10,000
		R	>1,000 and <2,500
Georgia Kansas Louisiana Minnesota Missouri Nebraska New Jersey Virginia	3	DUA	>250,000 and <500,000
		UA1	>100,000 and <250,000
		UA2	>50,000 and <100,000
		UC	>10,000 and < 50,000
		DR	>2,500 and <10,000
		R	>1,000 and <2,500
Hawaii	3/1	DUA	>250,000 and <500,000
		UC1	>25,000 and <50,000
		UC2	>10,000 and < 25,000
		UC3	>5,000 and < 10,000
		R1	>2,500 and <5,000
		R2	>1,000 and <2,500
Idaho	3/2	DUA	>250,000 and <500,000
		UA2	>50,000 and <100,000
		UC1	>25,000 and < 50,000
		UC2	>5,000 and < 25,000
		R1	>2,500 and <5,000
		R2	>1,000 and <2,500
Alabama Arkansas Connecticut Iowa Mississippi Montana New Hampshire North Dakota Rhode island South Carolina South Dakota Utah	2	UA1	>100,000 and <250,000
		UA2	>50,000 and <100,000
		UC1	>25,000 and < 50,000
		UC2	>10,000 and < 25,000
		R1	>1,000 and <2,500
		R2	>1,000 and <2,500

Alaska*	2/sub 1*	UA1	>100,000 and <250,000
		UC2	>10,000 and < 25,000
		UC3	>5,000 and < 10,000
		R1	>2,500 and <5,000
		R2	>1,000 and <2,500
		R3	>1,000 and <2,500
Delaware Maine West Virginia Wyoming	1	UA	>50,000 and <100,000
		UC1	>25,000 and <50,000
		UC2	>10,000 and < 25,000
		DR	>2,500 and < 10,000
		R1	>1,000 and <2,500
		R2	>1,000 and <2,500
Vermont	Sub 1	UC1	>25,000 and <50,000
		UC2	>10,000 and < 25,000
		DR	>5,000 and < 10,000
		R1	>2,500 and <5,000
		R2	>1,000 and <2,500
		R3	>1,000 and <2,500

## Appendix D

Copy of Survey Distributed to Clergy

### Clergy Thesis Research Survey

#### Demographic Information

##### 1. Religious denomination of your church:

- Catholic
- Non-denominational
- Baptist
- Methodist/Wesleyan
- Lutheran
- Presbyterian
- Pentecostal/Charismatic
- Episcopalian/Anglican
- Congregational/ Reformed
- Evangelical
- Restoration
- Orthodox/Eastern
- Decline to respond
- Other (please specify)

##### 2. Regional Location of your church:

- New England (CT, ME, MA, NH, RI, VT)
- Mid-Atlantic (NJ, NY, PA)
- East North Central (IL, IN, MI, OH, WI)
- East North Central (IL, IN, MI, OH, WI)
- West North Central (IA, KS, MN, MO, NE, ND, SD)
- South Atlantic (DE, FL, GA, MD, NC, SC, VA, DC, WV)
- East South Central (AL, KY, MS, NT)
- West South Central (AR, LA, OK, TX)
- Mountain (AZ, CO, ID, MT, NV, NM, UT, WY)
- Pacific (AK, CA, HI, OR, WA)
- Not located in the U.S.
- Decline to respond



**3. Gender:**

- Female
- Male
- Decline to respond

**4. Age:**

- < 25
- 25-34
- 35-44
- 45-54
- 55-64
- 65+
- Decline to respond

**5. Formal education level attained:**

- High School Diploma or GED
- Associates Degree
- Bachelor Degree
- Graduate Degree
- Doctorate
- Decline to respond
- Other (please specify)

To come back to this page, click the "Prev" button. Clicking the "back button" on the browser will erase your previous answers.

## Clergy Thesis Research Survey

### Section 1 of 2

**1. To what extent do you feel informed on issues related to the environment?**

Highly Informed	Informed	Moderately Informed	Somewhat Informed	Not Informed	Decline to Respond
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**2. Which of the following statements comes closest to your views on Global Climate Change?**

- Current Climate Change is primarily caused by rising atmospheric CO2 levels from burning fossil fuels and land use changes such as deforestation, etc.
- Humans are influencing Climate Change, but naturally occurring processes are the primary change agents
- Current Climate Change is the result of naturally occurring processes that are outside of human control

Climate Change is not occurring

Decline to respond

Other (please specify)

**3. How concerned about environmental issues are the people in your region?**

Highly Concerned	Concerned	Moderately Concerned	Somewhat Concerned	Not Concerned	Unsure	Decline to Respond
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**4. Do you think there is a consensus among climate scientists regarding the current rate of Global Climate Change being human-induced?**

There is a majority consensus that current Climate Change is human-induced

There is a majority consensus that current Climate Change is NOT human-induced, but is caused by other natural mechanisms

There is a majority consensus that earth is NOT currently experiencing Climate Change

There is NO consensus regarding current Climate Change

Unsure

Decline to respond

Other (please specify)

**5. How concerned are you regarding the impact of the following issues?**

	Highly Concerned	Concerned	Moderately Concerned	Somewhat Concerned	Not Concerned	Decline to Respond
Air pollution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water pollution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Domestic waste disposal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deforestation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Global Climate Change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Loss of plant and animal diversity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Population Growth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soil erosion and degradation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Toxic chemical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify if "Other" was selected

**6. How willing would you be to pay higher prices in order to protect the environment?**

Highly Willing	Willing	Moderately Willing	Somewhat Willing	Not Willing	Unsure	Decline to Respond
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**7. How often does concern for the environment influence the following:**

	Almost Always	Frequently	Occasionally	Rarely	Never	Decline to Respond
Your method or frequency of transportation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The products you buy / where you buy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The food you eat / where you purchase the food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Daily water conservation practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Daily energy conservation practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waste reduction (i.e. recycling, re-use, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**8. In the past two years, have you personally....**

...Given money to an environmental group?	<input type="checkbox"/>
...Signed a petition about an environmental issue?	<input type="checkbox"/>
...Taken part in a protest / demonstration / hearing about an environmental issue?	<input type="checkbox"/>
Other	<input type="checkbox"/>
None of the above	<input type="checkbox"/>

Please specify if "Other" was selected

**9. Which gas makes up most of the Earth's atmosphere?**

- Hydrogen
- Nitrogen
- Carbon Dioxide
- Oxygen
- Unsure

**10. Humanity cannot continue on its present course without detrimental ecological consequences.**

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Unsure	Decline to Respond
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**11. Trees and other plants reduce atmospheric carbon dioxide (CO2) levels through the process of photosynthesis.**

Definitely True	Probably True	Probably False	Definitely False	Unsure
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**12. Modern science will solve our environmental problems with little change to our way of life.**

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Unsure	Decline to Respond
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**13. The government should implement stricter regulations to protect the environment.**

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Unsure	Decline to Respond
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**14. Which natural resource is extracted in a process known as “fracking”?**

- Coal
- Diamonds
- Natural Gas
- Silicon
- Unsure

**15. The "Balance of Nature" is strong enough to cope with the impacts of modern industrial nations.**

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Unsure	Decline to respond
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**16. Loss of biodiversity (plant and animal species) has no impact on the human population.**

Definitely True	Probably True	Probably False	Definitely False	Unsure
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**17. People worry too much about human progress harming the environment.**

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Unsure	Decline to Respond
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**18. As a spiritual leader I have a responsibility to ensure that those in my church/community are aware of environmental problems and solutions.**

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Unsure	Decline to Respond
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**19. How often do you address environmental issues with your church members?**

Very Frequently (More than once a month)	Frequently (once a month)	Occasionally (1-2 times annually)	Rarely (Once a year or less)	Never	Decline to Respond
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**20. (Optional) If you answered --Very Frequently to Rarely—on the previous question, please indicate method of communication:**

During sermon	<input type="checkbox"/>
One-on-one with church members	<input type="checkbox"/>
Church newsletter/ e-mail	<input type="checkbox"/>
Church participation in environmental events or donations to environmental organizations	<input type="checkbox"/>
Other (please specify)	<input type="text"/>

**21. What are your thoughts regarding Pope Francis' stance that humans have failed in our duty to protect God's creation?**

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Unfamiliar with Subject	Decline to Respond
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**22. (Optional): Are there any specific biblical passages on which you base your view of the environment, or humanity's role in Nature?**

*To go back a page, click the "Prev" button. Clicking the "back button" on the browser will erase your previous answers.*

## Clergy Thesis Research Survey

### Section 2 of 2

**1. How much have you heard or read about the Theory of Evolution?**

Large Amount	Moderate Amount	Small Amount	I've heard it mentioned	I've never heard of it	Decline to Respond
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**2. Which of the following statements comes closest to your views on the origin and development of human beings?**

- Human beings have developed over millions of years from less advanced forms of life, but God guided this process
- Human beings have developed over millions of years from less advanced form of life, but God had NO part in this process
- God created human beings pretty much in their present form at one time within the last 10,000 years or so
- God created human beings pretty much in their present form some time in the past

- Unsure
- Decline to respond

**3. Please select the most accurate definition of “Evolution:”**

- Evolution refers to the idea that human beings developed from apes over the past millions of years
- Evolution is a process that results in heritable changes in a population spread over many generations
- Evolution is the development of species from a primitive state to a complex state
- Evolution is the inheritance of characteristics acquired during an individual's lifetime
- Unsure
- Decline to respond

**4. In general, would you say the Theory of Evolution conflicts with your own religious beliefs, or is mostly compatible with your own religious beliefs?**

- The Theory of Evolution conflicts with my religious beliefs
- The Theory of Evolution is mostly compatible with my religious beliefs
- Unsure
- Decline to respond

**5. Do you think the evidence for evolution is widely accepted within the scientific community, or do many scientists have serious doubts about it?**

- Evidence for evolution is widely accepted within the scientific community
- Many scientists have serious doubts about the evidence for evolution
- Unsure
- Decline to respond

**6. Which is closest to your view about the relationship between science and religion?**

- They generally agree with each other
- They generally conflict with each other
- They are not related to each other in any significant way
- Decline to respond

**7. The Theory of Evolution is “based on an overwhelming body of scientific evidence, which strongly confirms that its key ideas are correct?”**

- |                       |                       |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Strongly Agree        | Agree                 | Neutral               | Disagree              | Strongly Disagree     | Unsure                | Decline to Respond    |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**8. The survival and reproduction of the animals and plants that are best suited to their environment cause the next generation to be better suited to that environment, or similar environmental conditions.**

- |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Definitely True       | Probably True         | Probably False        | Definitely False      | Unsure                |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**9. In general, do you favor or oppose the following:**

	Strongly Favor	Favor	Oppose	Strongly Oppose	Unsure	Decline to Respond
Teaching evolution in public schools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teaching both creationism and evolution in public schools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teaching creationism instead of evolution in public schools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**10. Natural Selection means:**

- Mate selection in a population is random
- Plants and animals will select the most favorable environment in which to live
- Traits possessed by organisms that survive to reproduce will increase in the population
- All organisms in an environment have equal opportunity to reproduce
- Unsure

**11. Select whether the following statements are true or false:**

	True	False	Unsure
Evolution is a theory about the "origin" of life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evolutionary mechanisms can explain why the overuse of antibiotics leads to antibiotic resistant bacteria	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evolution occurs in populations and not individuals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**12. Please indicate the response that is most accurate regarding your view of the Biblical Creation Story in Genesis.**

- Genesis offers an accurate account of the events that occurred in creation of the world
- The narrative in Genesis is symbolic of the events that occurred in creation of the world
- Genesis offers a poetic narrative of creation, but is not a scientific or historical account
- Decline to respond
- Other (please specify)

**13. Indicate whether you believe the following is -- definitely true, probably true, probably false, or definitely false-- as an explanation for the origin and development of life on earth?**

	Definitely True	Probably True	Probably False	Definitely False	Unsure	Unfamiliar with Term	Decline to Respond
The Theory of Evolution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Creationism	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intelligent Design	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**14. (Optional): Are there any specific biblical passages on which you base your view of the origins of humanity, or the world in general?**

**15. (Optional) Is there anything else you would like to add?**

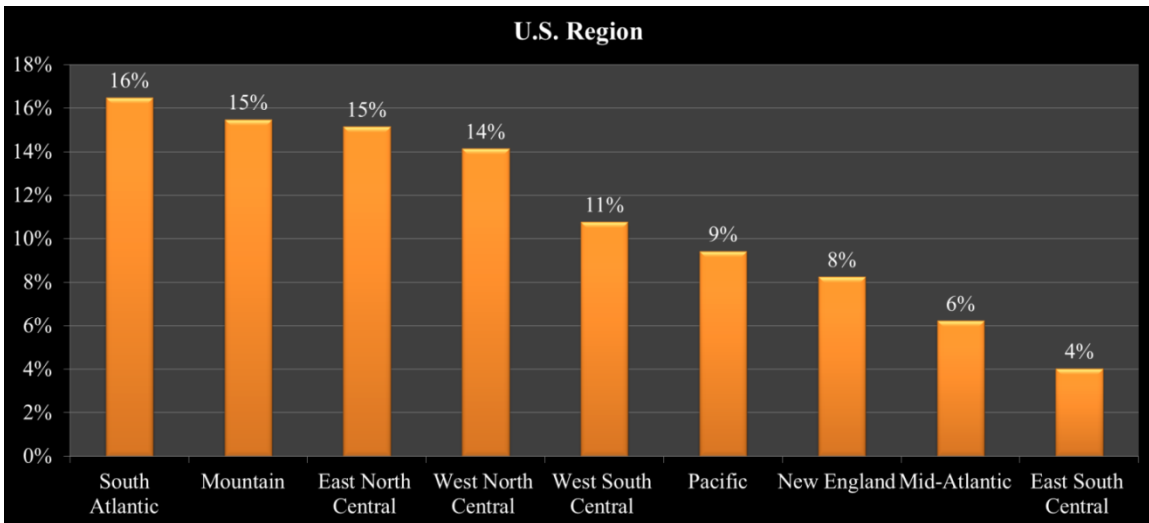
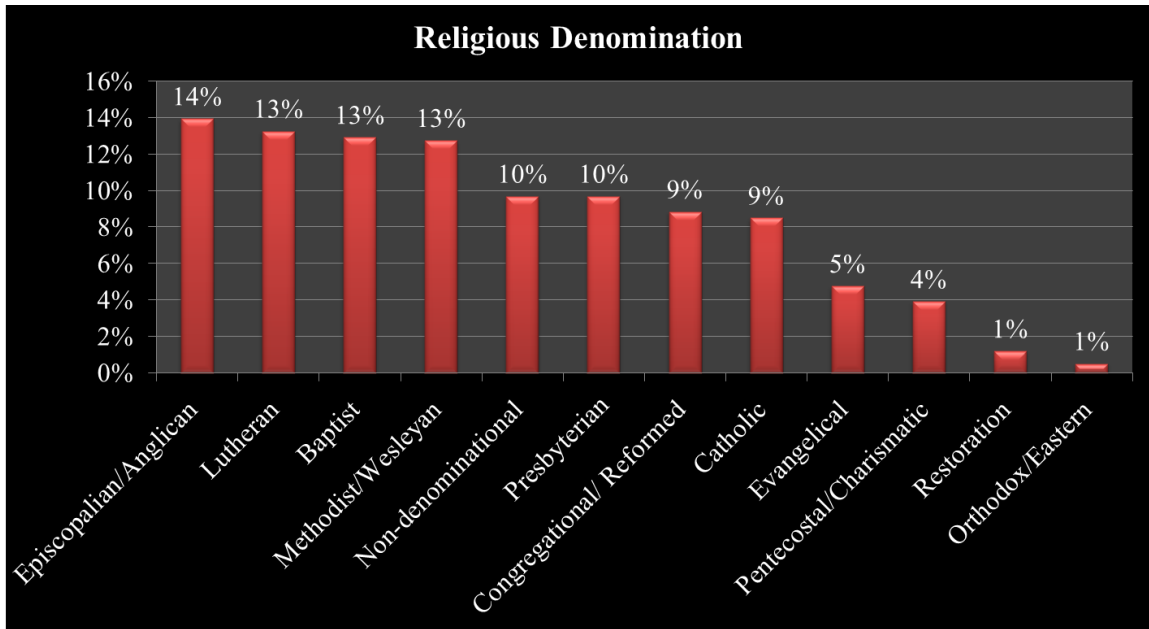
*To go back a page, click the "Prev" button. Clicking the "back button" on the browser will reset your previous answers.*

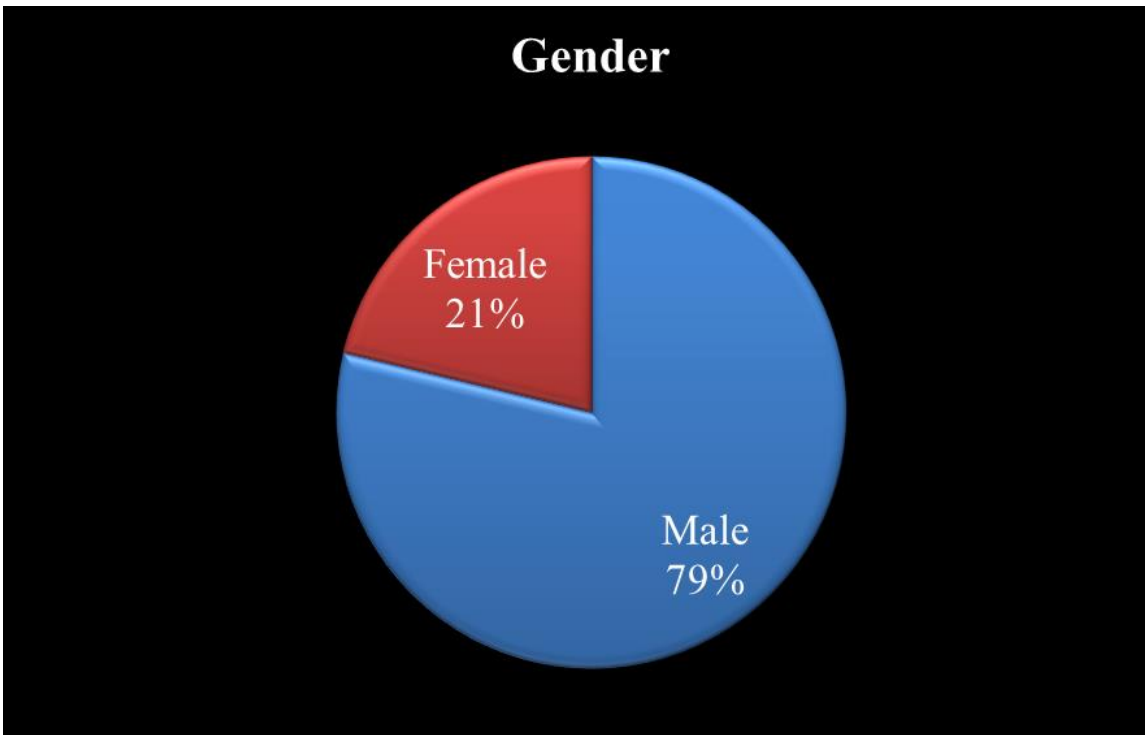
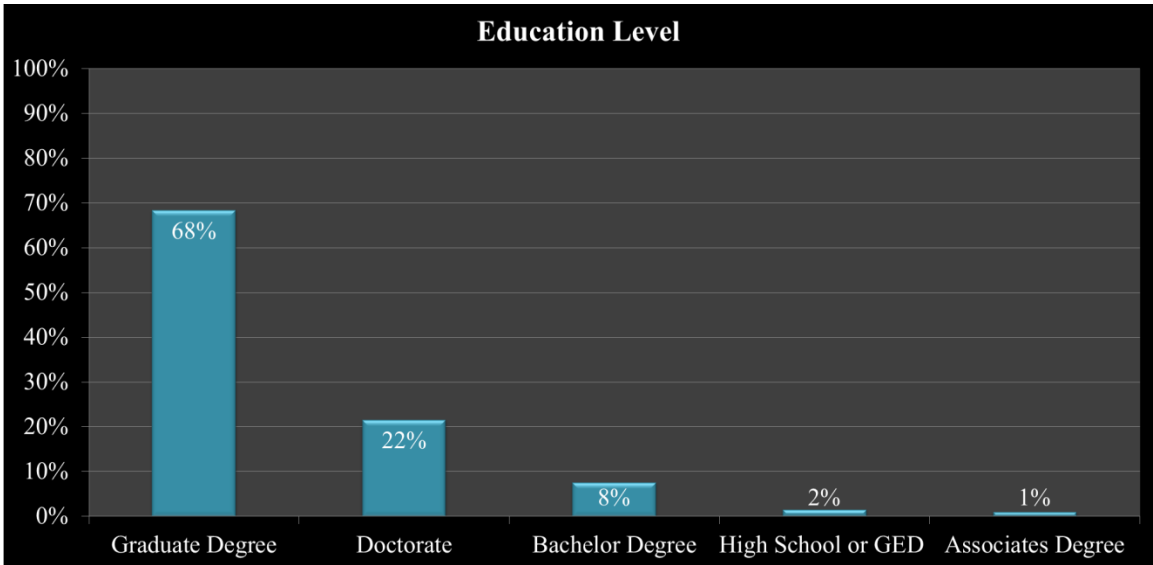
**By clicking "Done" you are submitting your answers as final, and consenting to their use in this research project.**



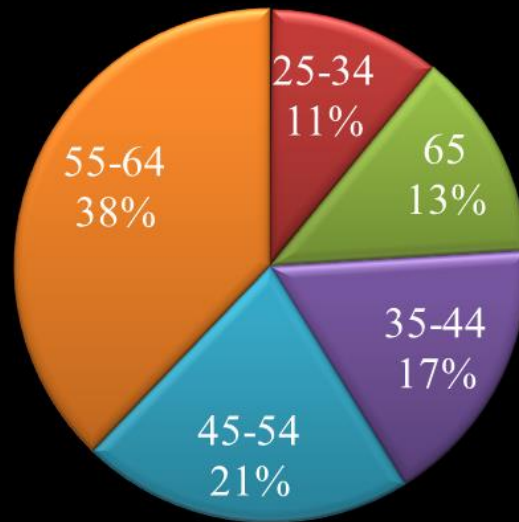
## Appendix E

### Graphs of Respondent Demographics

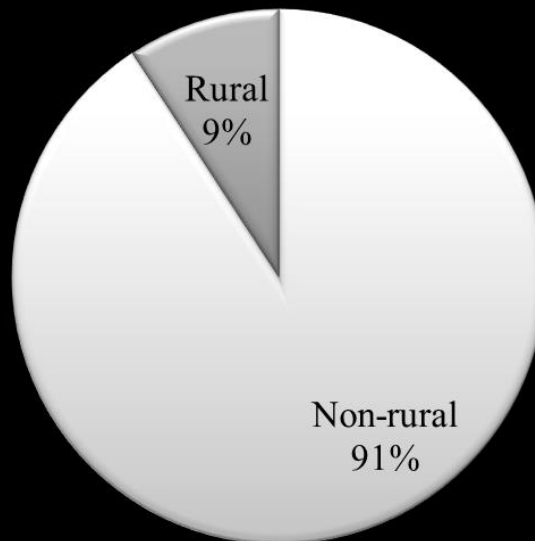


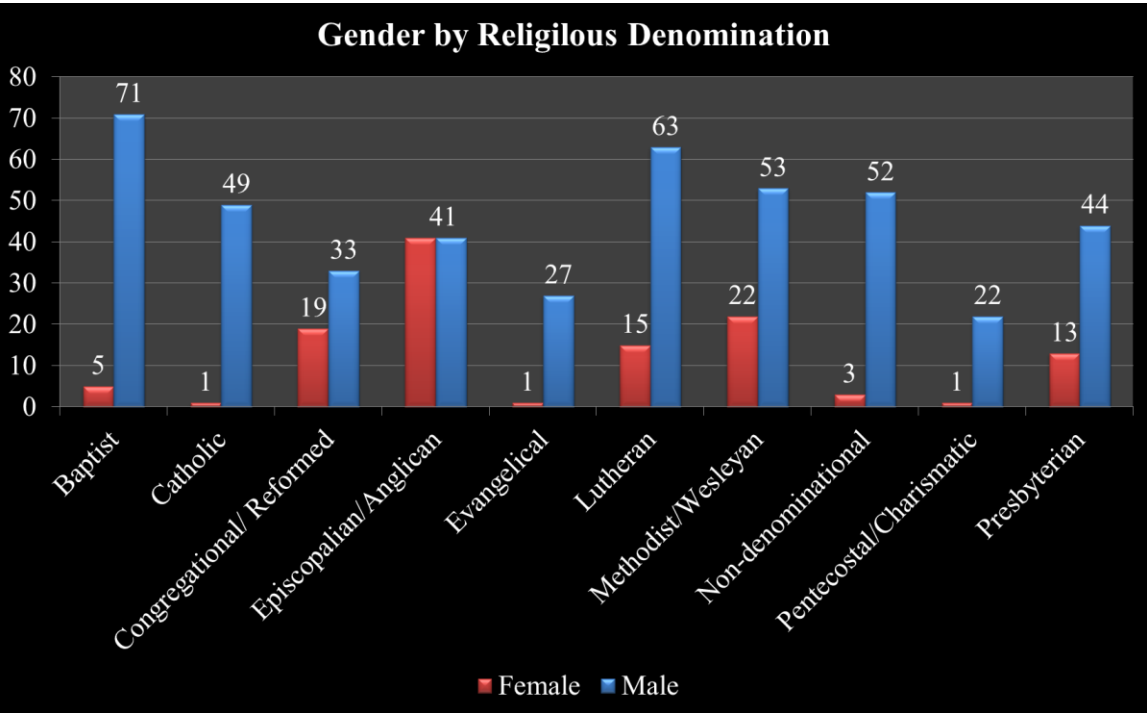
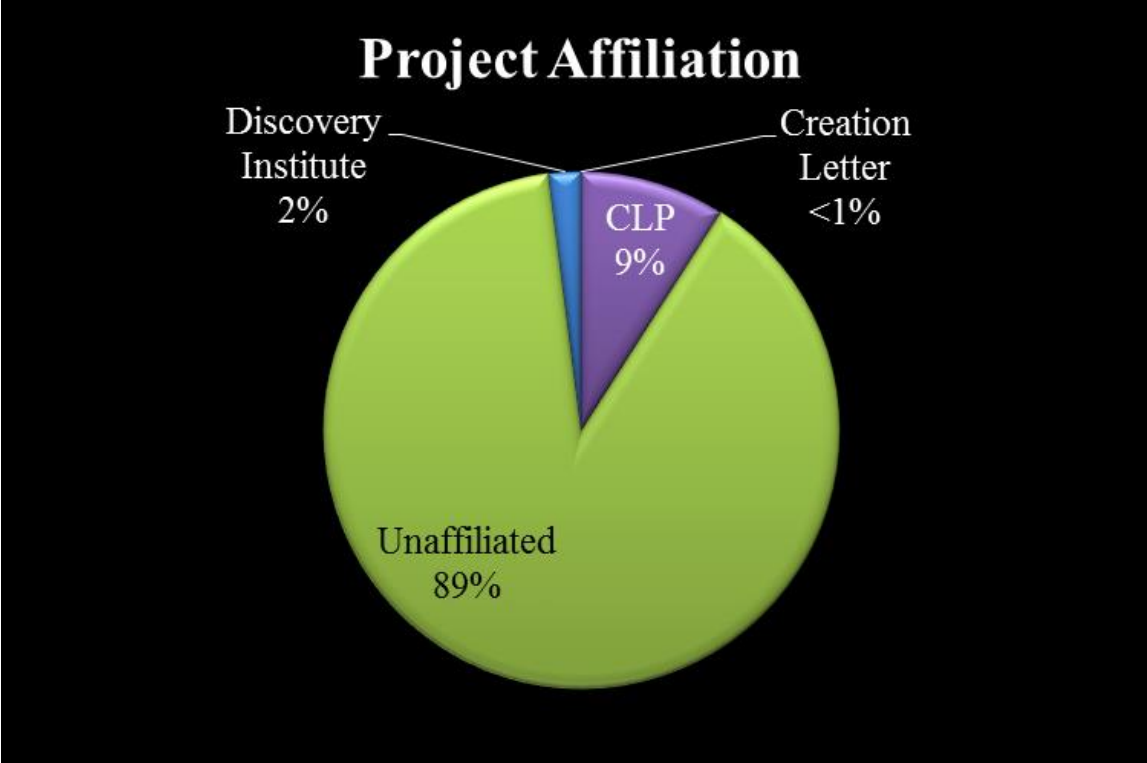


## Age Groups



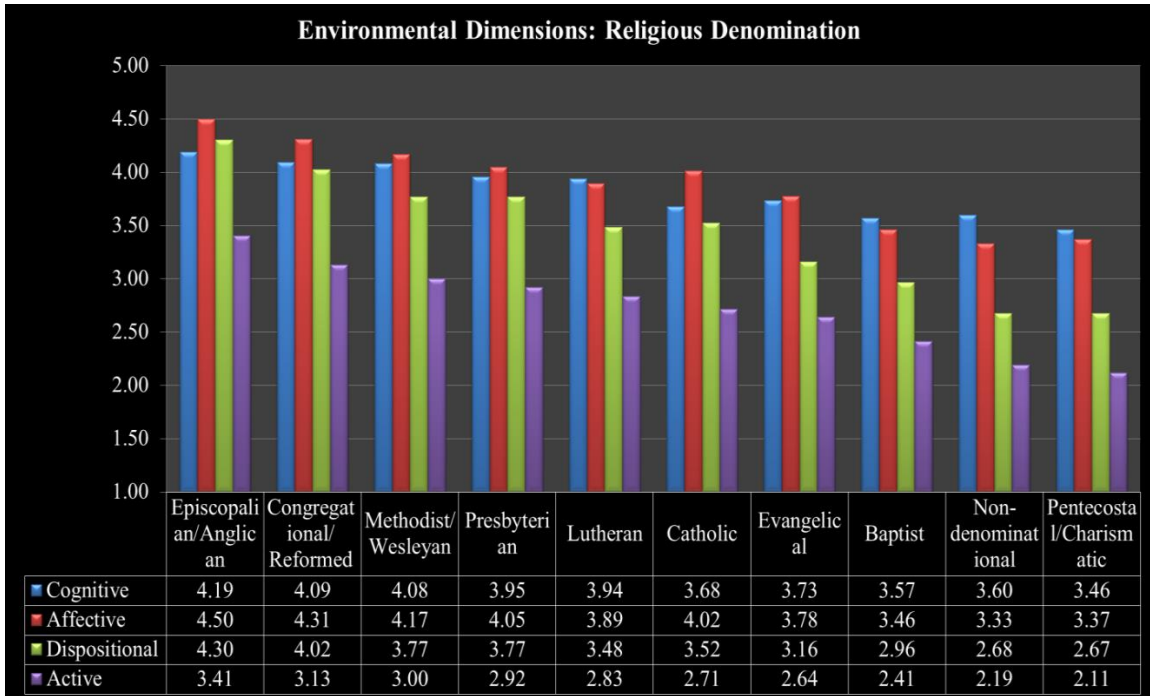
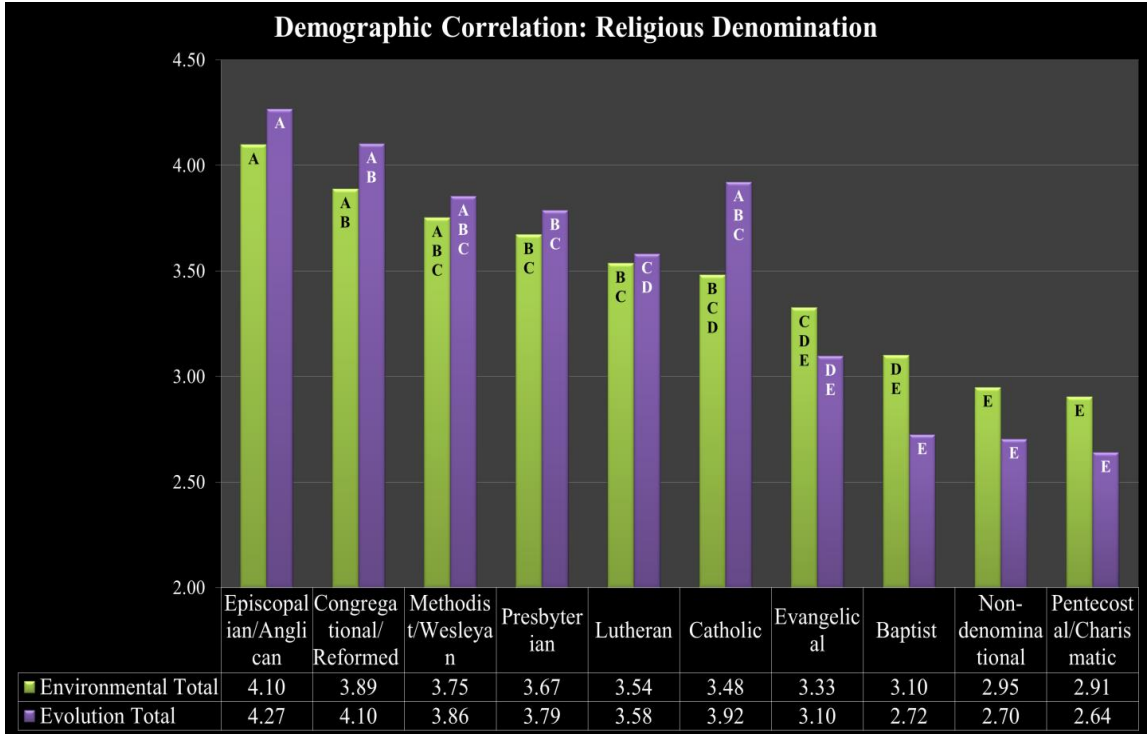
## Rurality

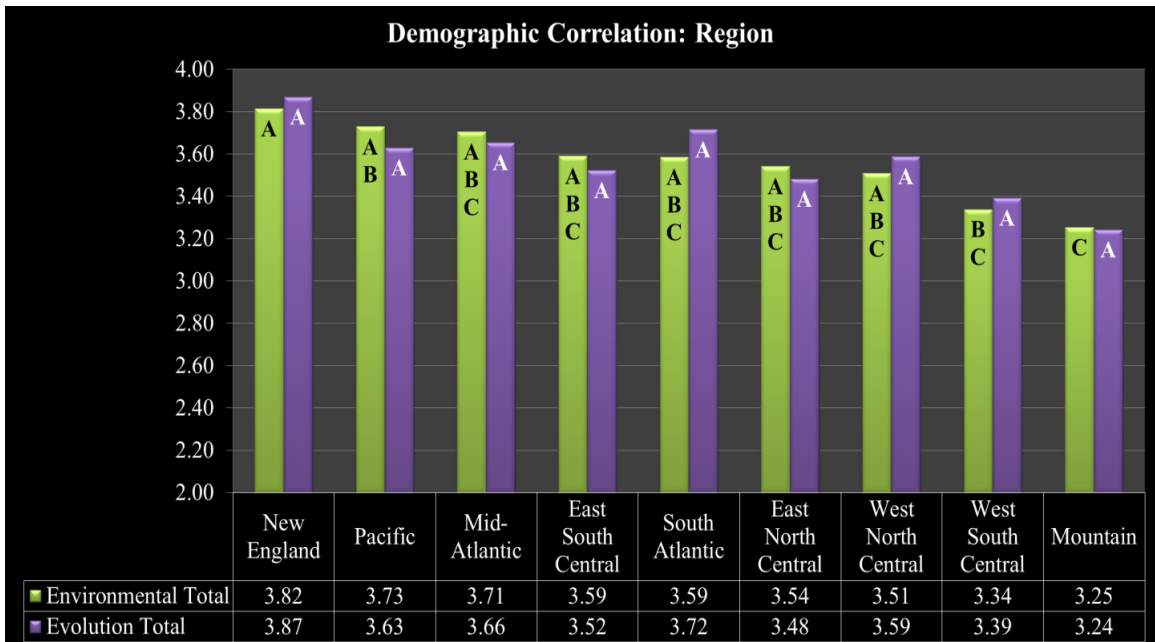
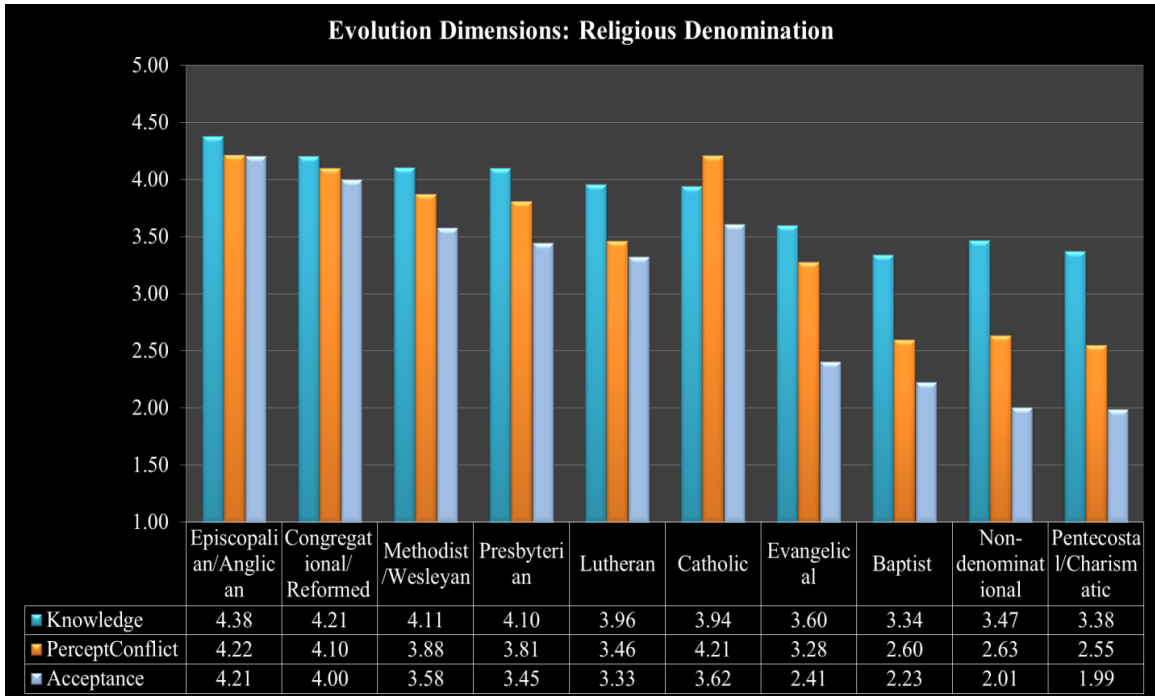


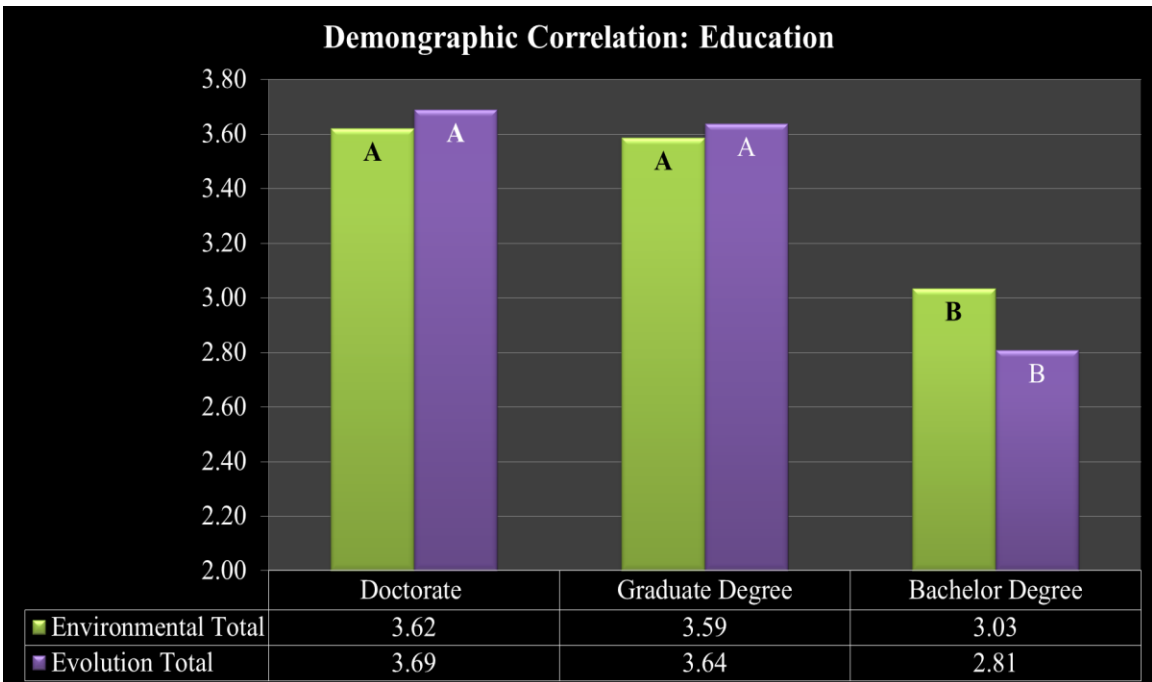
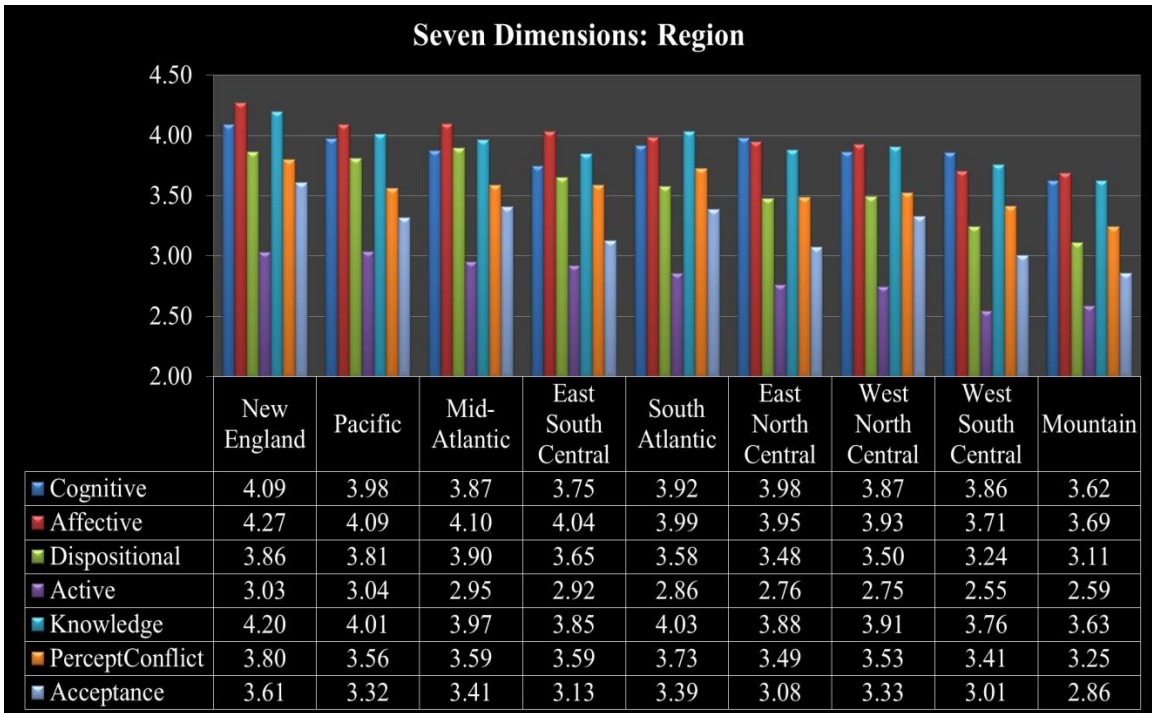


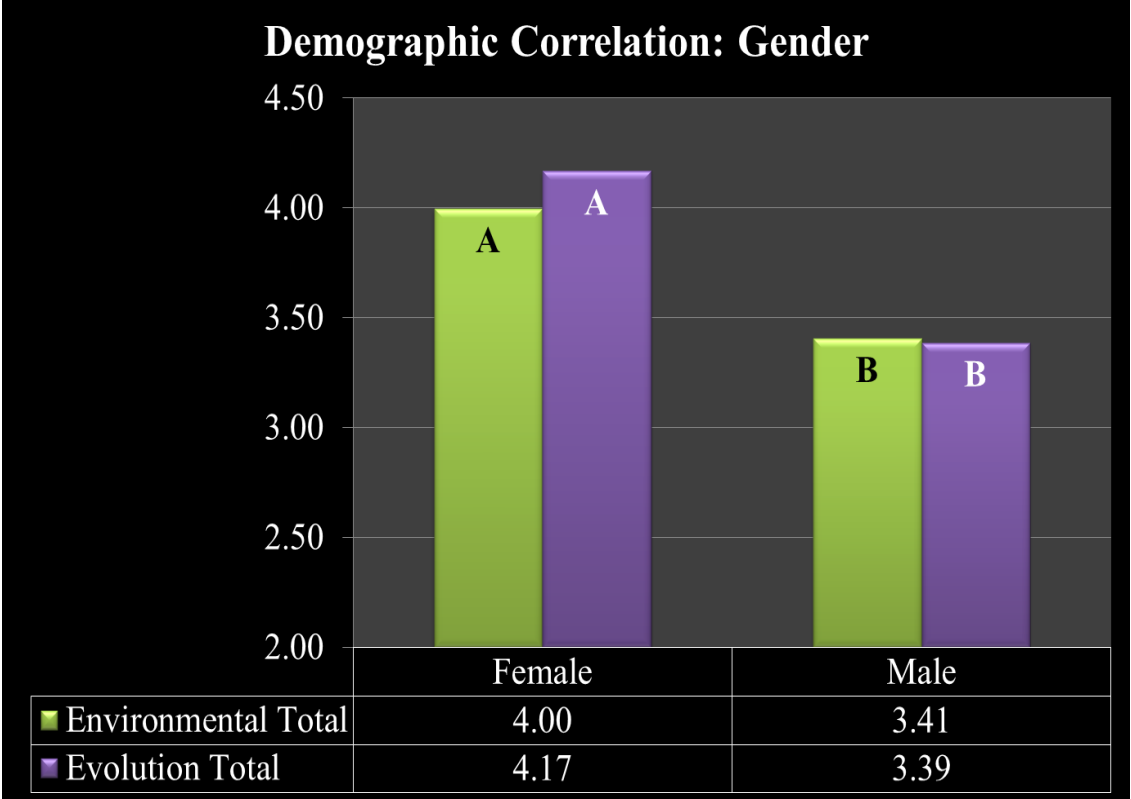
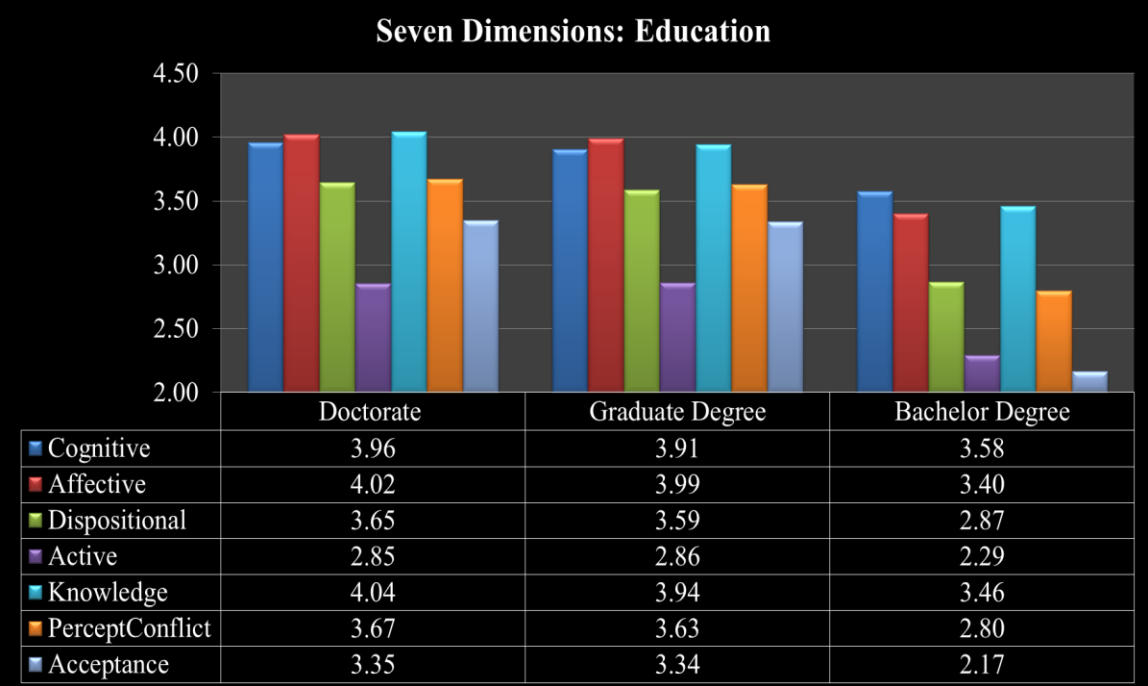
## Appendix F

### Demographic Correlation With Environmental and Evolution Totals

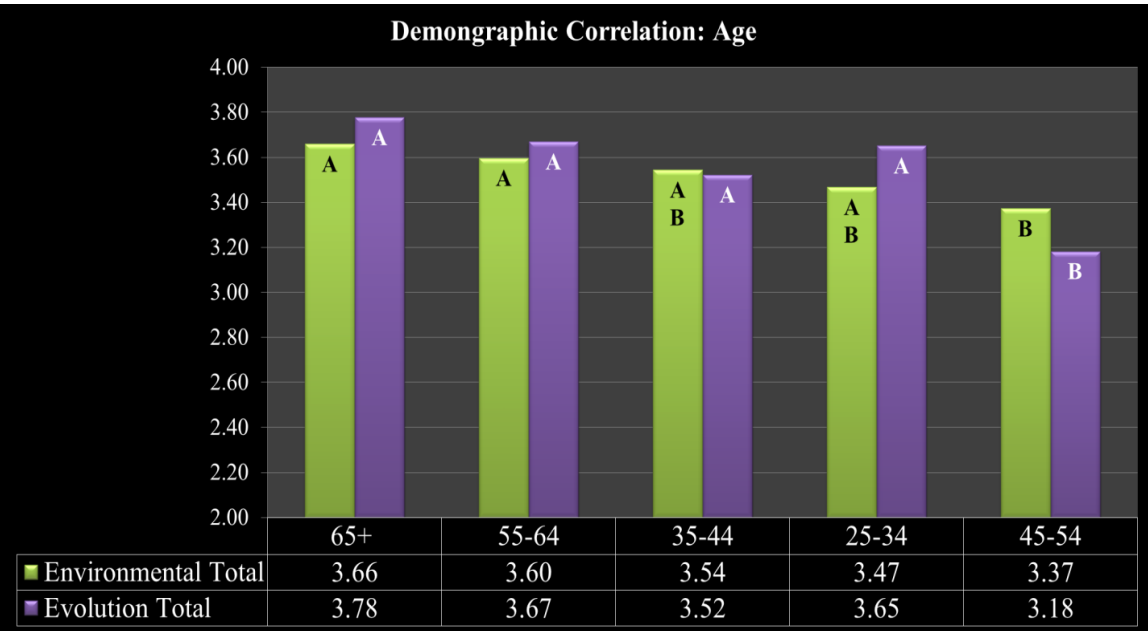
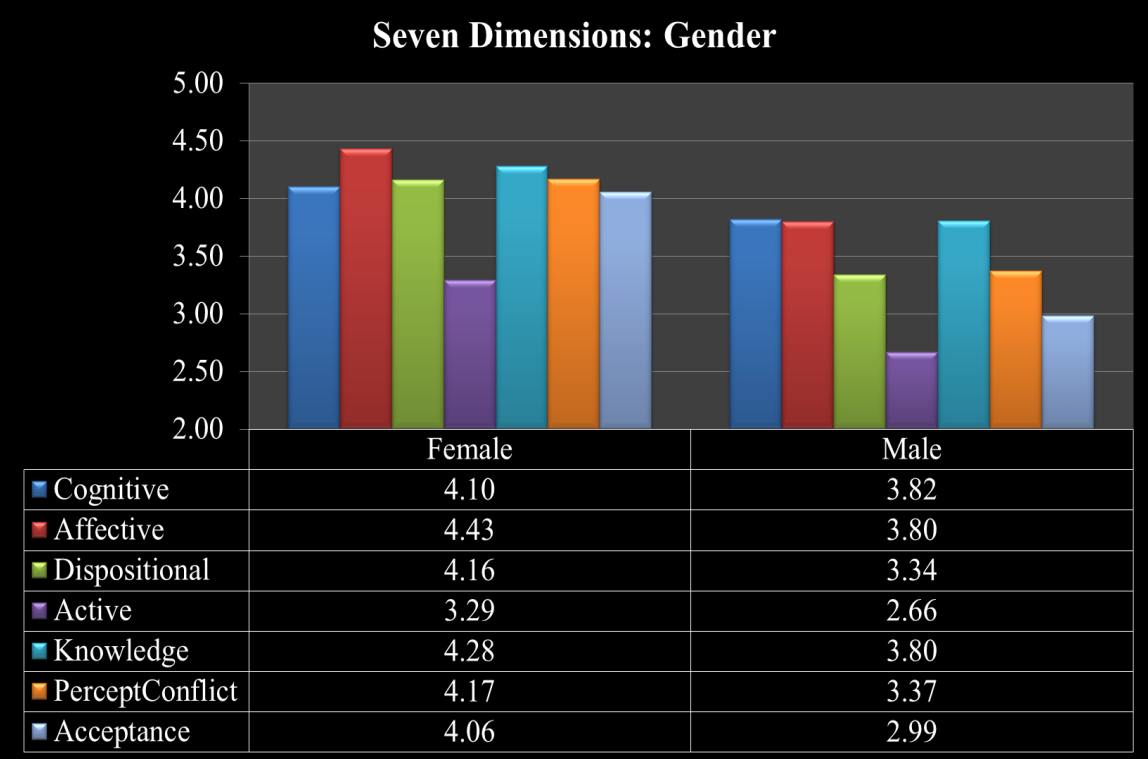


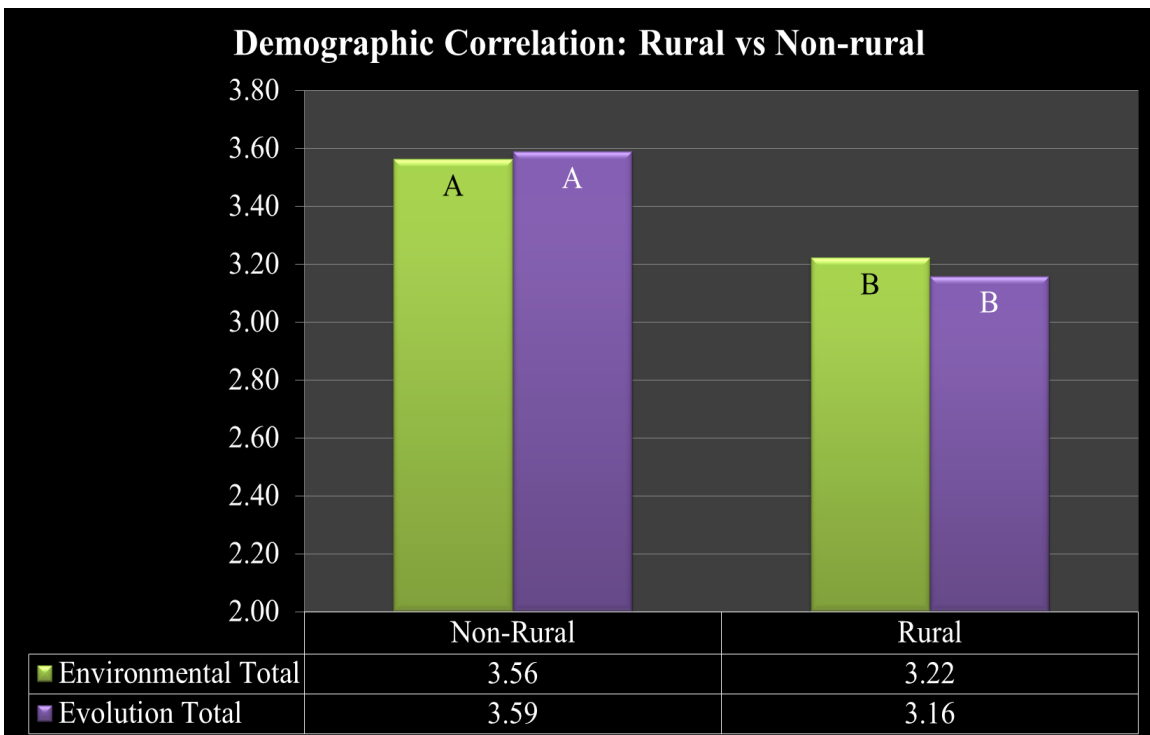
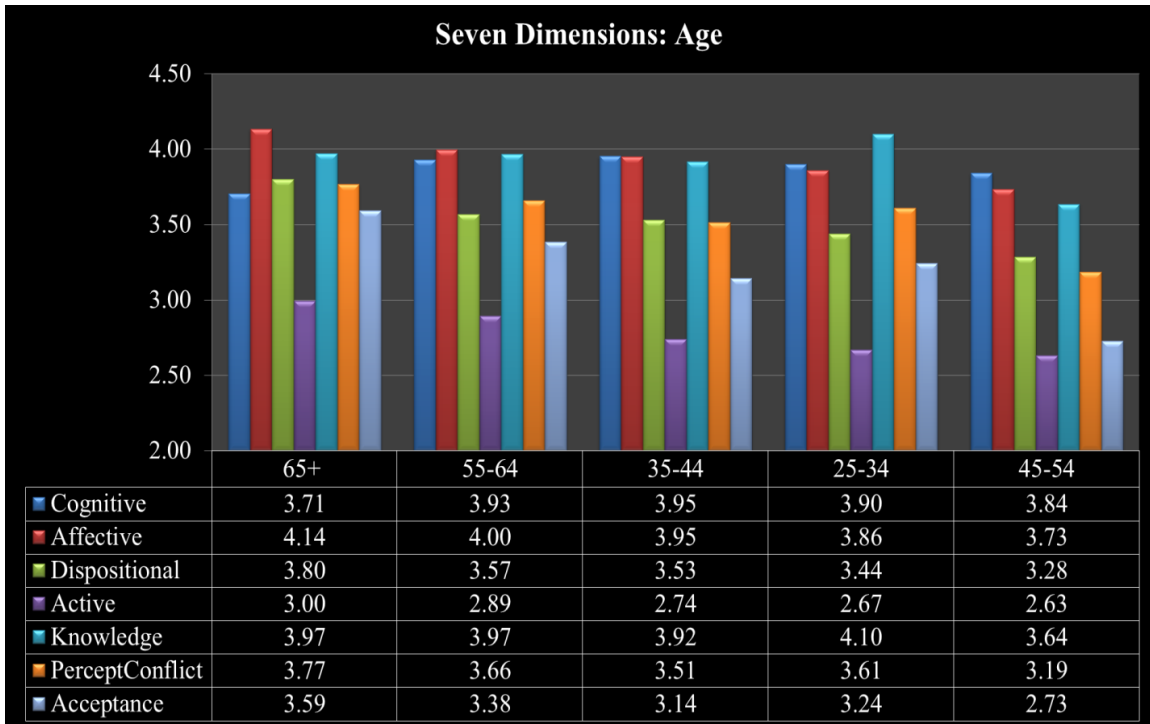


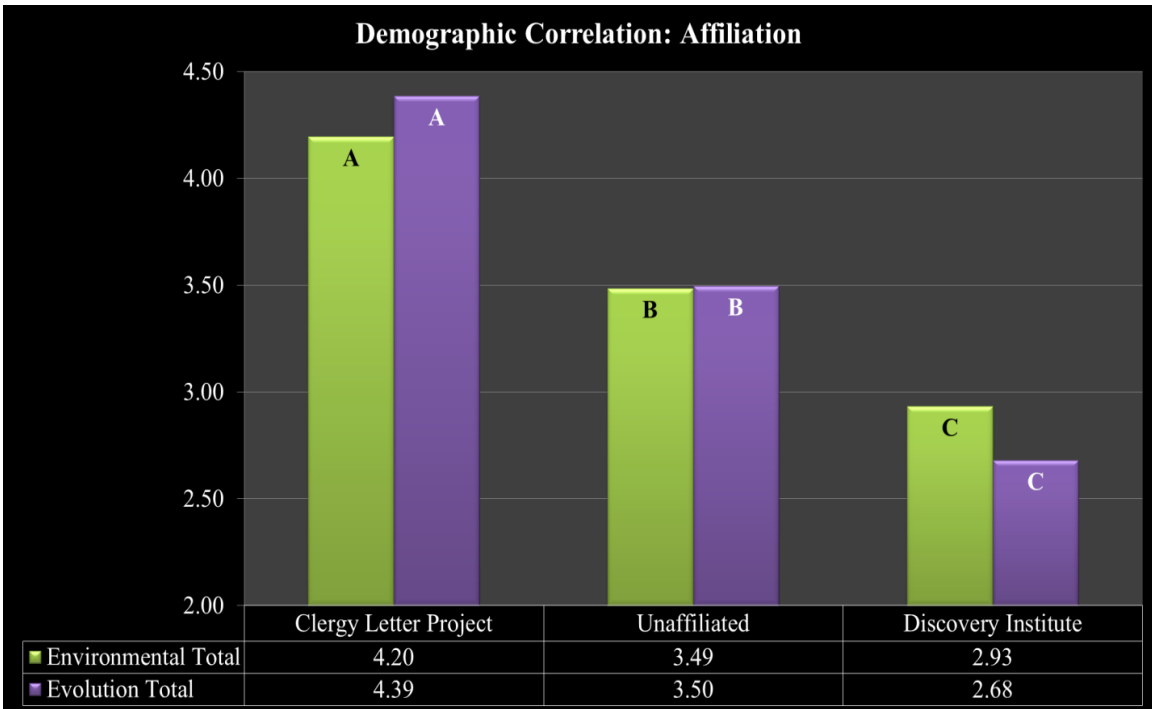
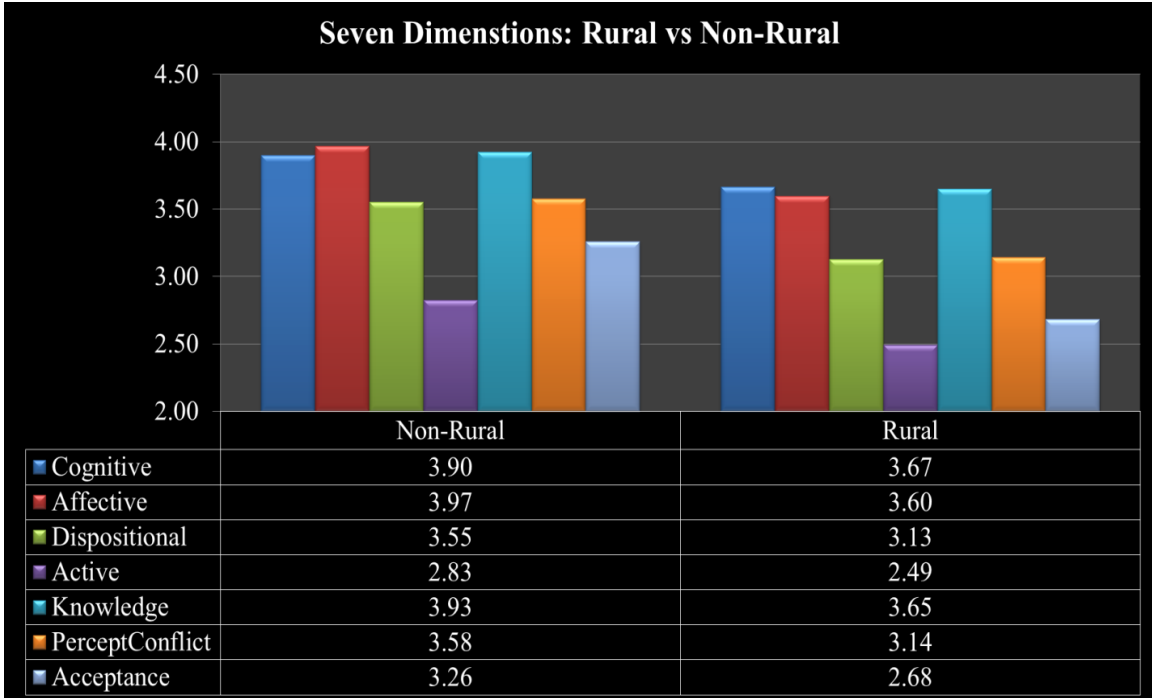


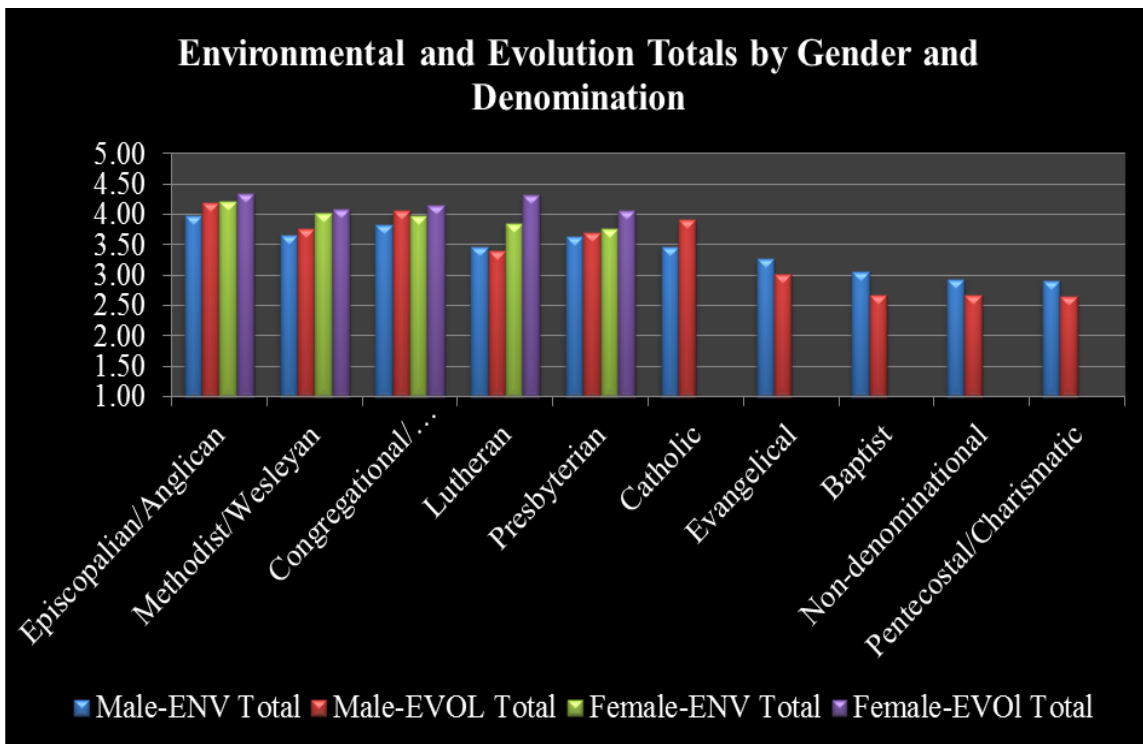
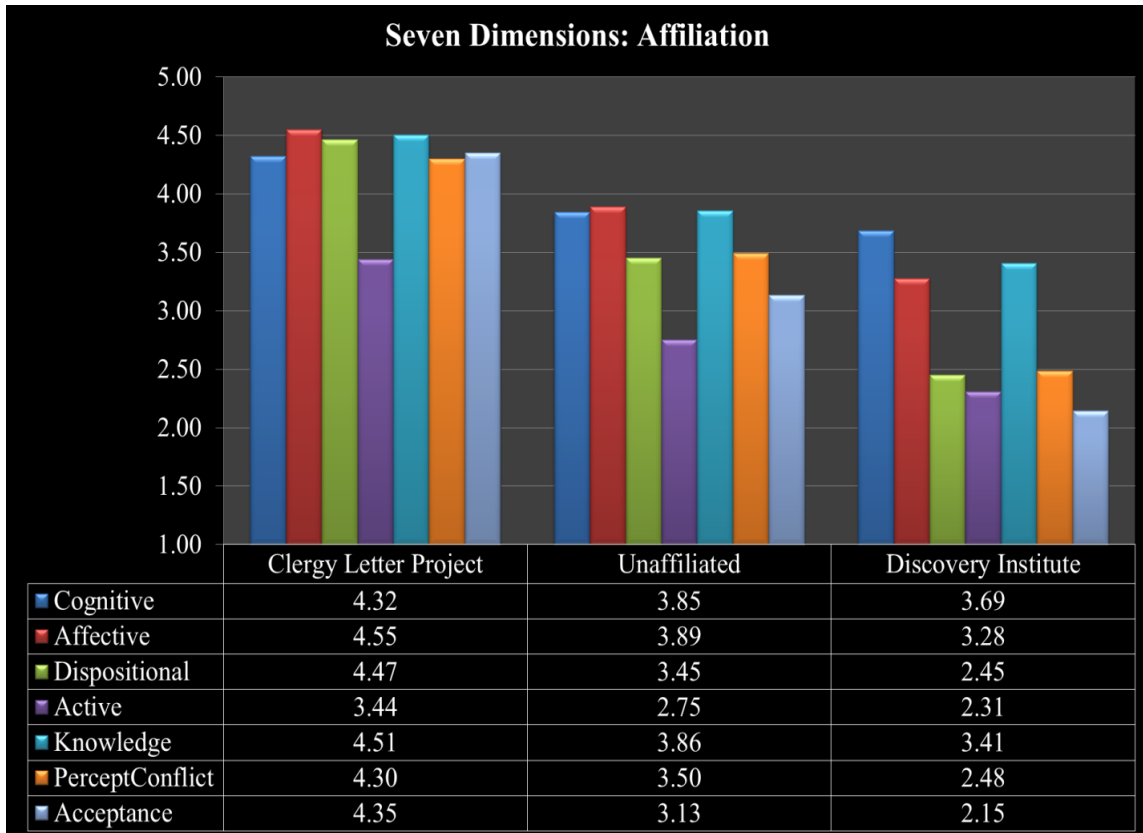






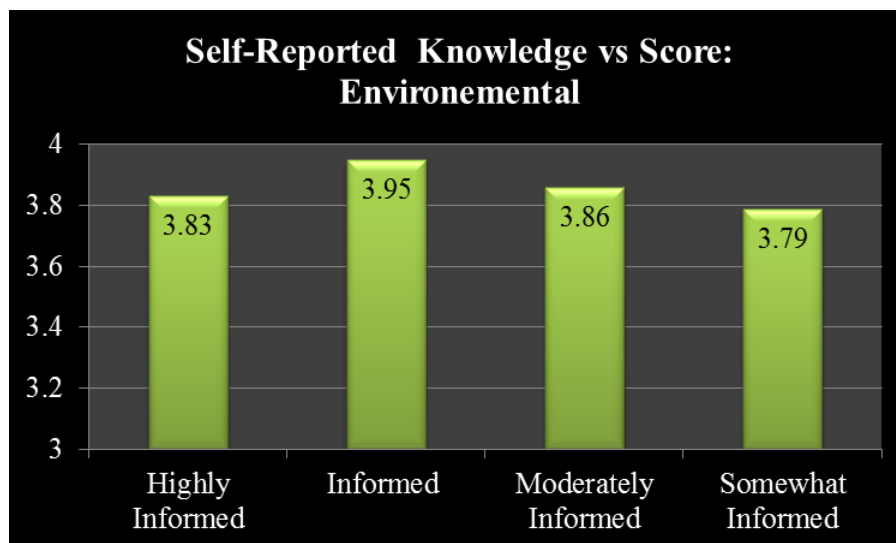
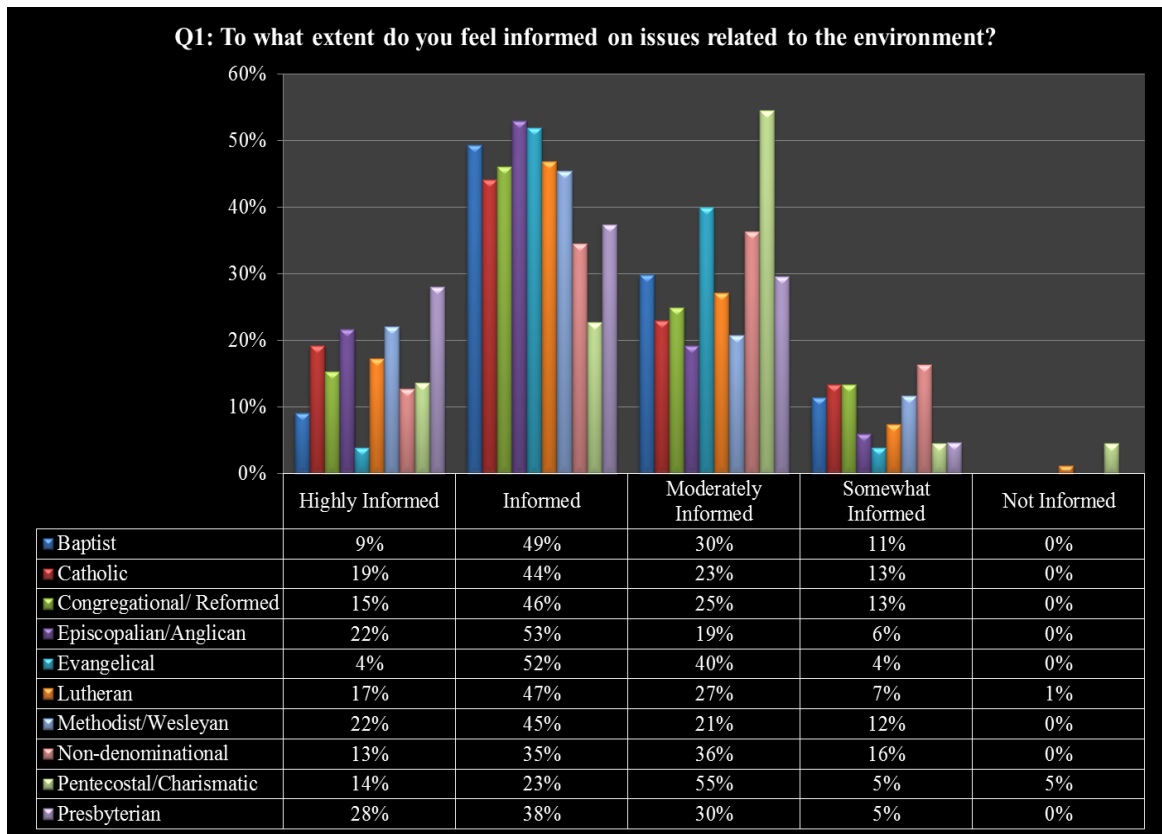




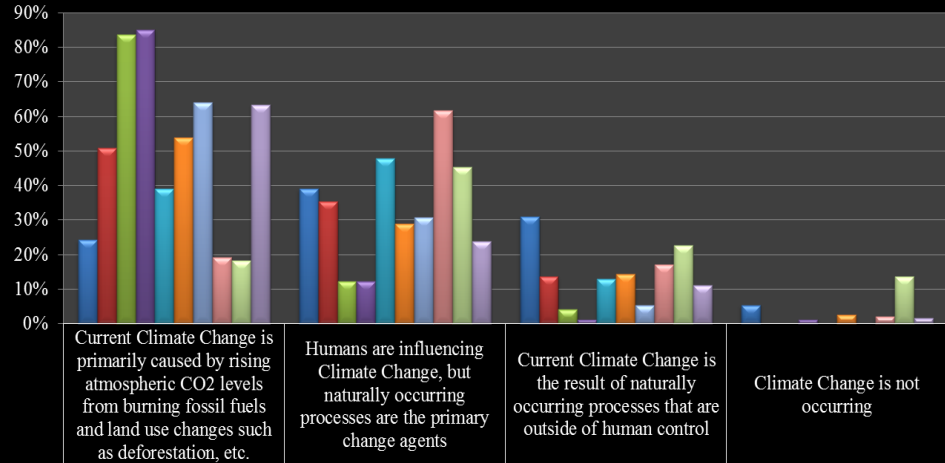


## Appendix G

### Graphs for Environmental Questions

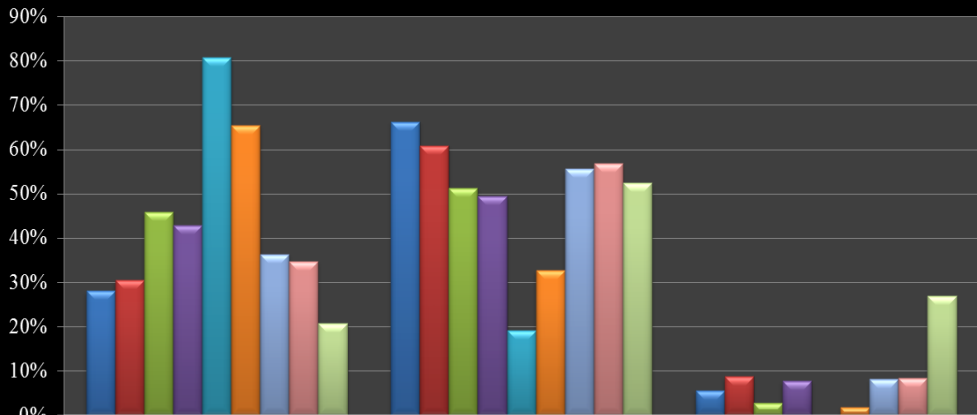


**Q2: Which of the following statements comes closest to your views on Global Climate Change?**



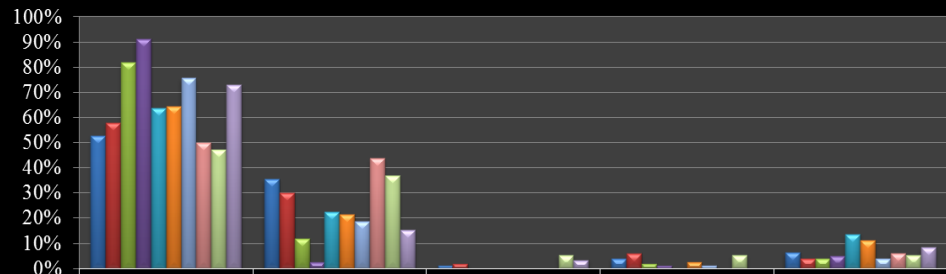
Denomination	Current Climate Change is primarily caused by rising atmospheric CO2 levels from burning fossil fuels and land use changes such as deforestation, etc.	Humans are influencing Climate Change, but naturally occurring processes are the primary change agents	Current Climate Change is the result of naturally occurring processes that are outside of human control	Climate Change is not occurring
Baptist	24%	39%	31%	5%
Catholic	51%	35%	14%	0%
Congregational/ Reformed	84%	12%	4%	0%
Episcopal/Anglican	85%	12%	1%	1%
Evangelical	39%	48%	13%	0%
Lutheran	54%	29%	14%	3%
Methodist/Wesleyan	64%	31%	5%	0%
Non-denominational	19%	62%	17%	2%
Pentecostal/Charismatic	18%	45%	23%	14%
Presbyterian	63%	24%	11%	2%

**Q3: How concerned about environmental issues are the people in your region?**



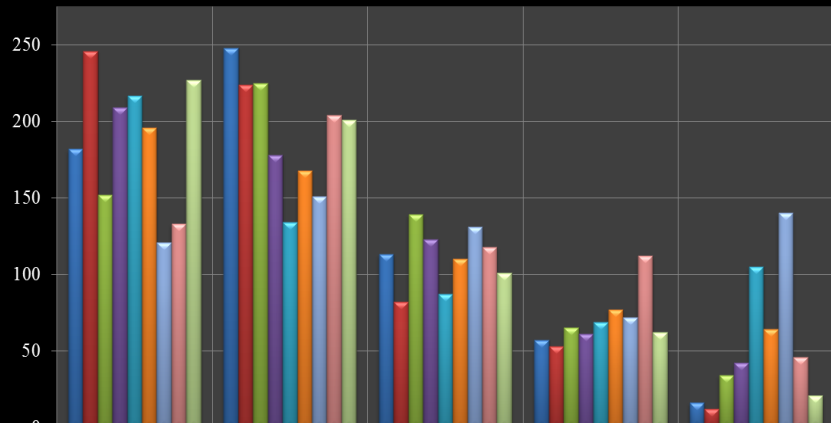
Region	Highly Concerned/Concerned	Moderately/Somewhat Concerned	Not Concerned
East North Central	28%	66%	6%
East South Central	30%	61%	9%
Mid-Atlantic	46%	51%	3%
Mountain	43%	49%	8%
New England	81%	19%	0%
Pacific	65%	33%	2%
South Atlantic	36%	56%	8%
West North Central	35%	57%	8%
West South Central	21%	52%	27%

**Q4: Do you think there is a consensus among climate scientists regarding the current rate of Global Climate Change being human-induced?**



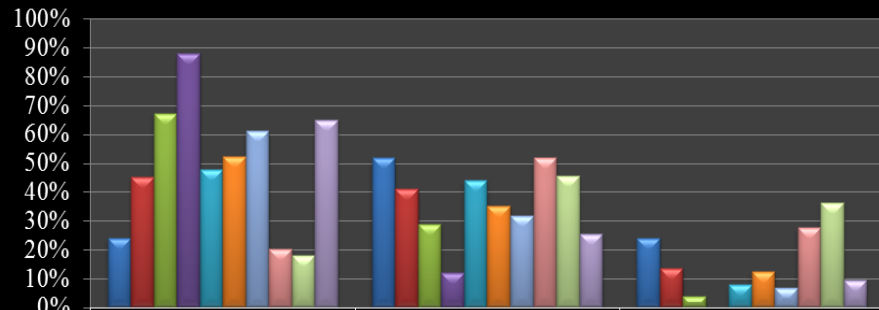
	There is a majority consensus that current Climate Change is human-induced	There is NO consensus regarding current Climate Change	There is a majority consensus that earth is NOT currently experiencing Climate Change	There is a majority consensus that current Climate Change is NOT human-induced, but is caused by other natural mechanisms	Unsure
■ Baptist	53%	36%	1%	4%	7%
■ Catholic	58%	30%	2%	6%	4%
■ Congregational/ Reformed	82%	12%	0%	2%	4%
■ Episcopal/ Anglican	91%	3%	0%	1%	5%
■ Evangelical	64%	23%	0%	0%	14%
■ Lutheran	65%	22%	0%	3%	11%
■ Methodist/Wesleyan	76%	19%	0%	1%	4%
■ Non-denominational	50%	44%	0%	0%	6%
■ Pentecostal/Charismatic	47%	37%	5%	5%	5%
■ Presbyterian	73%	15%	3%	0%	8%

**Q5: How concerned are you regarding the impact of the following issues?**



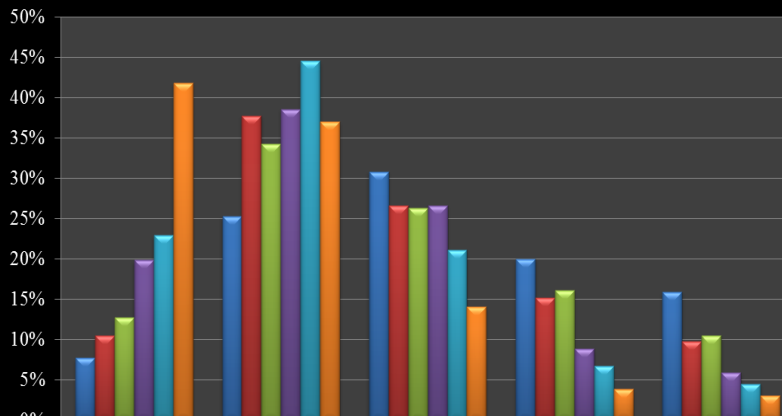
	Highly Concerned	Concerned	Moderately Concerned	Somewhat Concerned	Not Concerned
■ Air pollution	182	248	113	57	16
■ Water pollution	246	224	82	53	12
■ Domestic waste disposal	152	225	139	65	34
■ Deforestation	209	178	123	61	42
■ Global Climate Change	217	134	87	69	105
■ Loss of plant and animal diversity	196	168	110	77	64
■ Population Growth	121	151	131	72	140
■ Soil erosion and degradation	133	204	118	112	46
■ Toxic chemicals	227	201	101	62	21

**Q6: How willing would you be to pay higher prices in order to protect the environment**



	Highly Willing/ Willing	Moderately/Somewhat Willing	Not Willing
■ Baptist	24%	52%	24%
■ Catholic	45%	41%	14%
■ Congregational/ Reformed	67%	29%	4%
■ Episcopalian/Anglican	88%	12%	0%
■ Evangelical	48%	44%	8%
■ Lutheran	53%	35%	13%
■ Methodist/Wesleyan	61%	32%	7%
■ Non-denominational	20%	52%	28%
■ Pentecostal/Charismatic	18%	45%	36%
■ Presbyterian	65%	25%	10%

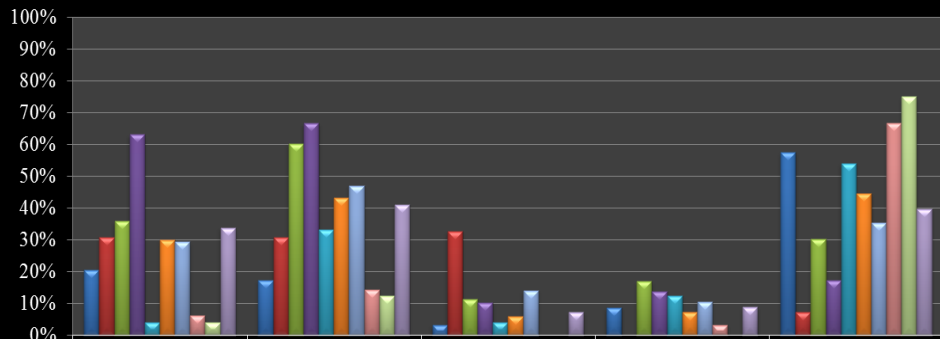
**Q7: How often does concern for the environment influence the following:**



	Almost Always	Frequently	Occasionally	Rarely	Never
■ Your method or frequency of transportation	8%	25%	31%	20%	16%
■ The products you buy / where you buy	11%	38%	27%	15%	10%
■ The food you eat / where you purchase the food	13%	34%	26%	16%	11%
■ Daily water conservation practices	20%	39%	27%	9%	6%
■ Daily energy conservation practices	23%	45%	21%	7%	5%
■ Waste reduction	42%	37%	14%	4%	3%

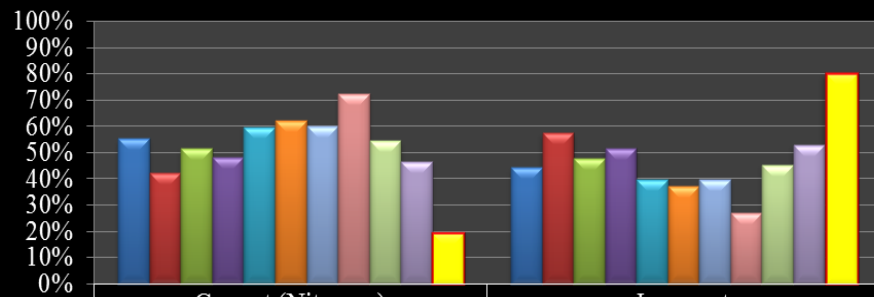


### Q8: In the past two years, have you personally....



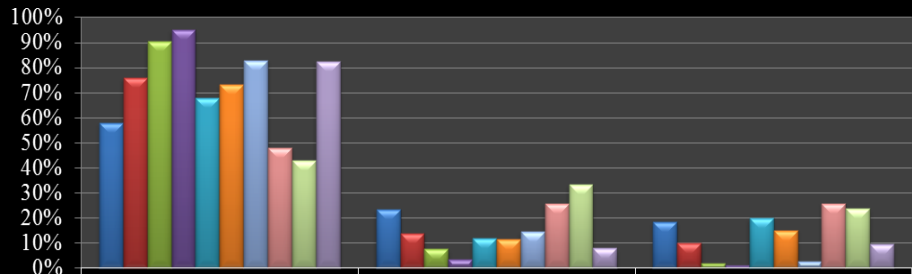
	... Given money to an environmental group?	... Signed a petition about an environmental issue?	... Taken part in a protest / demonstration / hearing about an environmental issue?	Other	None of the above
■ Baptist	21%	17%	3%	9%	58%
■ Catholic	31%	31%	33%	0%	7%
■ Congregational/ Reformed	36%	60%	11%	17%	30%
■ Episcopalian/Anglican	63%	67%	10%	14%	17%
■ Evangelical	4%	33%	4%	13%	54%
■ Lutheran	30%	43%	6%	7%	45%
■ Methodist/Wesleyan	29%	47%	14%	11%	35%
■ Non-denominational	6%	14%	0%	3%	67%
■ Pentecostal/Charismatic	4%	13%	0%	0%	75%
■ Presbyterian	34%	41%	7%	9%	40%

### Q9: Which gas makes up most of the Earth's atmosphere?



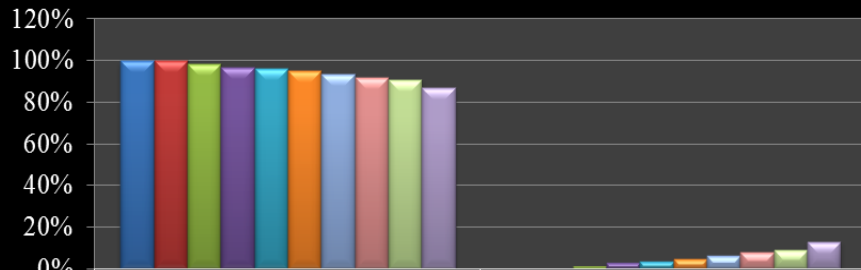
	Correct (Nitrogen)	Incorrect
■ Baptist	56%	44%
■ Catholic	42%	58%
■ Congregational/ Reformed	52%	48%
■ Episcopalian/Anglican	48%	52%
■ Evangelical	60%	40%
■ Lutheran	63%	38%
■ Methodist/Wesleyan	60%	40%
■ Non-denominational	73%	27%
■ Pentecostal/Charismatic	55%	45%
■ Presbyterian	47%	53%
■ Pew Research	20%	80%

**Q10: Humanity cannot continue on its present course without detrimental ecological consequences**



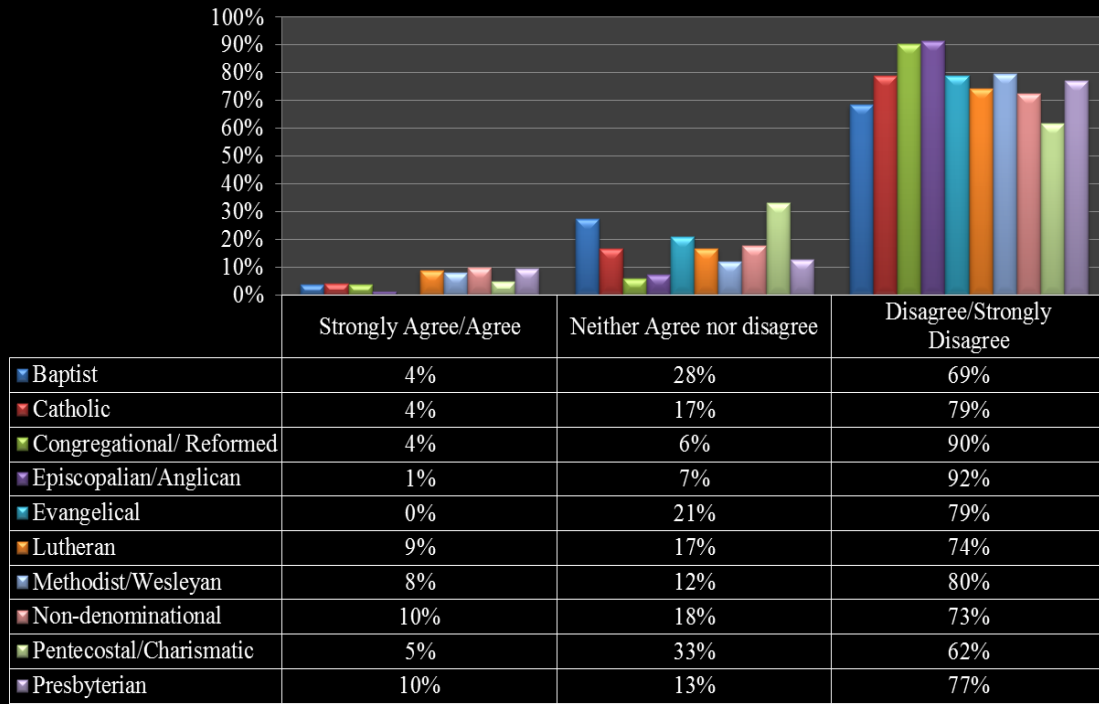
	Stongly Agree/Agree	Neither Agree nor Disagree	Disagree/Strongly Disagree
Baptist	58%	23%	19%
Catholic	76%	14%	10%
Congregational/ Reformed	90%	8%	2%
Episcopalian/Anglican	95%	4%	1%
Evangelical	68%	12%	20%
Lutheran	73%	11%	15%
Methodist/Wesleyan	83%	14%	3%
Non-denominational	48%	26%	26%
Pentecostal/Charismatic	43%	33%	24%
Presbyterian	83%	8%	10%

**Q11: Trees and other plants reduce atmospheric carbon dioxide (CO2) levels through the process of photosynthesis**

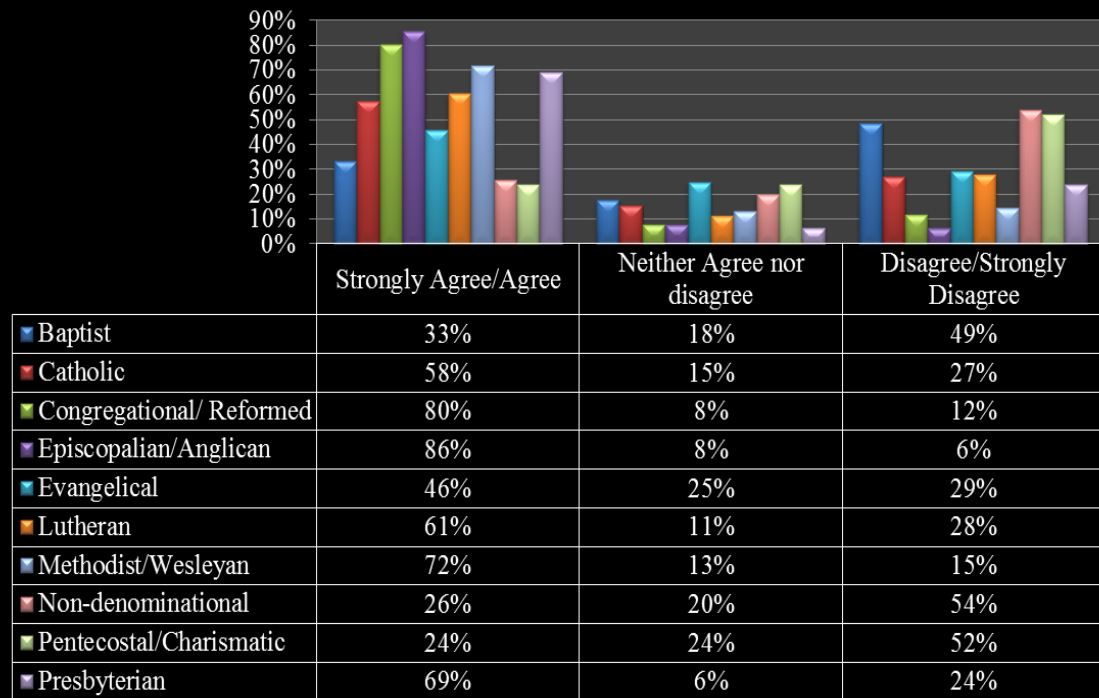


	Definitely/Probably True	Probably/Definitely False
Catholic	100%	0%
Pentecostal/Charismatic	100%	0%
Methodist/Wesleyan	99%	1%
Baptist	97%	3%
Episcopalian/Anglican	96%	4%
Lutheran	95%	5%
Presbyterian	94%	6%
Non-denominational	92%	8%
Evangelical	91%	9%
Congregational/ Reformed	87%	13%

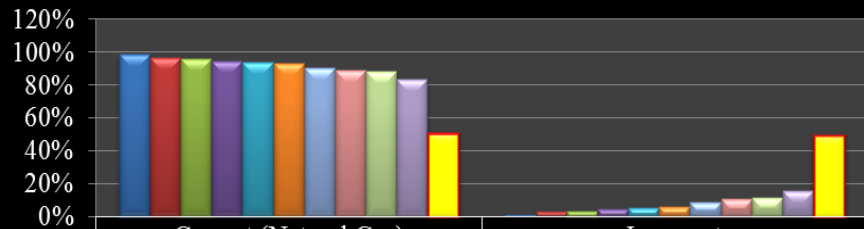
**Q12: Modern science will solve our environmental problems with little change to our way of life**



**Q13: The government should implement stricter regulations to protect the environment**

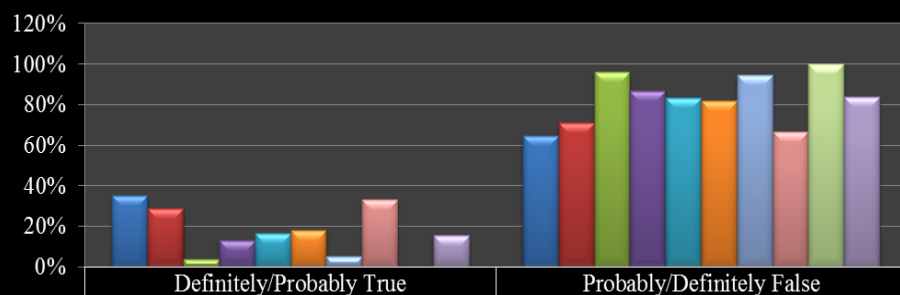


**Q14: Which natural resource is extracted in a process known as “fracking”?**



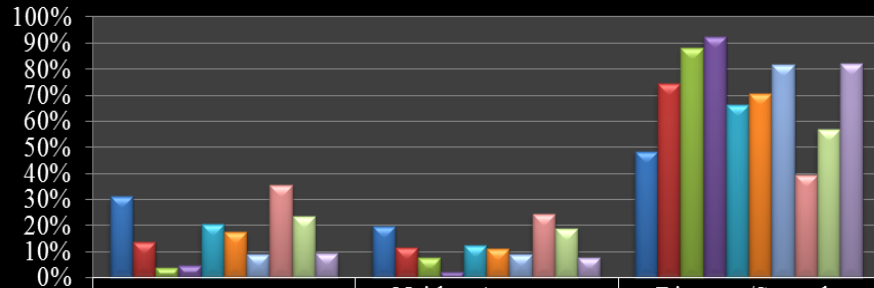
	Correct (Natural Gas)	Incorrect
Episcopal/Anglican	99%	1%
Presbyterian	97%	3%
Baptist	96%	4%
Lutheran	95%	5%
Catholic	94%	6%
Methodist/Wesleyan	94%	6%
Pentecostal/Charismatic	91%	9%
Non-denominational	89%	11%
Congregational/ Reformed	88%	12%
Evangelical	84%	16%
Pew Research	51%	49%

**Q15: Loss of biodiversity (plant and animal species) has no impact on the human population.**



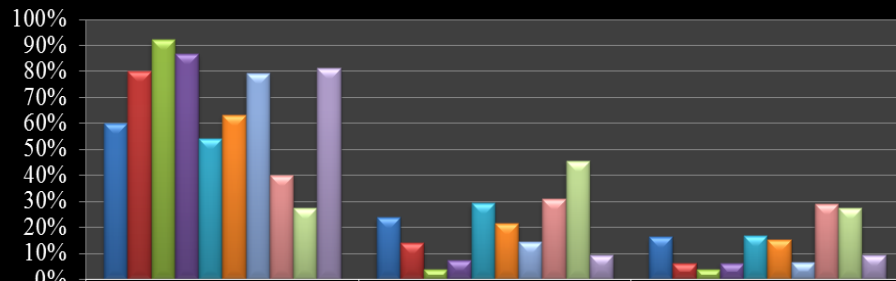
	Definitely/Probably True	Probably/Definitely False
Baptist	35%	65%
Catholic	29%	71%
Congregational/ Reformed	4%	96%
Episcopal/Anglican	13%	87%
Evangelical	17%	83%
Lutheran	18%	82%
Methodist/Wesleyan	5%	95%
Non-denominational	33%	67%
Pentecostal/Charismatic	0%	100%
Presbyterian	16%	84%

**Q16: People worry too much about human progress harming the environment**



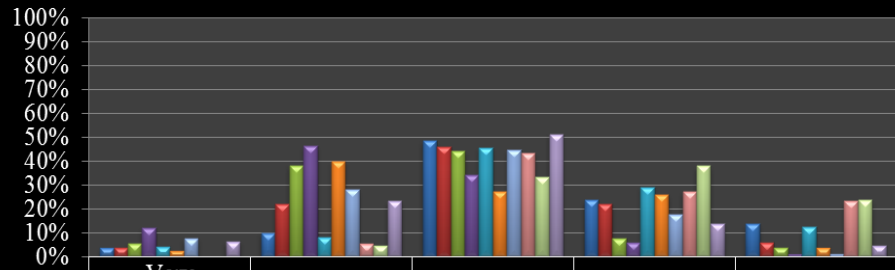
	Strongly Agree/Agree	Neither Agree nor Disagree	Disagree/Strongly Disagree
Baptist	31%	20%	49%
Catholic	14%	12%	75%
Congregational/ Reformed	4%	8%	88%
Episcopalian/Anglican	5%	2%	93%
Evangelical	21%	13%	67%
Lutheran	18%	11%	71%
Methodist/Wesleyan	9%	9%	82%
Non-denominational	36%	25%	40%
Pentecostal/Charismatic	24%	19%	57%
Presbyterian	10%	8%	83%

**Q17: As a spiritual leader I have a responsibility to ensure that those in my church/community are aware of environmental problems and solutions**



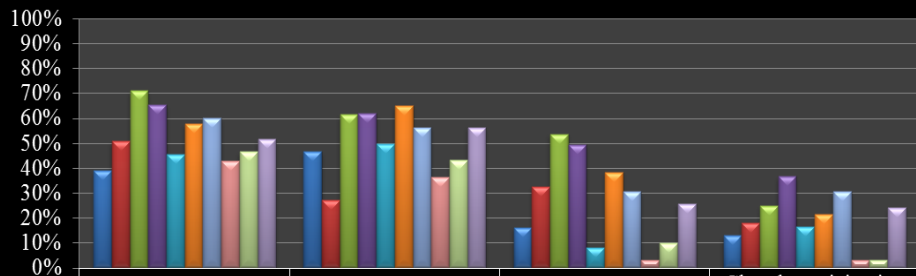
	Strongly Agree/Agree	Neither Agree nor Disagree	Disagree/Strongly Disagree
Baptist	60%	24%	16%
Catholic	80%	14%	6%
Congregational/ Reformed	92%	4%	4%
Episcopalian/Anglican	87%	7%	6%
Evangelical	54%	29%	17%
Lutheran	63%	22%	15%
Methodist/Wesleyan	79%	14%	6%
Non-denominational	40%	31%	29%
Pentecostal/Charismatic	27%	45%	27%
Presbyterian	81%	9%	9%

**Q18: How often do you address environmental issues with your church members?**



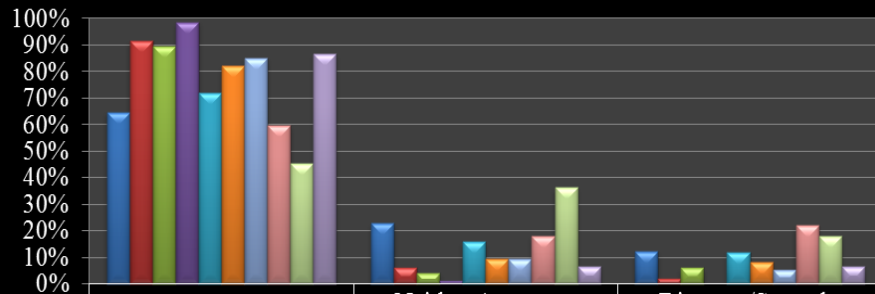
	Very Frequently (More than once a month)	Frequently (once a month)	Occasionally (1-2 times annually)	Rarely (Once a year or less)	Never
Baptist	4%	10%	49%	24%	14%
Catholic	4%	22%	46%	22%	6%
Congregational/ Reformed	6%	38%	44%	8%	4%
Episcopalian/Anglican	12%	46%	34%	6%	1%
Evangelical	4%	8%	46%	29%	13%
Lutheran	3%	40%	28%	26%	4%
Methodist/Wesleyan	8%	28%	45%	18%	1%
Non-denominational	0%	5%	44%	27%	24%
Pentecostal/Charismatic	0%	5%	33%	38%	24%
Presbyterian	6%	23%	52%	14%	5%

**Q19: Indicate method of communication:**



	During sermon	One-on-one with church members	Church newsletter/ E-mail	Church participation in environmental events or donations to environmental organizations
Baptist	39%	47%	16%	13%
Catholic	51%	27%	33%	18%
Congregational/ Reformed	71%	62%	54%	25%
Episcopalian/Anglican	66%	62%	49%	37%
Evangelical	46%	50%	8%	17%
Lutheran	58%	65%	39%	22%
Methodist/Wesleyan	60%	56%	31%	31%
Non-denominational	43%	37%	3%	3%
Pentecostal/Charismatic	47%	43%	10%	3%
Presbyterian	52%	56%	26%	24%

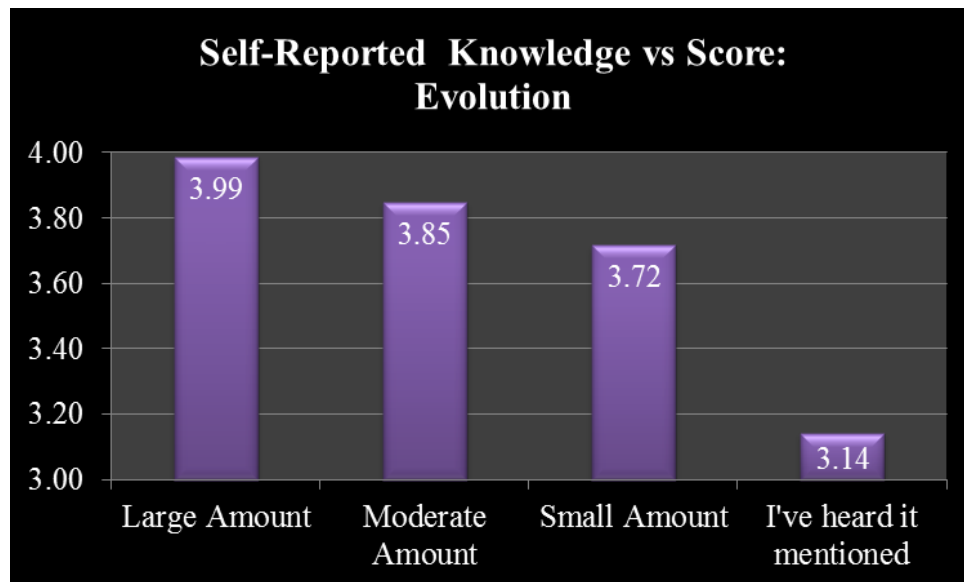
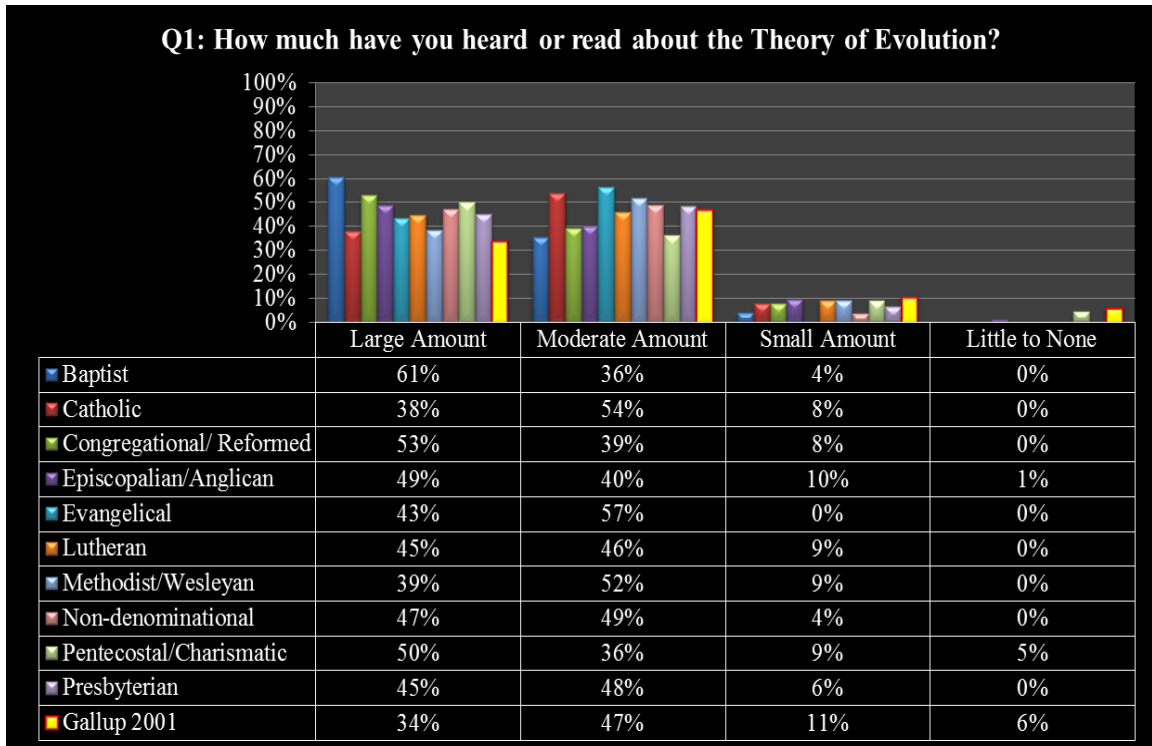
**Q20: What are your thoughts regarding Pope Francis' stance that humans have failed in our duty to protect God's creation?**



	Strongly Agree/Agree	Neither Agree nor Disagree	Disagree/Strongly Disagree
■ Baptist	65%	23%	12%
■ Catholic	92%	6%	2%
■ Congregational/ Reformed	90%	4%	6%
■ Episcopalian/Anglican	99%	1%	0%
■ Evangelical	72%	16%	12%
■ Lutheran	82%	10%	8%
■ Methodist/Wesleyan	85%	9%	5%
■ Non-denominational	60%	18%	22%
■ Pentecostal/Charismatic	45%	36%	18%
■ Presbyterian	87%	7%	7%

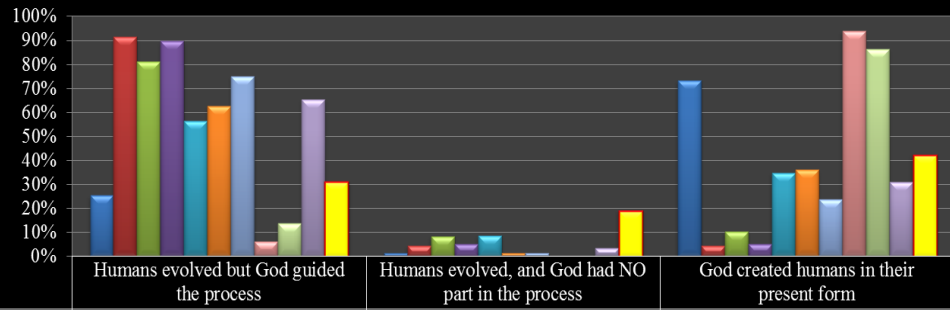
## Appendix H

### Graphs Of Evolution Questions



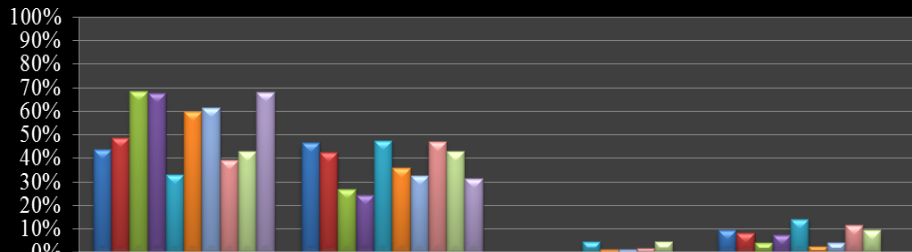


**Q2: Which of the following statements comes closest to your views on the origin and development of human beings?**



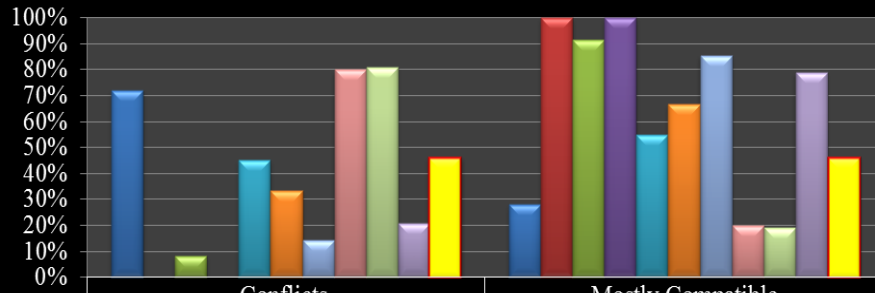
	Humans evolved but God guided the process	Humans evolved, and God had NO part in the process	God created humans in their present form
Baptist	25%	1%	73%
Catholic	91%	4%	4%
Congregational/ Reformed	81%	8%	10%
Episcopal/Anglican	90%	5%	5%
Evangelical	57%	9%	35%
Lutheran	63%	1%	36%
Methodist/Wesleyan	75%	1%	24%
Non-denominational	6%	0%	94%
Pentecostal/Charismatic	14%	0%	86%
Presbyterian	66%	3%	31%
Gallup 2014	31%	19%	42%

**Q3: Please select the most accurate definition of "Evolution:"**



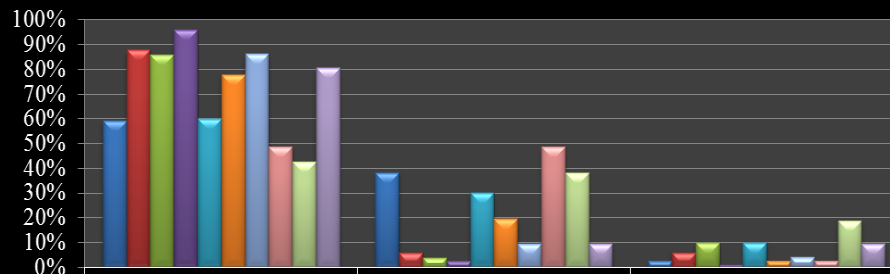
	Evolution is a process that results in heritable changes in a population spread over many generations	Evolution is the development of species from a primitive state to a complex state	Evolution is the inheritance of characteristics acquired during an individual's lifetime	Evolution refers to the idea that human beings developed from apes over the past millions of years
Baptist	44%	47%	0%	10%
Catholic	49%	43%	0%	9%
Congregational/ Reformed	69%	27%	0%	4%
Episcopal/Anglican	68%	24%	0%	8%
Evangelical	33%	48%	5%	14%
Lutheran	60%	36%	1%	3%
Methodist/Wesleyan	61%	33%	1%	4%
Non-denominational	39%	47%	2%	12%
Pentecostal/Charismatic	43%	43%	5%	10%
Presbyterian	68%	32%	0%	0%

**Q4: In general, would you say the Theory of Evolution conflicts with your own religious beliefs, or is mostly compatible with your own religious beliefs?**



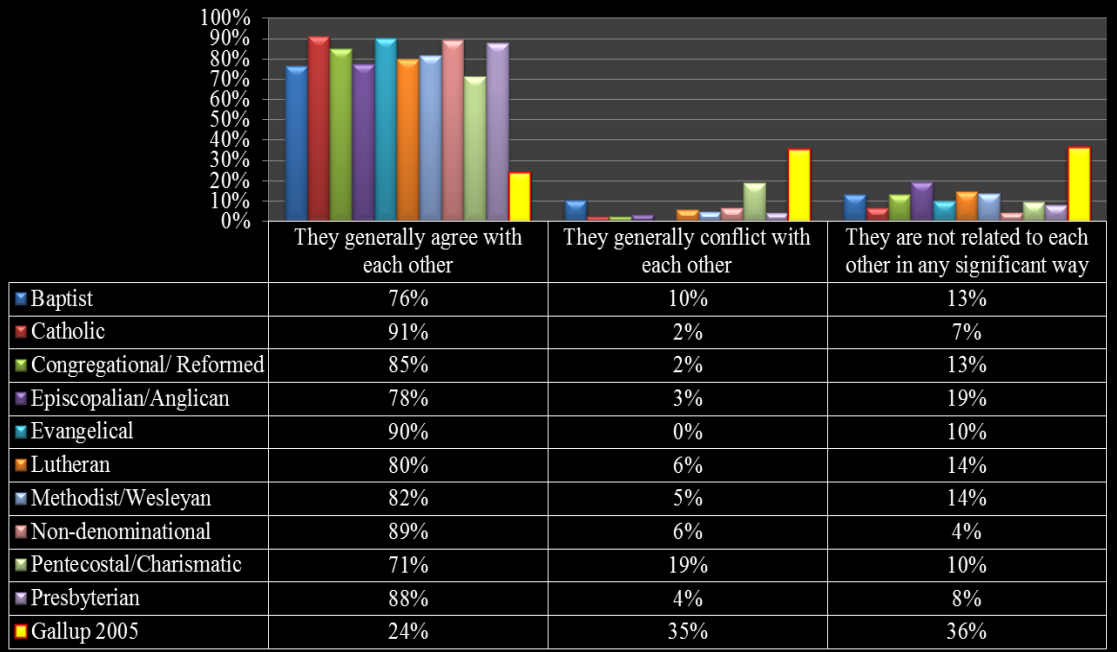
	Conflicts	Mostly Compatible
■ Baptist	72%	28%
■ Catholic	0%	100%
■ Congregational/ Reformed	8%	92%
■ Episcopal/Anglican	0%	100%
■ Evangelical	45%	55%
■ Lutheran	33%	67%
■ Methodist/Wesleyan	14%	86%
■ Non-denominational	80%	20%
■ Pentecostal/Charismatic	81%	19%
■ Presbyterian	21%	79%
■ Gallup 2014	46%	46%

**Q5: Do you think the evidence for evolution is widely accepted within the scientific community, or do many scientists have serious doubts about it?**

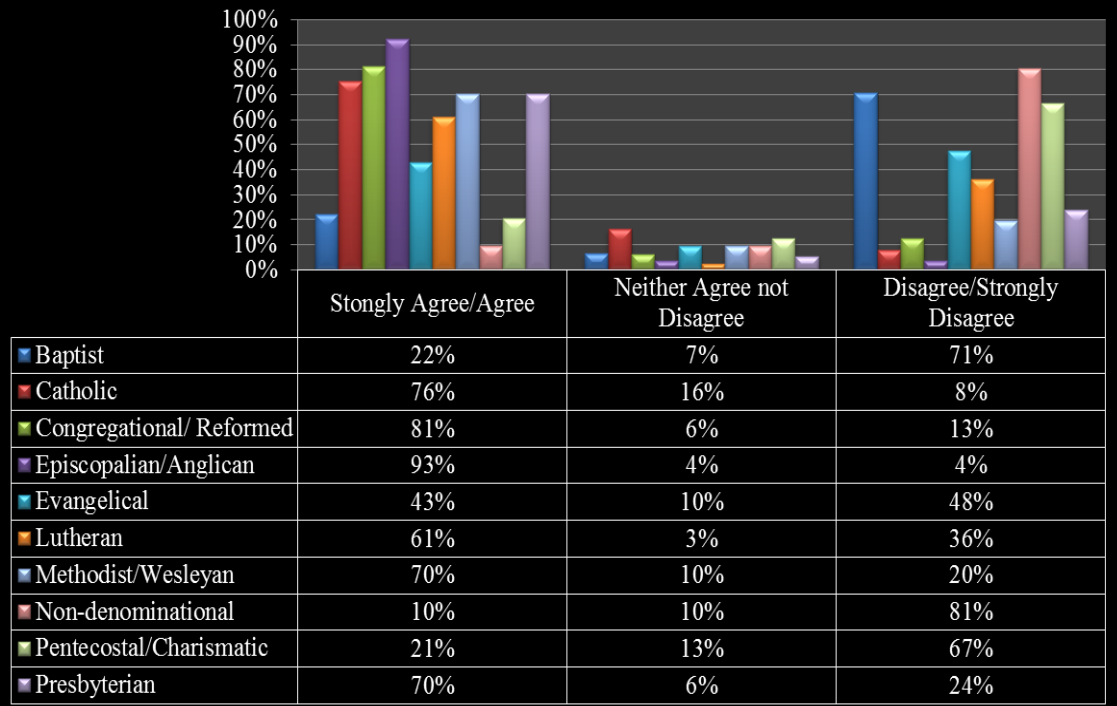


	Evidence for evolution is widely accepted within the scientific community	Many scientists have serious doubts about the evidence for evolution	Unsure
■ Baptist	59%	38%	3%
■ Catholic	88%	6%	6%
■ Congregational/ Reformed	86%	4%	10%
■ Episcopal/Anglican	96%	2%	1%
■ Evangelical	60%	30%	10%
■ Lutheran	78%	19%	3%
■ Methodist/Wesleyan	86%	10%	4%
■ Non-denominational	49%	49%	3%
■ Pentecostal/Charismatic	43%	38%	19%
■ Presbyterian	81%	10%	10%

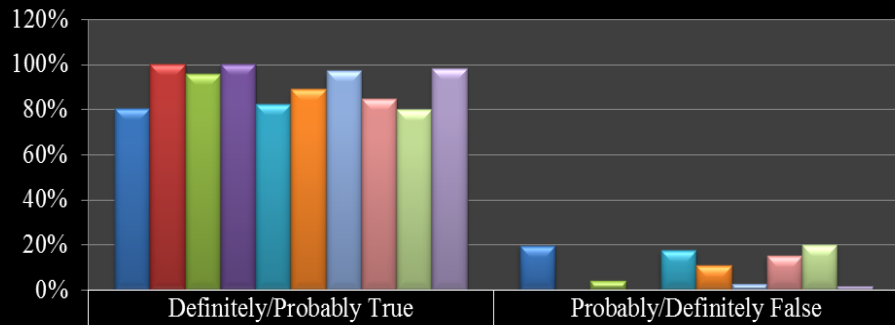
**Q6: Which is closest to your view about the relationship between science and religion?**



**Q7: The Theory of Evolution is “based on an overwhelming body of scientific evidence, which strongly confirms that its key ideas are correct?”**

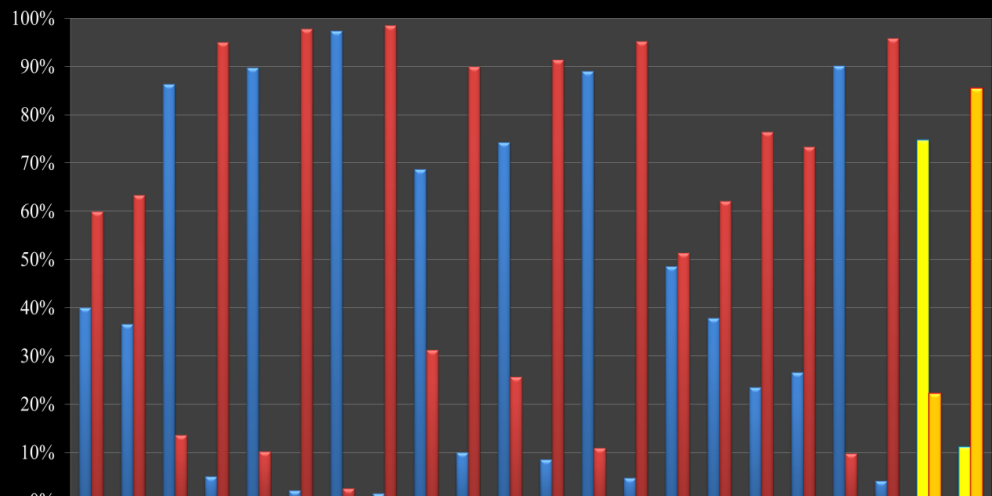


**Q8: The survival and reproduction of the animals and plants that are best suited to their environment cause the next generation to be better suited to that environment, or similar environmental conditions**



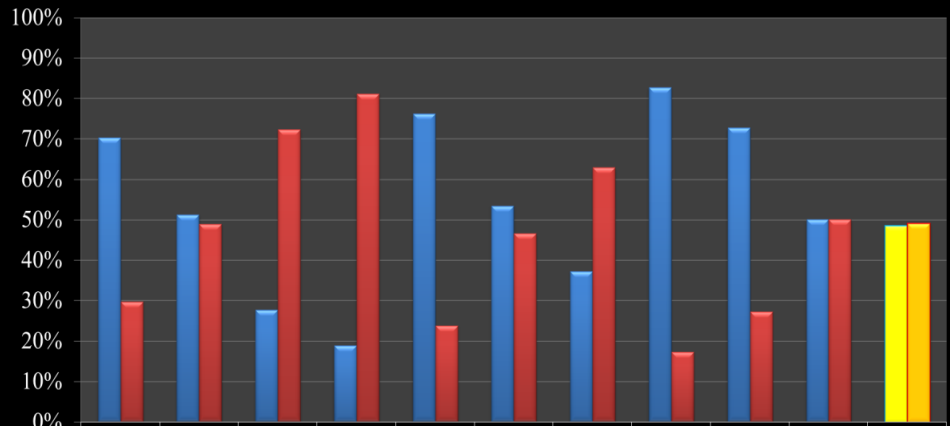
	Definitely/Probably True	Probably/Definitely False
Baptist	80%	20%
Catholic	100%	0%
Congregational/ Reformed	96%	4%
Episcopal/Anglican	100%	0%
Evangelical	83%	17%
Lutheran	89%	11%
Methodist/Wesleyan	97%	3%
Non-denominational	85%	15%
Pentecostal/Charismatic	80%	20%
Presbyterian	98%	2%

**Q9: In General, do you favor or oppose the following being taught in public schools: Evolution and Creationism**



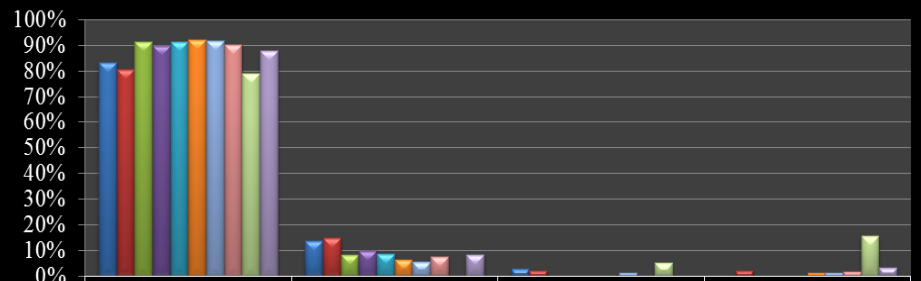
	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C				
	Bapt		Cath		Cong/Rf		Ep/Ang		Evan		Luth		Meth/Wes		Non-D		Pent		Pres		Gallup '05	
Strongly Favor/Favor	40%	37%	86%	5%	90%	2%	97%	1%	69%	10%	74%	9%	89%	5%	49%	38%	24%	27%	90%	4%	75%	11%
Oppose/Strongly Oppose	60%	63%	14%	95%	10%	98%	3%	99%	31%	90%	26%	91%	11%	95%	51%	62%	76%	73%	10%	96%	22%	86%

**Q9: In General, do you favor or oppose the following being taught in public schools: Both Evolution and Creationism**



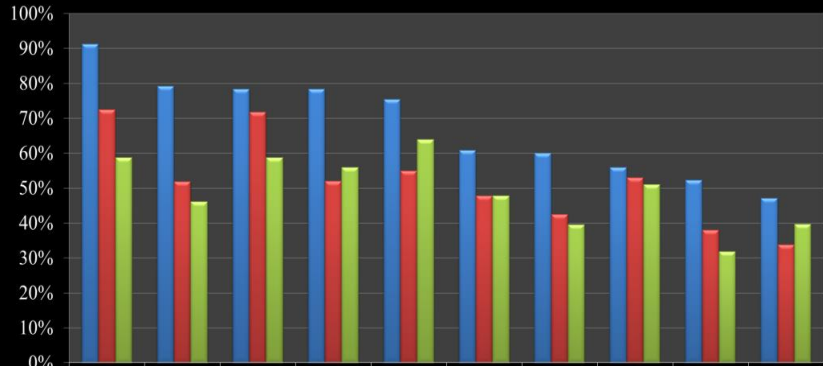
	Bapt	Cath	Cong/Rf	Ep/Ang	Evan	Luth	Meth/Wes	Non-D	Pent	Pres	
Strongly Favor/Favor	70%	51%	28%	19%	76%	53%	37%	83%	73%	50%	48%
Oppose/Strongly Oppose	30%	49%	72%	81%	24%	47%	63%	17%	27%	50%	49%

**Q10: Natural Selection means:**



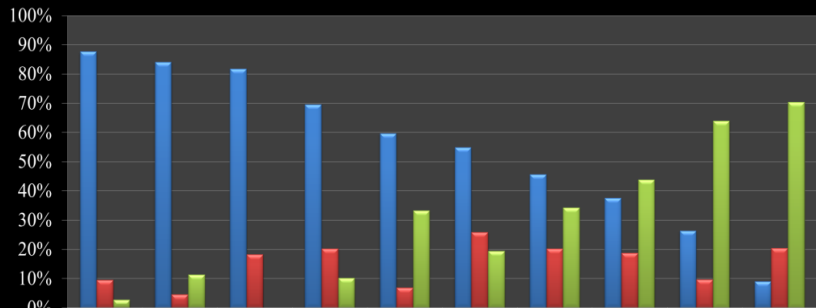
	Traits possessed by organisms that survive to reproduce will increase in the population	Plants and animals will select the most favorable environment in which to live	Mate selection in a population is random	All organisms in an environment have equal opportunity to reproduce
Baptist	83%	14%	3%	0%
Catholic	81%	15%	2%	2%
Congregational/ Reformed	92%	8%	0%	0%
Episcopal/ Anglican	90%	10%	0%	0%
Evangelical	91%	9%	0%	0%
Lutheran	92%	6%	0%	1%
Methodist/ Wesleyan	92%	5%	1%	1%
Non-denominational	90%	8%	0%	2%
Pentecostal/ Charismatic	79%	0%	5%	16%
Presbyterian	88%	8%	0%	3%

**Q11: Select whether the following are "true" or "false:"**



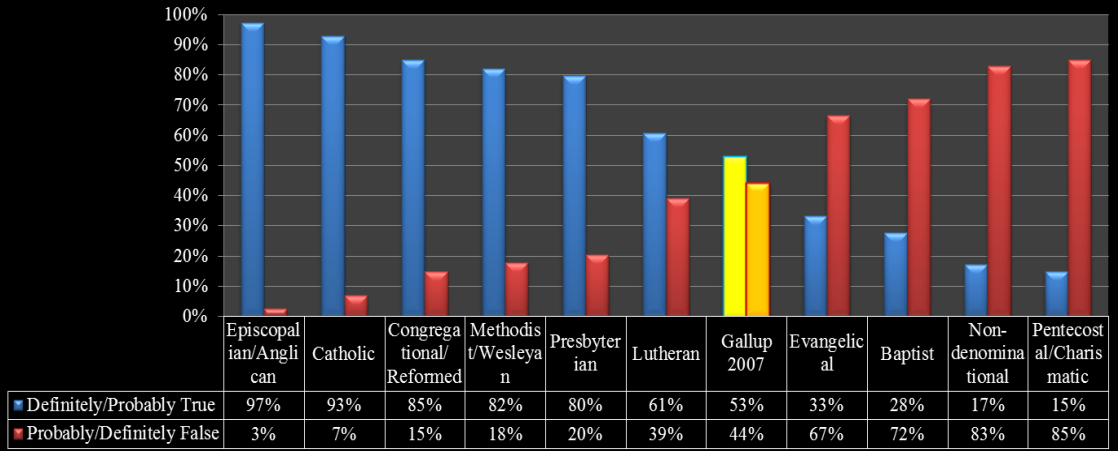
■ Evolutionary mechanisms can explain why the overuse of antibiotics leads to antibiotic resistant bacteria	91%	79%	78%	78%	75%	61%	60%	56%	52%	47%
■ Evolution occurs in populations and not individuals	73%	52%	72%	52%	55%	48%	43%	53%	38%	34%
■ Evolution is a theory about the "origin" of life	59%	46%	59%	56%	64%	48%	40%	51%	32%	40%

**Q12: Please indicate the response that is most accurate regarding your view of the Biblical Creation Story in Genesis**

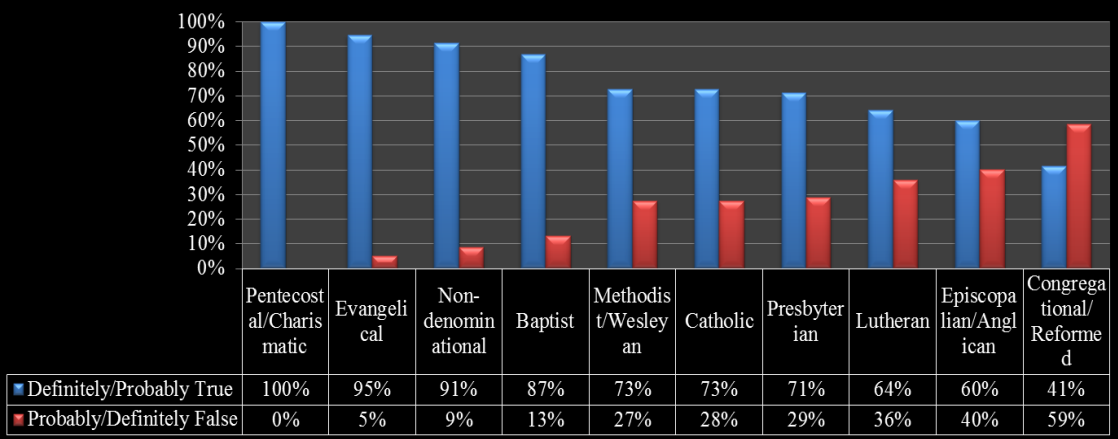


■ Genesis offers a poetic narrative of creation, but is not a scientific or historical account	88%	84%	82%	70%	60%	55%	46%	38%	26%	9%
■ The narrative in Genesis is symbolic of the events that occurred in creation of the world	10%	5%	18%	20%	7%	26%	20%	19%	10%	20%
■ Genesis offers an accurate account of the events that occurred in creation of the world	3%	11%	0%	10%	33%	19%	34%	44%	64%	70%

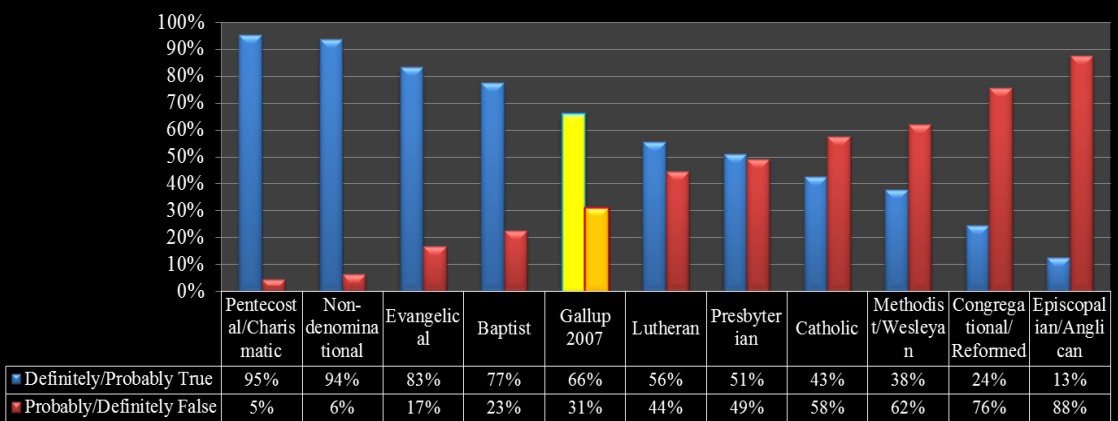
**Q13: Indicate how true you believe the following is as an explanation for the origins and developments of life: Evolution**



**Q13: Indicate how true you believe the following is as an explanation for the origins and developments of life: Intelligent Design**

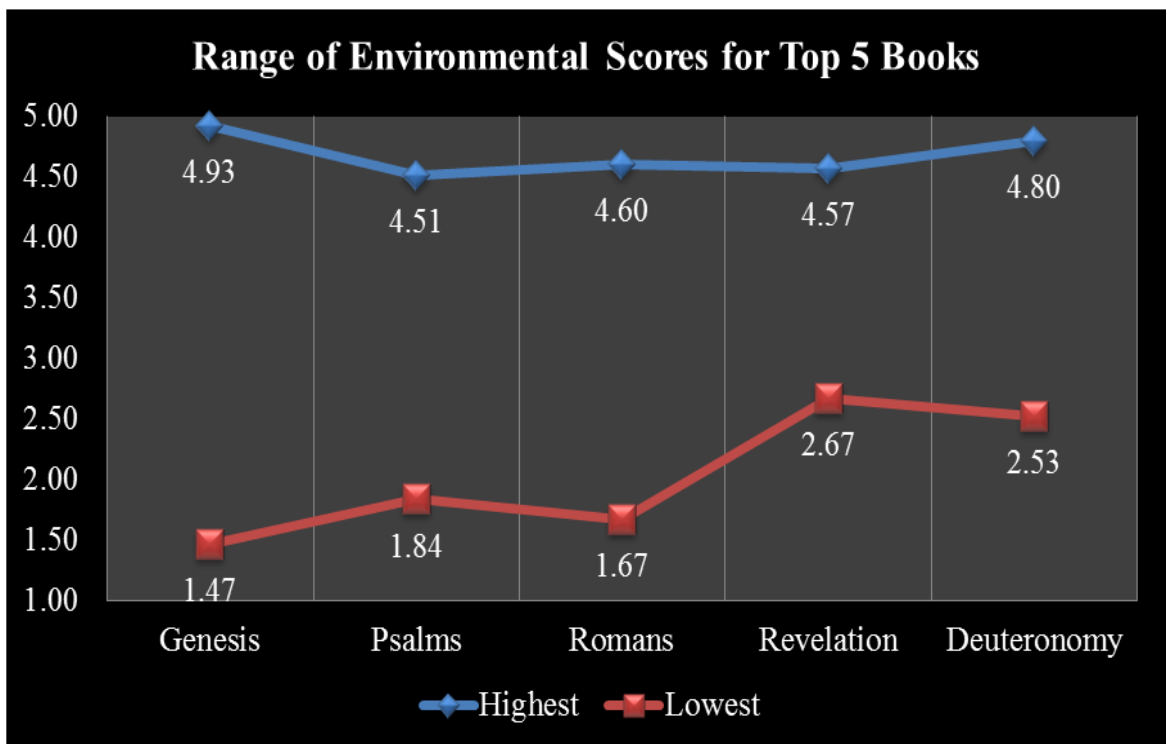
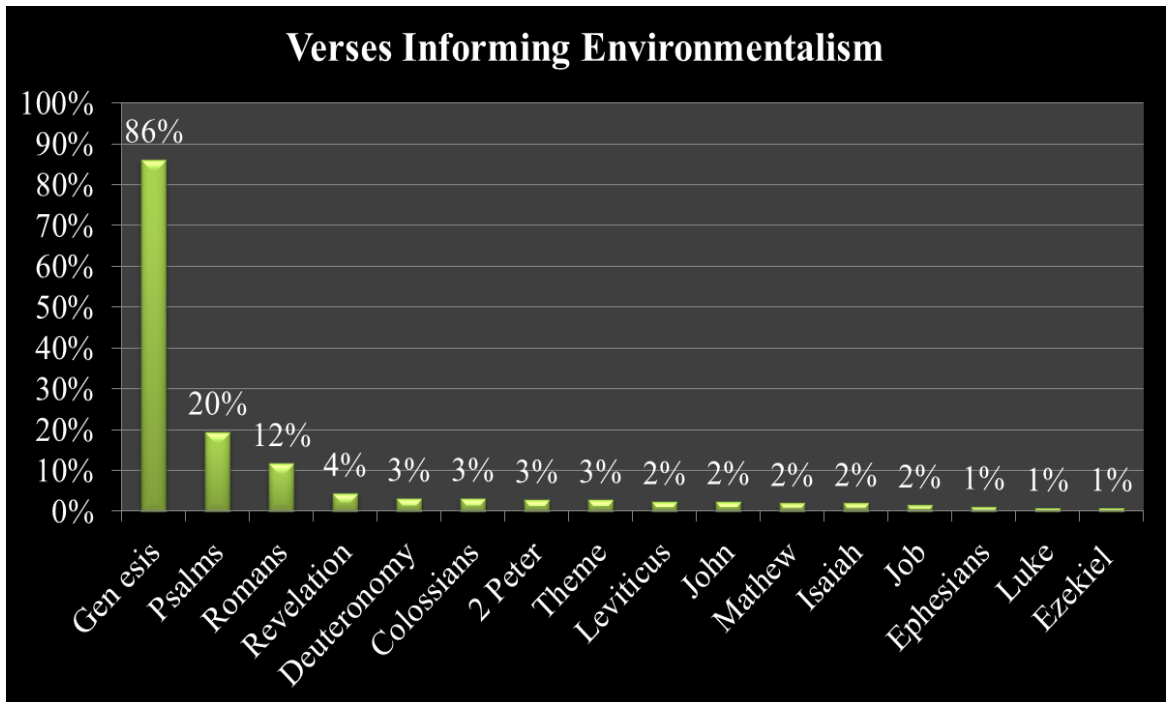


**Q13: Indicate how true you believe the following is as an explanation for the origins and developments of life: Creationism**



## Appendix I

Graphs for and List of Open-Ended Environmental Responses





<b><u>Are there any specific biblical passages on which you base your view of the environment, or humanity's role in Nature?</u></b>
Gen 1:28 I believe we are to be good stewards of God's creation. I do not agree with unscientific hype. I believe that real issues are air and water pollution, not CO2. I believe as pastors we are to teach the word of God as we see God as a creator we will naturally for the correct reasons seek to protect the creation He has given us. Many of these questions have the bias that if we spend more money the environment is protected and that the environment is the idol. I would use DDT to kill mosquitos that cause Malaria because I know how harmful malaria causing mosquitos are, the real evidence for the harm DDT causes is lacking.
Genesis 1:26
Genesis 1-3, Psalm 8, Genesis 9,
Gen. 1
Genesis 1 language is most often translated as "dominion" and "subdue". Their interpretation has led to a wrong-headed relationship between humans and the rest of creation - of which we are stewards.
Lots - especially Genesis
Far and away the most important is the creation story (really stories) and the concepts of creation as diverse, what it means to have dominion, and the privilege of stewardship.
The passage in Genesis that is traditionally translated as taking dominion over creation, but as more accurately translated to take stewardship. Many passages related to creation revealing God's glory Paul referring to creation groaning until the Day of Redemption. God rhetorically asking Job where he was when God was creating the universe. Genesis 1 having God say creation is good and very good. Many passages saying that God delights in nature, frolics with the sea monsters, etc.
Psalm 8, Genesis 1
Genesis 1 & 2, several Psalms, John 1, Romans 8
Psalm 8
I think there are several but the most basic is in the creation stories of Genesis.
Genesis 1:26 Leviticus 25:23-24 Ezekiel 34 John 3:16-17
Genesis 1, 2, Psalm 24, and Revelation 21
Romans 1:25 - we need to be more interested in worshiping the creator than we are creation. 2 Peter 3:10 - this earth is going to burn up anyway our job as preachers is to care for people's souls which will live forever.
In Genesis we are told to be stewards of creation. The idea of "having dominion over" does NOT give us license to do what we want without regard to consequences
Not just the basic creation story and incarnation story, but also the protestant ethic of personal responsibility in life - that emerges from Paul's writings.
Genesis 1-2, Psalm 8, Ephesians 1, Colossians 1, John 1, to name but a few.
Genesis 1
Creation, where humans are charged with taking care of God's creation
john 6:8-9
Genesis 2
Genesis 1:28-31
The Earth is the Lord's (Genesis), and we are to be stewards of the earth from Creation when God called it "good". People were entrusted with stewardship (not dominion -

misreading) of God's earth. It doesn't belong to us. Also, note that the most major denominations speak as Pope Francis from a biblical perspective to environmental issues see the United Methodist Social Principles and Resolutions on the protection of the Environment. Theologian Sally McFague says, the earth is the "body of God".
Genesis: creation narrative                      noah & flood Romans: all creation is groaning & awaiting salvation
Genesis 1-2
The Creation mandate found in Genesis
A Psalm of David. The earth is the Lord's and the fullness thereof, the world and those who dwell therein,
Genesis 1:26-30 KJV
Genesis 1:28-30
Genesis 1:26-31 God made man have dominion over creation but as good stewards we are to exercise care for His creation. There has to be a balance to our stewardship.
Genesis 1:28-31
Genesis 1.26, 28; 2.15
No~ I don't quote Scripture to make a modern day point. I say that we are here to care for creation, but I don't throw Scripture at people to prove anything.
Genesis 1 - we are stewards, which means taking care of, rather than exploiting.
Genesis 2, 3, Romans 8, Colossians 1, Revelation 22:1-5,
Genesis 9...Noah
Genesis 1.1-2.4
Genesis 1-2, Psalm 19, Roman 8:18-22, 2 Peter 3:8-13
Genesis 1:26 - We humans are responsible. Made in God's image, we take the responsibility for creation.
Our responsibility as co-creators expressed in Genesis
1). I believe we are called to be stewards over the earth, which includes the environment, but this is not primary.    2). As a pastor, I believe my primary role is for people's souls. In Matthew 10:28, Jesus places the value of the soul over the body, and everything else that's material. We can spend our lives making the environment better, but if it means soul is lost to hell, what difference does it make?    Again, I'm not saying that the environment doesn't matter, just that my focus as a pastor shouldn't be on making sure people care for the planet better, but that they should care for their souls better.
Genesis chapters one through two illustrate how God created men and women and gave them a special role in creation. Humanity is to steward the gift of creation in a way that preserves the harmony goodness with which God created the earth. Part of what it means to be human is to graciously cultivate and unfold the potential latent within God's good creation.
Genesis 1:26
1. The creation story...God created and it was "good." 2. Romans: The whole creation is groaning in travail 3. Many of the psalms..the trees clapping their hands, etc.
The Creation stores - the idea that God made everything and called it "good" and created human beings as stewards of creation; also the Noah stories and God's covenant with humans and the animals after the flood; Paul's letter to the Romans in chapter 8 - the idea that all creation is groaning and will one day be restored/redeemed
Genesis 1-2

Colossians 1:16-17. All things were created by him and for him. He is before all things and in him all things hold together. Psalms 104:25, 27. Animals, both small and great.. they all wait for thee to give them their food in due season.
Psalms 24:1; Romans 8:23; 1 Corinthians 6:19, 15:28; Ephesians 2:14-18
Genesis 1:28
I don't care to add a Biblical passage here, what I would like to add is that the nature of these questions and answers will cause misleading results. While I do not agree with the politics or ideology of environmentalist, I do believe that God has called us to care for his creation. So I am very concerned with the environment at that level. I do know want to see the earth, air or water polluted, and we should take measures to ensure that it isn't. However, that does not mean that I wish to give the Government more authority and power than it already has. But nowhere in your survey did you allow people to express why they answered the way they did. I believe that the reasons behind the answers are just as important, and maybe more important that the answers themselves.
Genesis 1
from Genesis, Psalms, Prophets, stewardship discussion in New Testament
Gen 1
Genesis 1:28-30 We are to have "dominion" which in my mind means to be stewards of the fruits of creation—plants and animals alike.
Genesis 9:1-7 Genesis 1:28
Genesis 8:22 - "While the earth remains, seedtime and harvest, cold and heat, winter and summer, and day and night shall not cease."
Luke 16 2 Peter 3 Man is not going to destroy earth God is but He holds man responsible for any and all sinful acts which can only be forgive by confessing your sins and believing Jesus died for your sins.
Genesis passages on being caretakers of creation, and Jesus' statement on the greatest commandments being loving God and loving neighbor.
Gen 1:28, 2:15
Pope Francis has no relavance in my life. I left the catholic church when i was 18 because i did not agree with anything they taught. So i do not listen to what any of the Pope's have to say. Theologically people cannot harm God's creation, they can only harm what we have together created. God is existence! The Substance from which all life comes, the atoms that make up the universe, as the Apostle Paul said in Acts 17:27&28. People will long for God, even grope for God, although God is never very far away from anyone of us, for it is in God that we live move and have our being!"" Why do we keep putting God out there beyond the clouds, when God is the essence and life that feels us. As JC Said in John 4:16 God is Spirit - The Breathe of Life. We can pollute this breathe and kill our self with the toxic we have created, but that won't do anything to effect God. It's time to stop fighting our Essence and learn to cherish it.
Genesis 1-2; Deuteronomy 8; Psalm 19, 24; Acts 17:22ff; Rom 8:18ff
Genesis, chapter 2
Genesis 1 - we are entrusted as God's stewards of creation
Genesis chapter one
Genesis 1-3
Deuteronomy 20:19 Romans 1:19-20; 8:22
Genesis 1:26

Genesis 1:26-31 (though let me be clear, I see "dominion" as loving caretaking)
Genesis 2—God wants us to "tend the garden" Romans 8:19—creation 'groans' in expectation of renewal
The cultural mandate in Genesis 1:28 basically makes humans stewards of God's wonderful creation. As stewards responsible to God, it is human's duty to bring order to chaos, to care for what has been entrusted, and to make good use of it. Environmental Stewardship, taking care of the planet and using resources wisely, is in keeping with the cultural mandate.
Genesis 2:15, 3:17-19
Psalms 8 and Psalm 24
Gen 1-2
Genesis 1-2
Genesis chapter 1
Gen. 3:17-19 17 And to Adam he said, "Because you have listened to the voice of your wife and have eaten of the tree of which I commanded you, 'You shall not eat of it,' cursed is the ground because of you; in pain you shall eat of it all the days of your life; 18 thorns and thistles it shall bring forth for you; and you shall eat the plants of the field. 19 By the sweat of your face you shall eat bread, till you return to the ground, for out of it you were taken; for you are dust, and to dust you shall return."
There is a theme running through Scripture holding that men and women were created to be the stewards of Creation, cultivating it in a way that furthers the Lord's creative work in bringing about order, complexity, and beauty so as to prepare the Creation as a Temple to receive the full measure of the Lord's glory. "Fill the earth and subdue it (wisely and lovingly)" is spoken to men and women at their creation, lived out by Adam and Eve in the garden, reiterated to Noah, and finally takes the form of a promise to Abraham and his family ("I will make you exceedingly fruitful and kings of peoples will come forth from you"), his family being called to take up the fundamental human vocation. Gardening (and thus farming) is then the archetype of this good work, and is marked by offering Creation up to the Lord in gratitude—the central Christian disposition. The problem with modern approaches to environmentalism (that seem to be reflected in this questionnaire) is that they are so narrow, reflecting the modern ailment of specialization that dissects human life into a thousand pieces. This modern impulse (as Wendell Berry so powerfully depicts) is a major culprit in environmental issues today, and current movements to counteract the problems facing our Lord's creation fail to reckon with the needed transformation of character and cultivation of virtue (through liturgy, mainly) that necessarily must precede any right and responsible livelihood.
Genesis 2:15
Genesis 1:26-31
Creation stories in Genesis and implications in the Gospel of Jesus
My perspective is that God is disrupting the climate to make clear as Psalm 46 teaches: Be still and know that I am God. He has used man's irresponsibility. We are stewards of the creation and must do what we can to be responsible, but ultimately nothing man does will stop God's judgments that will result in the destruction of this world by fire. II Peter 3, Matthew 24, Revelation 8-19.
Genesis (dominion over- with great power comes great responsibility), Love God and neighbor (intertwined in all that we do)

we are stewards of God's creation
Genesis 1
Genesis 2, psalm 104, Job 39-40, *Deut. 20:19, Ex. 23:10-11 (and consequences for not giving rest to the land 2 Chron. 36:20-21)
Genesis 1:28 Mandate to steward the earth
Genesis: God gave humans stewardship over creation.
Genesis 2:15. I had to look up reference.
too many it is a constant, ever present theme.
Genesis - I believe we are called to be stewards of creation.
Genesis 1:1- 2:3 and Genesis 2:4-25
Psalms 136
It's not just about so-called "green" passages, but rather anything that speaks the way we are to be in relationship by definition speaks to the environment.
The creation narrative, God calls us to be stewards of creation.
Genesis 1 and 2; John 3:16
Genesis 1-2, Colossians 1:20, Revelation 21-22
Genesis 1: 26
Genesis 1
Genesis 1, especially verses 28 - 31.
Romans 8
Genesis chapters 1 and 2
In broad strokes, Genesis 1-2, the creation narratives, and Revelation 21-22, the recreation narratives of the new heaven and new earth.
Deuteronomy 8:6-10
The first chapters of Genesis where creation is described as "good" and humans are entrusted with the task of caring for it.
Creation stories in Genesis, Psalms 19, 104, etc.
Genesis 3:17-19, Romans 8:18-25
Genesis chapter 1
Genesis 1 & 2: if God is the Creator then the Creation is sacramental
Psalms 8
Genesis 9
The two biblical ideas of creation and stewardship require us to be faithful caretakers of a creation that does not belong to us, but to the Creator. We are stewards of creation, and we must be faithful. (1 Corinthians 4:2)
Genesis 2:15 15 The LORD God took the man and put him in the garden of Eden to work it and keep it.
Genesis:1 28-31.."Have dominion (some scholars would say "stewardship")...meaning "take care of creation"
Genesis opening chapters Book of Psalms
I seriously hope you are more concerned about never dying souls than any earthly or environmental issue.
Genesis 1-3 Psalms 24 Psalms 8 Job 38-42:1-6 Romans 8:22-25 John 3:16 Colossians 1:15-20 Revelation 21:1-5; Revelation 22:1-5 I Corinthians 15:58
Genesis 1 and 2

Gen 1:28—"Fill the Earth & subdue it" Psalm 8 Psalm 29
Gen. 1:24-26
Genesis - "...and God saw that it was good."
The creation narrative from both Genesis and the Gospel of John. Also many of Jesus' parables about the kingdom of God.
Romans 8:22—The cumulative sins of humanity contribute to the groaning and suffering of all creation.
Genesis 2
Passages that talk about Adam and Eve being "over" creation. We have a responsibility to care for the earth.
Genesis Psalms
Genesis : stewardship of creation/ caretaker sometimes translated as "dominion" –not to "dominate" but to be responsible to creations integrity
Genesis (creation); Christ (and the Church) as the new Adam.
Genesis 1:27-31
Revelation 11:18 Genesis 2:15
<p>Psalms 104:25,30. In wisdom you made them all, the earth is full of your creatures. There is the sea, vast and spacious, teeming with creatures beyond number - living things both large and small... When you send your Spirit, they are created and you renew the earth. John 1:3. Through him all things were made: without him nothing was made that has been made. Colossians 1:16-17. All things were created by him and for him. He is before all things and in him all things hold together. God has a Relationship with All of His Creation Psalm 96:10-13. The Lord reigns... Let the heavens rejoice, let the earth be glad, let the seas resound and all that is in it; let the fields be jubilant, and everything in them. Then all the trees of the forest will sing for joy, they will sing before the Lord for he comes, he comes to judge the earth. Isaiah 43:20-21. The wild animals honor me, the jackals and the owls, because I provide water in the desert and streams in the wasteland, to give drink to my people, my chosen. Deut. 32:1-2. Listen, Oh heavens, and I will speak, hear, Oh earth, the words of my mouth. Let my teaching fall like rain and my words descend like dew, like showers on new grass, like abundant rain on tender plants. Job 37:14-18. Listen to this, Job. Stop and consider God's wonders. Do you know how God controls the clouds and makes his lightning flash? Do you know how the clouds hang poised, those wonders of him who is perfect in knowledge? Psalms 104:25, 27. Animals, both small and great.. they all wait for thee to give them their food in due season. Matt 6:26. Look at the birds of the air, that they do not sow, neither do they reap, nor gather into barns and yet your heavenly father feeds them. And are you not worth much more than they? God's Power is Seen in Nature Joshua 2:11. For the lord your God is God in heaven above and on earth below. Romans 1:20. For since the creation of the world God's invisible qualities - his eternal power and divine nature - have been clearly seen, being understood from what has been made, so that men are without excuse. Psalms 104:24. How many are your works, O Lord! In wisdom have you made them all; the earth is full of your creatures. There is the sea, vast and spacious, teeming with creatures beyond number - living things both large and small. God Calls All of His Creation to Worship Psalm 19:1. The heavens are telling of the glory of God; and their expanse is declaring the work of His hands. Isaiah 55:12-13. The mountains and hills will burst into song before you, and all the trees of the field will clap their hands. All this will be a memorial for the Lord, a sign that for all time will not be</p>

cut off. Nehemiah 9:6. You made the heavens, even the highest heavens and all their starry host, the earth and all that is on it, the seas and all that is in them. You gave life to everything and the multitudes of heaven worship you. Psalm 8:3-8. When I consider your heavens, the work of your fingers, the moon and the stars which you have set in place, what is man that you are mindful of him, the son of man. I Chron. 16:7,30-34. Tremble before him, all the earth! The world is firmly established; it cannot be moved. Let the heavens rejoice. Let the earth be glad; let them say among the nations, "The lord reigns!" Rev 5:13. Then I heard every creature in heaven and on earth and under the earth and on the sea, and all that is in them, singing "To him who sits on the throne and to the Lamb, be praise and honor and glory and power for ever and ever." Job 9:5-10. But how can a mortal be righteous before God? Though no one wished to dispute with him, he could not answer him one time out of a thousand. His wisdom is profound, his power is vast. Who has resisted him and come out unscathed? He moves mountains without their knowing it and overturns them in his anger. He shakes the earth from its place and makes its pillars tremble. He speaks to the sun and it does not shine. God Teaches Humans through Nature Job 12:7-10. But ask the animals, and they will teach you; or birds of the air and they will tell you; or speak to the earth and it will teach you; or let the fish of the sea inform you. Which of all these does not know that the hand of the lord has done this. In his hand is the life of every creature and the breath of all mankind. Romans 1:19-20. For what can be known about God is plain to them, because God has shown it to them. Ever since the creation of the world his eternal power and divine nature, invisible though they are, have been understood and seen through the things he has made. So they are without excuse. Isaiah 11:9. They will neither harm nor destroy on all my holy mountain, for the earth will be full of the knowledge of the Lord as the waters cover the sea. God Expects Humans to be His Stewards with Nature Genesis 1:26. Then God said, "Let us make man in our image, and let them rule over the fish of the sea and the birds of the air, over the livestock, over all the earth and over all the creatures that move along the ground." Lev. 25:23-24. The land is mine and you are but aliens and my tenants. Throughout the country that you hold as a possession, you must provide for the redemption of the land. Ezekiel 34:2-4. Woe to the shepherds of Israel who only take care of themselves! Should not the shepherds take care of the flock? You eat the curds, clothe yourselves with the wool and slaughter the choice animals, but you did not take care of the flock! You have not strengthened the weak or healed the sick or bound up the injured. You have not brought back the strays or searched for the lost. You have ruled them harshly and brutally. Ezekiel 34:10. O shepherds, hear the word of the Lord. This is what the sovereign Lord says: I am against the shepherds and will hold them accountable for my flock. Ezekiel 34:17-18. As for you, my flock... Is it not enough for you to feed on good pasture? Must you also trample the rest of your pasture with your feet? Is it not enough for you to drink clear water? Must you also muddy the rest with your feet? Isaiah 24:4-6. The earth dries up and withers, the world languished and withers, the exalted of the earth languish. The earth lies under its inhabitants; for they have transgressed the laws, violated the statutes, and broken the everlasting covenant. Therefore a curse consumes the earth; its people must bear their guilt. Jer. 2:7. I brought you into a fertile land to eat its fruit and rich produce. But you came and defiled my land and you made my inheritance detestable. Luke 16:2,10,13. And he called him and said to him, "What is this I hear about you? Give an account of your stewardship, for you can no longer be steward. He who is faithful in a very little thing is faithful also in much; and he who is

<p>unrighteous in a very little thing is unrighteous in much. You cannot serve both God and mammon. James 5:5. You have lived luxuriously on the earth and led a life of wanton pleasure; you have fattened your hearts in a day of slaughter. Mark 4:19. ...and the worries of the world, and the deceitfulness of riches and the desires for other things enter in and choke the word and it becomes unfruitful. Revelation 11:18. The nations were angry and your wrath has come. The time has come for rewarding your servants the prophets and your saints and those who reverence your name, both small and great - and for destroying those who destroy the earth. God Expects Us to Obey Him in our Lifestyle Luke 12:15,23,34. And He said to them, "Beware and be on your guard against every form of greed; for not even when one has an abundance does life consist of his possessions. For life is more than food, and the body more than clothing. For where your treasure is, there will your heart be also. Leviticus 26:3-4,6. If you follow my decrees and are careful to obey my commands, I will send you rain in its season and the ground will yield its crops and the trees of the field their fruit... and I will grant peace in the land. God Expects Us to Obey His Commands 1 Peter 3:17. It is better, if God should will it so, that you suffer for doing what is right, rather than for doing what is wrong. Psalm 37:34. Wait for the lord and keep his way. Exodus 23:2. Do not follow the crowd in doing wrong. Hebrews 10:30-31. For we know Him who said, "Vengeance is mine, I will repay." And again, "The Lord will judge his people." It is a terrifying thing to fall into the hands of the living God.</p>
<p>Psalm 24:1 Genesis 1-3 Genesis 9 Leviticus 25:1-23; 26:1-9 Isaiah 24; 35; 40 Matthew 6:25-34; 14:13-25 //; 25 John 6 Romans 8:18-25 Revelation 21</p>
<p>Gen 1-2</p>
<p>The book of Genesis</p>
<p>Genesis 1:28-30, Psalm 19</p>
<p>Corinthians 10 and Psalm 24</p>
<p>God created (Genesis story)</p>
<p>Old and new testaments both begin with the words "in the beginning..." there was an order to god's plan which we have thwarted</p>
<p>Genesis—be good stewards of God's creation</p>
<p>Gen. 1:26-28; 2:15; Ps. 24:1</p>
<p>Here are two papers I've written that answer this question:  <a href="http://jeremiahgriffin.blogspot.com/2011/05/scriptural-and-theological-defense-of.html">http://jeremiahgriffin.blogspot.com/2011/05/scriptural-and-theological-defense-of.html</a>  <a href="http://jeremiahgriffin.blogspot.com/2011/03/gratitude-remembrance-and-survival-in.html">http://jeremiahgriffin.blogspot.com/2011/03/gratitude-remembrance-and-survival-in.html</a></p>
<p>Genesis</p>
<p>Genesis 1,2 Romans 8</p>
<p>Genesis 1-2 Several of the Psalms (24 stands out). Romans 8:18-23 Jesus never talked about the environment as a major issue. Other issues regarding how we relate to God and one another took priority for him.</p>
<p>Genesis</p>
<p>Psalm 34:8 Genesis: And God saw that it was good... Psalm 104</p>
<p>Gen 1:28-31</p>
<p>Book of Genesis chap 1 - 3</p>
<p>The stories of creation are good. The story of the flood and God's promise never again to wipe out all living creatures (although we are trying pretty hard to do it ourselves)</p>
<p>The creation story to begin with, and many more.</p>
<p>I'm aware of some passages about caring for creation. I tend to see environmental</p>



responsibility as an extension of loving our neighbors (which is about half of the Bible). I'm less concerned about taking care of the planet for the planet's sake than for the sake of others who suffer when the planet suffers. I feel that Climate Change and environmental degradation are driven by the consumer lifestyles of wealthy people but cause the most harm to people living in the margins (a major theme in the Bible, especially the minor prophets).
Partially Colossians 1:16, and the whole Christ hymn that links all of creation into the body of Christ. Then we too are put into that body, that is to say, we are called into the ongoing creative acts of God who loves the world and calls it good.
Genesis 1:28-31
Genesis 1:26-31
Isaiah 24 comes to mind often.
I believe a lot of our difficulty as a people of faith has been a misunderstanding of Genesis 1:28 ( God blessed them, and God said to them, "Be fruitful and multiply, and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth.") I believe God calls us to tend to and nurture the earth, not reign over it and use it all up as we might classically think of 'subdue' and 'dominion'.
Psalms 104 Genesis 1 - creation story; it was good and human's stewardship interpreted for "dominion"
Gen 1&2 - Man is given stewardship of the earth. Gen 3 - Man rebelled against God which in turn corrupted the earth from its original goodness (Rom 8:19-22), and man's ability to be a good steward. 2 Peter 3:5-12 - present earth is passing away, a new creation is coming, and key focus of God's people is not the environment but the sharing of the good news of Jesus' atoning death for our sins and resurrection for our life, and sharing this to all the world, belief in which is the only way to God, holiness, godliness (2 Peter 3:11-12)
Gen 1-2
Genesis Chapters 1 & 2. Many of the Psalms Song of Songs
Genesis 1:27-31
Genesis 1-2
There is a clear call to care for and protect the earth in Genesis, and I do not believe Genesis requires us to believe in a literal six day creation.
1. Genesis 1:28 - We are to be good stewards, hence, have dominion, not dominate the earth. We are responsible to how we use it. 2. Genesis 2:15 - God intends for us to use the earth and its resources for our good. It's a part his blessing to us, not a curse. 3. Genesis 1:1 - God created the heavens and earth; therefore, he owns it. Since he the Creator and loves it, it is highly improbable that he will permit his creatures to have the power to destroy it. 4. Romans 8:20-22 - Since humanity is fallen, we make a mess of things including the earth. Pollution does exist. We do act irresponsibly. Yet, we lack the power to permanently destroy it. We do have the responsibility to care for it. There is a definite tension between God's provision and our responsibility.
Genesis 1-3
Genesis 1-2, specifically Gen 1:28; Psalm 104; Proverbs 12:10
Genesis 1:26-31
Genesis 1:26-28, Exodus 23:10-11, Deuteronomy 20:19, Psalm 89:11, Isaiah 24:4-6, Matthew 6:26, Romans 1:19-20 Furthermore, many of the Psalms and the last several

chapters of the book of Job explain that the earth belongs to the Lord, the implication is that we are to care for it as stewards, bearing his image and acting in ways that reflect his character.
sorry, short on time
Genesis 1:28 - humans are responsible for earth. Genesis 2:15 - take care of the garden. I believe a literal interpretation of Genesis 1-3 should prompt us toward better stewardship of the environment. Evolution theory does not motivate me to be a good steward of the earth.
Genesis 1:27&28; Genesis 2:15; Genesis 9:1-3; Psalm 24:1&2; All of Psalm 8; Psalm 115:16; Proverbs 12:10; Nehemiah 10:31 and other verses on letting earth be fallow for a year. James 3:7-8
The creation stories in Genesis; Deut 10:14 - heaven and earth belong to God; Leviticus 25:3-5 - letting the land rest every 7 years; 2 Corinthians 5:17 all things made new in Christ
Isaiah 24:5-6, Genesis 1 and 2, Isaiah 49:6, Colossians 1:20, Ephesians 1:10, Romans 8:21-22, Psalm 148, Isaiah 55:12, Wisdom 12:1, Romans 1:20, Genesis 9:9-10, Ecclesiastes 18:13, John 3:16-17, Exodus 23:10-12, Leviticus 25:1-23, Numbers 35:33-34
Romans 8 Psalm 148
Genesis 1-2 Psalm 24:1
Genesis 2:15 Exodus/Deuteronomy regarding land usage and fallow years Matthew 22:37-40
"And God saw that it was good" which means that the purposes for which God created the universe were appropriate to God's intention.
"It (the earth) was good (beautiful)"
Genesis 1, 2, 3
2 Peter 3:10-13 "But the day of the Lord will come as a thief in the night, in which the heavens will pass away with a great noise, and the elements will melt with fervent heat; both the earth and the works that are in it will be burned up. Therefore, since all these things will be dissolved, what manner of persons ought you to be in holy conduct and godliness, looking for and hastening the coming of the day of God, because of which the heavens will be dissolved, being on fire, and the elements will melt with fervent heat? Nevertheless we, according to His promise, look for new heavens and a new earth in which righteousness dwells." Rev 8:7-11 "The first angel blew his trumpet, and hail and fire mixed with blood were thrown down on the earth. One-third of the earth was set on fire, one-third of the trees were burned, and all the green grass was burned. 8Then the second angel blew his trumpet, and a great mountain of fire was thrown into the sea. One-third of the water in the sea became blood, 9one-third of all things living in the sea died, and one-third of all the ships on the sea were destroyed. 10Then the third angel blew his trumpet, and a great star fell from the sky, burning like a torch. It fell on one-third of the rivers and on the springs of water. 11The name of the star was Bitterness. It made one-third of the water bitter, and many people died from drinking the bitter water."
Genesis 1 and 2
Romans 8 Creation groaning as it waits for redemption from our abuse.
Romans 1:19-20, Genesis 1, Leviticus 25:23-24,
Generally, I find the original mandate that humans act as caretakers of creation to be the foundational passage on the issue (Gen 1,2).
Genesis 2:15
The Bible is not a rule book handed down by God, so using it to justify common sense is

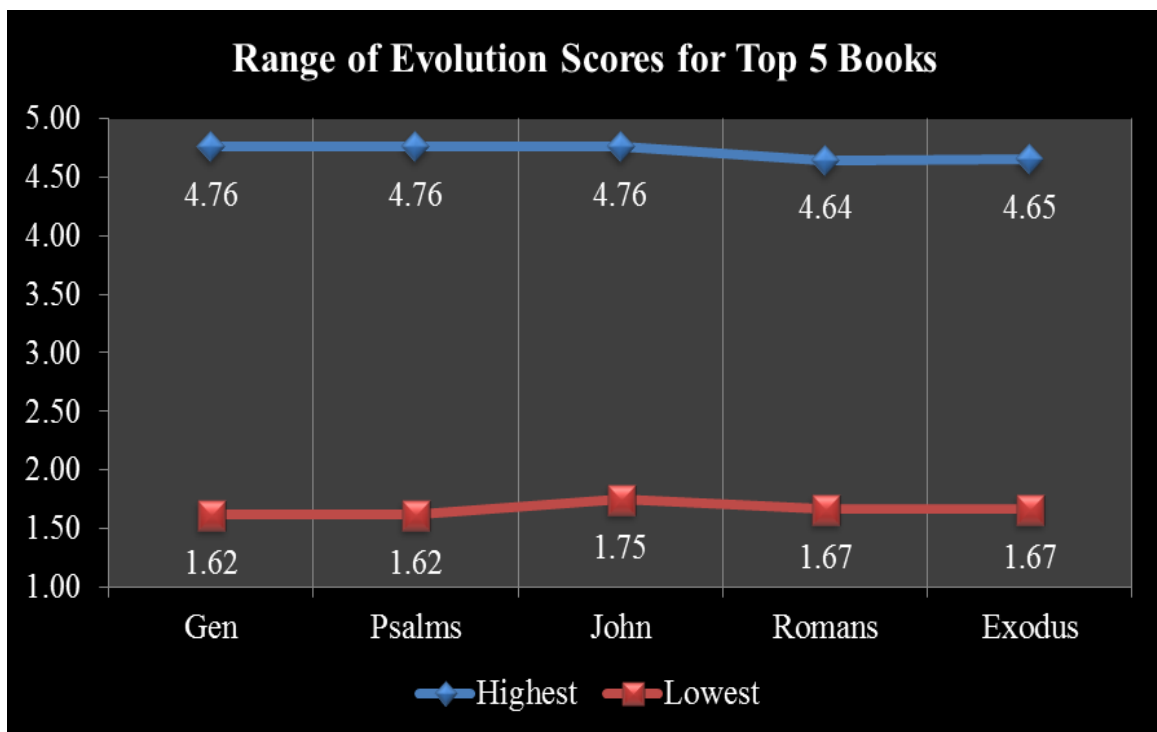
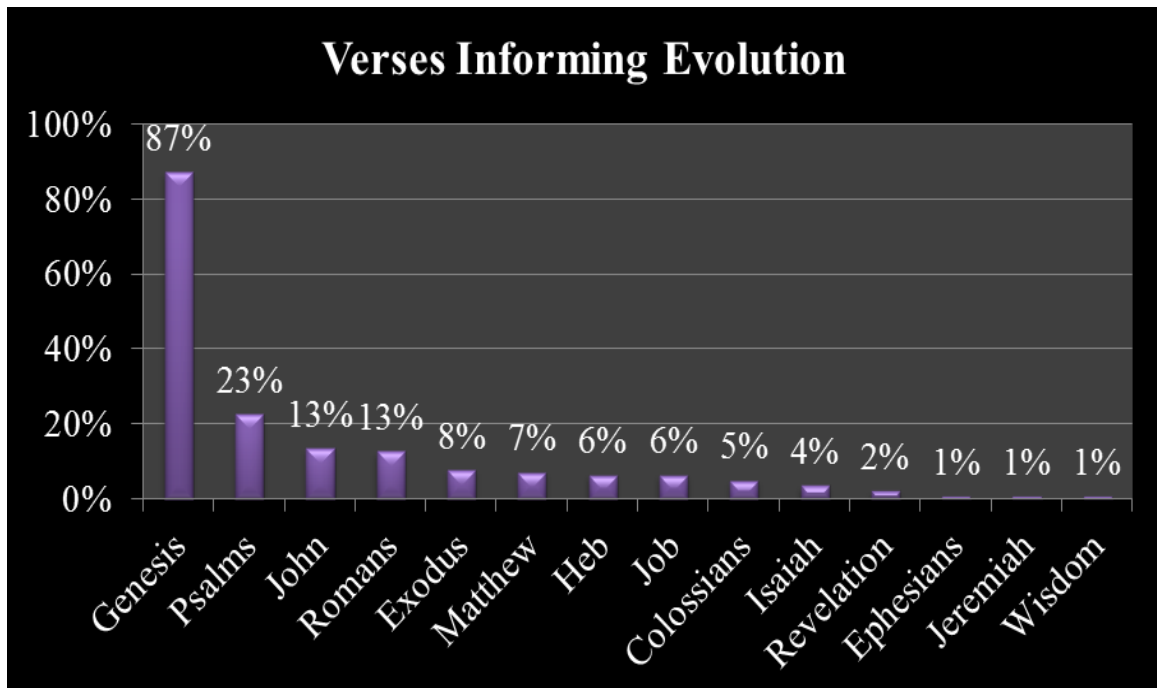
not necessary.
Genesis 1 and 2
Genesis 1:28
Genesis, creation story Jesus' command to love one another includes loving creation
Christ is the one "through whom and for whom all things are made" (Colossians); Genesis chapter 1; Genesis chapter with an emphasis on "caretaking:" Book of Job; Creation centered Psalms; John 1 and incarnation generally; "your kingdom come on earth as in heaven" (Lord's Prayer);
Gen 1
Genesis 1:26-31; Genesis 2:7-9,15; Genesis 3:17-19; Colossians 1:16-17, Romans 8:18-22; 2 Peter 3:3-13; Revelation 21:1
Genesis 2 - called to care for the garden; any of the prophetic voices that call us to speak for the voiceless; Jesus' question in Matthew 25 - "when did you do this for the least of mine?"
For God so loved the world...
Genesis 1:26-28; 2:15; 8:22 Acts 3:21 Romans 8:19-25
Genesis 1-2 (dominion does not mean taking anything we want, but rather caring for); Gen. 9:8-17 (promise is for all creatures); Micah 6:8 (justice includes all of creation, not just humans);
Genesis 2:15
Genesis 1 & 2
Genesis 1; Genesis 9; Jonah 4:11; Revelation 21:1-5
I don't believe we should call it "mother earth". Not a spiritual phrase... Earth is God's creation for us to live and enjoy.
Psalms 8 Psalm 121
And Behold, everything that God made was good.
Genesis, chapters 1 & 2
Genesis 1, Romans 8
Genesis 1-3 Revelation 11:18, 21:1-7, 22:1-5 Jonah 4:11
Genesis 2:15-20
Genesis 1: 28
Genesis, chapters 1 and 2. Matthew 6: Jesus saying "consider the lilies of the field..." There are also many, many passages that stress the importance of water.
Genesis 1-2
Genesis 2:15
Genesis 2
2 Peter 3:10; Genesis 8:22
Genesis 2:8
Genesis 1-2 We are creatures that are a part of creation, not separate from it. Pretending we are separate from this planet, and not intrinsically connected to it, is what allows us to degrade the environment and other life with whom we share it.
Genesis - and God said: it was good.
just the Genesis Creation story in general
Job—the voice in the whirlwind—who are we to think we understand creation better than God?
Gen. 1:26-28; 2:8-20;

In Genesis we were given the charge to be stewards of creation. God made a rainbow covenant with Noah AND all living things. Our bond with creation is not just physical but spiritual. St Paul points out that ALL creation groans for salvation.
Creation Story
The numerous passages focused on Love of God & love of neighbor
Gen. 1:27ff
Psalms 24:1, Job 12:10, Psalm 135:6
Really just the stewardship idea in Genesis 1-2 and maybe the idea of creation groaning for redemption in Romans 8
I'd advocate for a way of using Scripture that goes beyond citing a particular passage in support of a view, and advocate for a much stronger and comprehensive vision for the natural world that places God's restoration of the planet at the heart of a Scriptural vision of God's desires for the world.
We should care for the earth (Gen.1:26-28). Government's role should be to support programs that are good (Rom.13), but it can do this ONLY if policies are based on real science.
Genesis, Ch. 2 - 2nd creation story Paul's concept of being in Christ calling us to taking responsibility for the environment (based on several passages)
Genesis 1:28-30 and Genesis 2:15
Genesis 3 - Mankind ruins the harmony of nature with sin. Genesis 1-2 - God gives man dominion over creation, not to "lord it over" but rather as a stewardship to take care of it. Man is responsible for taking care of creation as best as he can, ultimately keeping in mind how you can love ones' neighbor (Matthew 22:37-39). Romans 8:18-25 - creation is in bondage to sin; while we care for it, only Christ can fully and completely set it free. 1 Cor. 4:2 - We are to be faithful with our stewardship of the earth. (Matt. 25:14-30; Ps. 24:1)
Gen 1 and 2 Ez 47 Psalm 8
Genesis 1-2 Our designed role is to be God's representatives, His caretakers of His creation, this includes everything He created, including human beings.
Psalm 19:1
Gen. 1:28 ("dominion" is not ownership...it's stewardship)
Genesis 1 & 2
Genesis chapter 1
Genesis 1:26-28
Psalm 8
Gen 2:15, Gen 1:31, Gen 9:8-11, Rom 8:19-23 The entirety of Hebrew Scripture establishes direct links between Humans, God, and the Land. All three must be in right relationship with one another. When the relationship between Humans and the Land is out of joint, then the relationship Humans have to God is also out of joint, and so on.
Psalm 24:1
Genesis 1-2
Psalms Genesis Leviticus 25
Mt 24:35, Rev 21:1
Genesis 2; Leviticus 25; Psalm 102:25-28; 2 Peter 3; Revelation 21
We are to be wise stewards of creation... see Gen. 2:15
Genesis 2

Genesis 1:28
Genesis 1:28-30; 3:17b-19
Genesis 1:1, 26-28, 3:16-19
Gen 2:15
Genesis 2:15
Genesis 1 and 2; Psalms 8 and 148
Genesis 1-2 calls us to be stewards of our environment. However the primary issue is not science, but the human heart. As a pastor I am not an agent of environmental change, but one of heart change. If people can view their world through the lens of God's Word and our responsibility, then we will be good stewards. Science will help, but it is not the answer.
Genesis 1-11, interconnection and interdependence of the associated realms of the universe.
Genesis 1-2 show we are created to be stewards
Genesis chapters 1-2
Genesis 1-3 - We are stewards of creation.
Genesis stewards of the earth
Genesis 2 - we are called to be stewards of creation, even to the point of bestowing names on our fellow creatures. Psalms - look at the works thy hands have made! Matthew - consider the lilies of the fields - God takes care of them. (So shouldn't we?) Paul: Consider others better than yourself (hard to reconcile with endless consumption for personal comfort)
Gen 1:26-31
Luke 19:40
All of it. We are given responsibility for Creation in Genesis.
Psalms 24:1 - The earth is the LORD's, and everything in it, the world, and all who live in it. Also Psalm 8!
Genesis 1:31
Genesis 1:28f is a commission to man to be good stewards of what God has created. I think greed is sin that has led to much of environmental problems.
Genesis 1,2. Humanity is to steward creation. Romans 8 - the creation will be renewed
Genesis 2:15, Genesis 3:17 paired with Revelation 22:3
Genesis 1:26-27
All of Genesis
Romans 8:19-22, Genesis 1:26, Daniel 7:27, Psalms 119:133, Isaiah 24:20,
Genesis 1:31; Number 3533-34; Romans 8:22;
Gen 1:26-30; Psalm 8
Gen 1:28 -30 speaks of stewardship of God's creation
Genesis 1:28
Mainly Genesis chapters 1-3 on the charge given to man to have dominion over the creation. Yet, because we no longer live in a perfect place (Eden), death/erosion and decay of God's creation is inevitable. It's still our duty to be good stewards of what He has given us but at the same time it's not our primary calling in this world.
Genesis - "it was very good" Dominion passage - has been misinterpreted in Genesis
Genesis 2; Genesis 9; Psalm 24
Genesis 1-2, psalm 8, land laws in Deuteronomy (Sabbath year).
Genesis 1:28-29

## Appendix J

Graphs for and List of Open-Ended Evolution Responses



<b><u>Are there any specific biblical passages on which you base your view of the origins of humanity, or the world in general?</u></b>
John 1:1-3
God created humankind in God's image. This is to be treated not as a specific punctual act by God but as the ethical basis for how we treat all human beings.
Genesis 1
Genesis 1-3,
Gen. 1
Concepts - in creation, the created is continually invited into the fluid process of continuing the creation. I also think that forgiveness offers a sort of spiritual mirror of the biological concept of evolution as much as they are both bringing life out of death. I actually left seminary with an unfinished paper on the subject and keep wanting to return to it...
Both creation stories in Genesis 1 & 2 indicate different messages being submitted by different writers to teach the people of God about their faith.
Genesis 1 & 2, Psalms, Prov. 8:22, Sir. 1:4, Wisdom 9:9, John 1, Colossians 1:15,16, Hebrews 1:1-3, etc. (Wisdom/Logos theology)
Book of Genesis
Genesis, as I mentioned before Psalms Gospel of John 1:1-5
Genesis 1:26-27
Gen chapters 1 and 2 Colossians 1:15-17 John 1:1-3 Nehemiah 9:6 Psalm 33:5 Isaiah 45:12 Isaiah 45:18 and about 50 more....
Genesis 1-2, John 1, Psalm 8, and others.
Genesis 1 and 2
Genesis 1-2
mt, 7:24-27
Genesis 3:19 "dust to dust" John 3:6 "born of flesh"
Origin of humanity and priority of humanity: Genesis 1-2 Job 7:17 Psalm 8:4
Genesis, woman and man are created in the image of God. See above.
themes that run throughout the biblical material more than isolated passages: creator God & redeemer God; humanity's journey with God
Genesis 1 and 2.
Yes. The entire King James Bible is replete with God creating the universe out of nothing, starting with Genesis Chapter 1 and ending in Revelation Chapter 22.
Genesis and the reflection of it in John's Gospel
No, just the overall nature of the Bible.
Genesis Chapters 1-3
Genesis 1.1: Colossian 1.16, 17
Genesis 1.27-28 Exodus 20.11 Exodus 31.17 Isaiah 40.21-24 2 Peter 3.3-7 Colossians 1.16,17 Psalm 33.6,9
There are way too many on the list to begin to answer this one. However, the prior question should be one's approach to the Scriptures overall. To approach the Scriptures as a human document colors everything else. This is the greater question.
The first three chapters of Genesis.
Genesis 1:1; Gen. 1: 26- 31; 2:4- 25; Acts 17:24-28; Romans 1:20; Hebrews 11:1-3

Genesis chapter one is not intended to be a scientific treatise. But I do believe this passage is accurate in showing that an Personal and Absolute God is the creator of all things. He is the origin and cause of all that is. Since he exists apart and independent from all of his creation, he and he alone is the source of objective meaning and morality. While I affirm aspects of evolutionary theory, I cannot subscribe to a cosmology that says everything came from nothing. (Indeed, such attempts to reduce reality to matter in motion still end up attempting to define nothing as "something"). Moreover, I think the first chapters of Genesis are some of the most beautiful and profound words in all of literature. However, I think Genesis is often misinterpreted by both Christian and secular people. The creation account was never intended to answer the same questions that science tends to ask. Science asks questions like "how?, what?, when?, and where?" Science answers these questions very well, and in a way that Genesis was never intended to. However, Science cannot answer the question of "why?" And it is this "why?" question that I think Genesis answers profoundly well.

Genesis 1-3; 9:6 "God made Man..." It doesn't say, "God evolved Man." In fact, the biblical account says God made everything in their separate, distinct and final forms and interspeciation is not possible. Nor has science EVER seen one, single, observable beneficial mutation when radiologically induced. No one has ever seen evolution; adaptation, yes; evolution, no. Even National Geographic tells us sharks and alligators have not evolved for millions of years. Either they evolve or not; you can't have it both ways! If sharks haven't evolved over millions of years –as the fossil record indicates –then nothing else has evolved either! At least unbelieving scientists should be consistent in their application of evolution! Explain the un-evolved coelacanth "fossil" fish, though extinct millions of years ago, but caught alive off Madagascar? What of dinosaur and human footprints concurrent in the same layer in Glen Rose, Texas and Palunxy River? Many have switched their line of thinking to "punctuated equilibrium" as a fall-back position when evolutionary theory starts to unravel...Why not just believe God and His account in the Word of God, literally, just as it says.

The accounts of Creation in Genesis, but also the gospel of John, chapter 1, and the Psalms (specifically Psalm 139)

Genesis 1-2; Many Psalms; Romans 1, Ephesians 1, etc

Genesis chapters 1-3

Genesis 1-2 Acts 17:26 Isaiah 40:28 et al

Genesis chapter 1 & 2

Genesis 1

Genesis creation describes the time humanity gained knowledge of self and concepts of something beyond themselves. I think this demonstrates evolutionary growth.

Science will prove the existence of God long before religion does. Science search to understand how God creates and works within the universe. Religion seeks to understand God from an intellectual point of view based in the theory's that created by people who were lost. What that's saying by Paul, Sleeper Awaken, awaken from the dead, so that you can live in Christ because all things Come to life. The Word Christ Actually comes from an Ancient Greek Teachings that refers to the Living Field that surrounds and enfolds all things. God is the Living Field and Jesus was the first (according to Paul) to awaken to this living field and called him Christ! The one who was aware of this field of living energy that you and I call God. Evolution is a very viable and powerful teaching of



mankind's unfoldment and awakening to the living field to God's Presence - it is both on an individual process and global process. this is actually what the book of Revelation actually teaches and what the bible overall share, humanity awakening to God as the living Field which man kind in its ignorance is destroying. Creationism and Intelligent Design are both very stupid teachings that not only lack any scientific rebalance but any type of logic or intelligence, they should really be good Stupidity Design
see those listed before under the environmental section. God's declaration as creator is foundational to our stewardship of His creation and our place in it. To those passages listed
John 3
Psalm 100:3 Romans 1:18-32 Acts 17:22-28 Isaiah 40:12-15, 25-28 Psalm 24:1-2 Job, chapters 38,39
Genesis 1; Ps. 19:1; John 1:1;Matt. 13:35; Heb. 4:3;2 Pet. 3:4
Genesis
genesis 1
Genesis account of creation
Genesis 1-3
Genesis chapter 1 and 2; 2:15
Isaiah 48:13. Genesis 1 and 2. Exodus 20: 11. Exodus 31:17. The word "day" in Genesis means a literal 24 hour period.
The Lord formed man from the dust and breathed into his nostrils the breath of life (Gen. 2:7; cf. Psalm 103:13-16). This is extremely important, both in its openness to a material description of human beings, and in its moral implications. We do not have life in ourselves (contrary to the myth of an eternal soul). We will receive everlasting life as a gift on the Last Day, when we share bodily in Jesus' resurrection (this is the centerpiece of our ontology of the human being). Christian discipleship consists largely in embracing that we are creatures, that we are finite and limited, that all our life is a gift to be received in gratitude. In short, that we are dust and to dust we shall return. This means, as Benedict instructed his monks, contemplating our death frequently (as we do during Lent). It means fasting and prayer. But the main places we learn to embrace our limitations as a gift is first in the Eucharist and then through friendship with the poor. It also means resisting cultural liturgies (esp. technology) that trains us and our imaginations to despise our limitations, to hate the dust of which we are made.
Genesis
Genesis ... the creation stories
Genesis 1 is backed up significantly by Exodus 20:9-11 and Hebrews 11:3 in addition to John 1 and Colossians 1. If God did not create in 6 literal days, then Exodus makes no sense in comparing creation and rest with our work week and day of rest.
Genesis 1 & 2
Genesis 1&2, John 1, and lots of Psalms
Genesis 1, Romans 4, 8, Mt 19:4-6,
Genesis 1-2
John 1: "without him, nothing was made."
Gen 1
Psalm 8, 104
Genesis 1,2; John 1, Psalm 139

Gen 1&2
Genesis 1; 2; Psalm 33:6
Again, Genesis teaches that 'God' is the author of Creation. It is NOT a scientific explanation, it is a theological one.
Genesis 1-2, Matthew 19:4-6
Genesis 1-2; Matthew 19:4
Genesis
Jesus confirms the Genesis account in Mark 10. Mark 10:6-8 6 But from the beginning of creation, 'God made them male and female.' 7 'Therefore a man shall leave his father and mother and hold fast to his wife, 8 and they shall become one flesh.' So they are no longer two but one flesh.
It is not based upon one verse verses another but the total authority/sufficiency of all of Scripture. I hope your view of Scripture has more honest theological integrity than your questions seem to indicate here.
Genesis 1:1; Genesis 1:27 Psalm 24:1-5; Colossians 1:15-17
The book of Genesis
Genesis 1 Genesis 2 Proverbs 8 Psalm 33 John 1
Matthew 19:4-6. Jesus argued that lifelong marriage without divorce was God's plan for humanity. He referred back to the Creation account.
Genesis account (first couple chapters)
Genesis Psalms
Genesis. The Psalms (e.g. 103/104)
Genesis 1
Book of Genesis.
Gen 1-2, Matthew 19, Romans 5:12-21, Job 38-42 (about creation generally)
Again the book of Genesis. Job Psalms
Genesis 1-2, Romans 1, Hebrews 1:10 & 11:3, Colossians 1:16, Exodus 20:11
Genesis 1
The accounts in Genesis specify "who" created but do not concern themselves with "how".
Genesis 1, John 1
Genesis stories and the Psalms
AND GOD SAW THAT IT WAS GOOD
Genesis 1 and 2
Genesis 1-3, 6-9.
I see the creation stories as communicating truths about the experience of being human.
Genesis 1 Matthew 19:4; Mark 10:6
Genesis and John 1
Many passages in the Bible convince me that all life comes from God. Nothing in the Bible constitutes a scientific explanation of the process.
Genesis 1 and 2, in the Hebrew. I believe the Jewish Publication Society has one of the clearest translations of the initial clausal indefinite article in Genesis 1:1, saying, "When God began to create the heavens and the earth."
Genesis 1 and 2, Matthew 19.4-6
Gen 1&2 and various passages in OT and NT which refer to Gen 1&2.

Genesis 2 and 3
Genesis 2:7, Job 33:4, Acts 17:25
Genesis 1-3
Genesis 1-3
Genesis 1-2, especially 1:11-12, 21,24-25; Exodus 20:11; I Chronicles 1:1; Hosea 6:7; Luke 3:38; Romans 5:12-14; I Corinthians 15:21-22, 45; I Timothy 2:13-14; Jude 14
Rom 5:12-17
The first three chapters of Genesis, Job 38-42, John 1:1-13, Romans chapter 1. Most of the Psalms and much of the Torah is predicated upon the understanding that God created the world and its inhabitants, therefore we have an obligation to him.
Matthew 19:4-5, Jesus speaks of Genesis account as historical and accurate. I Corinthians 15:21-22, there was no death in creation until the fall of Adam. (evolution requires millions of years of death and decay before humans arrive on the scene.)
Genesis chapters 1-3. God created a "grown up" world. Genesis 1:11, 12, & 29 the herb and tree "yielding seed". Adam and Eve were told to multiply. They were created in an adult state. I make mention of each of the 3 persons of the Trinity being part of Creation - Gen. 1:2 - The Holy Spirit; Colossians 1:16&17 Jesus; Genesis Chaps1-3 The Father
John 1
Genesis 1:26-27 John 1:1-3
"In the beginning, God..." which is an open statement that says "God" (whatever that is) acted (unstipulated) in creating (it doesn't tell us what that means except that God somehow caused something) out of a non-time-bound "time." That is, the account of creation itself is a narrative meant to give metaphoric language to an unknown so that people have a way to talking about it. It is, in that sense, a mythic origin and is not opposed to science but stands beside scientific reasoning and testing to give meaning to life. Science tells us what happened; religion tells us why it should matter to us. They are not the same but not incompatible because they address different questions.
Genesis 1,2, 3 Psalm 8
Genesis 1-2 In 5:46-47 "For if you believed Moses, you would believe Me; for he wrote about Me. But if you do not believe his writings, how will you believe My words?" -Jesus Romans 1:19-22 For what can be known about God is plain to them, because God himself has made it plain to them. For since the creation of the world God's invisible attributes—his eternal power and divine nature—have been understood and observed by what he made, so that people are without excuse. For although they knew God, they neither glorified him as God nor gave thanks to him. Instead, their thoughts turned to worthless things, and their senseless hearts were darkened. Though claiming to be wise, they became fools"
Genesis 1 and 2
Genesis 1 as poetry
Definitely Genesis, and then the frequent references to Genesis in the rest of the Bible, the occasional references to ecological damage found in the prophets, and the description of apocalyptic, ecological devastation found in Revelation, along with the restoration of creation written of in Rom 8 and Rev 20-21, etc.
To many to put down in the time I have right now :)
I believe God was involved in the beginning, whenever that happened to be. God's involvement shapes everything we believe about who WE are as His creation. Whether

that happened over 24 hour days or 6 million year days doesn't matter as much as the fact that God was involved and around 4 CE, sent Jesus to live and die as our sinless sacrifice opening a way for sinful humanity to have a relationship with Holy God. THAT POINT is sooooo much more important to me than the creation/evolution debate where both sides say they have the right answer. I wasn't there. I can't guarantee anything, BUT the eye-witness accounts of those who actually witnessed Jesus' Resurrection speak for themselves. That's the debate in which I'll involve myself. I'm a pastor, not a scientist. I'll stick to what I'm good at.
No. The Biblical assumption is that God is creator of all that exists and there is a narrative implied that God continues to create, so that creation is unfinished.
The two Genesis stories. Since there are two different stories, side by side, they must be ready as poems or stories.
Genesis 1
Genesis 1 and 2 contain two different stories that conflict with each other - and so open the window to a deeper, poetic understanding of the kind of foreshadowing of the rest of the Biblical drama that these stories are doing.
Gen 1.1 –formless void, etc.
The above plus Psalms 8, 24 and 104, Romans 1:18-21 and Revelation 21:5
Genesis 1-2 tells us how we are related to God (God's creation, whether that happened in 7 days or over millions of years of evolution - God still created it)
Genesis 1:1
Genesis... "In the beginning God..."
Genesis 1:27
Genesis 1-2 Psalm 24:1-2
John 1:1-5
Genesis 1: 1, Exodus 20: 11, Nehemiah 9: 6, Job 12: 7-13
Genesis 1-3
Genesis 1 & 2
Genesis 1-3; Psalm 14:1; Exodus 20:11
Genesis: in the beginning was God
Genesis 1:1
Psalm 8
Genesis 1-3; Romans 5:12ff; Ps 8; John 1:1ff;
Genesis 1:20-25 "after its kind", "after their kind"
Genesis 1-2, Job 38-41, Psalm 139
Genesis 1-2 Exodus 20:11 Mark 10:6-9
Genesis 1:1, Psalm 90:2, Jeremiah 10:16, Romans 4:17, Hebrews 1:2, Isaiah 40:25-26, Matthew 19:4, many more
Genesis 1-3; Romans 5:12-21; John 1; Exodus 20:8-11; Psalm 104, 136 (and several Psalms with poetic depictions of creation); 1 Timothy 4:1-5; Matthew 19:4-5 (Jesus speaks to the creation of people); Romans 8:19-23; Mark 7:14-23;
Again, Genesis 1-2. As well as many others which refer to God as Creator.
Genesis chapter 1
The prologue to the Gospel of John
The Bible as a whole sees God as Creator of all there is, including humanity.

Genesis 1+2
The first 11 chapters of Genesis lay the foundation for everything we see today in the world as well as in humanity.
Genesis 1-3
Gen 1 & 2; Gen 5:2
Genesis 1,2; Genesis 7:14; Psalm 8, Psalm 139; Luke 3;
Genesis 1-2, Romans 4, Psalm 8, 19, 139.
Genesis 1, 2 Job 38-39 Psalm 139:13
Genesis chapter 1 & 2 Colossians 1:15-17 Psalm 102:25-27 John chapter 1
Genesis 1-2
Psalm 19, John 1
Genesis 1-3; Psalm 33:6,9; Hebrews 11:3; Exodus 20:11; Colossians 1:16
Genesis 1 and 2; Psalms 8 and 148
Genesis 1-3
Genesis chapters 1 and 2 John 1:1; Colossians 1:16; Hebrews 1:2 Ps. 104 All references to God as Creator
Genesis 1: God created human beings in God's image
Yes - but what I mean by "origins of humanity" and what I think you're asking about are two different things.
No; the Bible is not a science or history text but a collection of myths.
Genesis 1 & 2, as a poetic account, or "what God wants us to know, from a spiritual standpoint, about the creation of the world and his relationship to us."
Genesis 1-2
Genesis 1-11 Jesus' dealings with Genesis as totally accurate.
Genesis 1-2:3; Exodus 20:11; Psalm 33:6,9; Psalm 124:8; Isaiah 45:1,2; Mark 10:6; 2 Peter 3:5,6; Hebrews 11:3; Job 31:15; Psalm 139:14; Psalm 19:1-4; Hebrews 3:4; Romans 1:20;
Genesis 1:1 - it's either true or it isn't. Faith in a Creator establishes fact, backed up by science.
Genesis 1 and Genesis 2; Luke 3: 23-38; Acts 2: 9-11; Romans 8: 18-23; Isaiah 11:1-9; Isaiah 65: 17-25; Joel 2: 18-27; Revelation 21:1-5; Revelation 22:1-5;
Genesis 1-3, psalm 8, 19, 22, Isaiah 40, Romans 1,5,8,
Genesis 1-11
Genesis 1-11, Romans 8:18-25; Romans 3:9-20
To me, the most critical and non-negotiable concept in my view of origins is the "imago Dei" (Gen. 1:26) - that we are made in the image of God. All of Scripture stands on that premise. That is the primary reason why I am skeptical about the Theory of Evolution.
God saw that it was good