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# Weathering the End Times

Donald W. Holdridge Sr.

*Liberty University School of Divinity, [dwholdridge@liberty.edu](mailto:dwholdridge@liberty.edu)*

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# Weathering the End Times

## **Cover Page Footnote**

The author has been teaching graduate courses in the area of OT Studies for LU's School of Divinity since 2009.

# WEATHERING THE END TIMES

Donald W. Holdridge Sr.<sup>1</sup>

Today's scientists disagree over what the earth will look like in the centuries to come. Some seriously doubt whether there will be much of a future if civilization's industrial activities continue to increase the temperature of the planet. Where do Christians line up on the future global climate debate and how do the prophetic Scriptures contribute to this discussion?

## Introduction: What's all the Fuss About?

One cannot turn on the evening news without hearing something alarming about the effects of Anthropogenic (man-generated/caused) Climate Change (ACC) impacting one part of the earth or another. This issue has been highly politicized, with a former Vice President declaring during a Global Warming message in 2008, "The survival of the United States of America as we know it is at risk."<sup>2</sup> It has been advanced by members of the scientific community as well. Noted physicist and cosmologist Steven Hawking warned that the Earth "might end up like Venus, at 250 degrees centigrade and raining sulfuric acid."<sup>3</sup> There is even a growing body of those under the umbrella of Christendom who believe that mankind will inevitably destroy the planet if current practices continue unchecked. Pope Francis recently issued an encyclical urging those of good heart around the world to counter the harmful effects of ACC.<sup>4</sup>

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<sup>1</sup> Donald W. Holdridge Sr. is an Associate Professor of Bible for Liberty Divinity School.

<sup>2</sup> Jerry Shaw, "Al Gore Global Warming Quotes: 8 of Former VPs Classic Climate Change Lines," Newsmax, Nov 25, 2014, accessed July 31, 2015, <http://www.newsmax.com/FastFeatures/al-gore-global-warming-vp-lines/2014/11/25/id/609616/>.

<sup>3</sup> Alexa Olesen, "Steven Hawking Warns about Global Warming," USA Today, June 22, 2006, accessed July 31, 2015, [http://usatoday30.usatoday.com/tech/science/2006-06-22-hawking-warming\\_x.htm](http://usatoday30.usatoday.com/tech/science/2006-06-22-hawking-warming_x.htm).

<sup>4</sup> In the opening paragraph of the encyclical, the following prayer of St. Francis is given to set the tone, "Praise be to you, my Lord, through our Sister, Mother Earth, who sustains and governs us..." Three paragraphs later Pope Paul VI is quoted as saying, "Due to an ill-considered exploitation of nature, humanity runs the risk of destroying it, and becoming in turn a victim of this degradation." Francis I, *Laudato Si'*, [Encyclical Letter on the Care of Our Common Home],

Before launching into this topic, it is important to distinguish between Climate Change (CC) and Global Warming (GW). The latter term is but a subset of the former. Climate Change includes all kinds of severe shifts in the weather, whereas Global Warming only refers to the overall increase of temperatures on the planet. When the media refers to Climate Change, they are typically referring to changes that mankind has caused. Yet, there are natural factors behind Climate Change that need to be considered as well, such as solar activity and fluctuating ocean temperatures. Thus it can be assumed that almost everyone believes in CC to one degree or another. The key question is, how much of the planet's climate is influenced by human industrial activity, and how much is due to the forces of nature, or the forces behind nature?

Since the Church is wrestling more and more with how to respond to this issue, it is essential for believers to get a clearer picture of the truths laid out in the Bible, so they can compare them with the data being advanced by scientists and theologians. This article is an attempt to place prophetic Scripture side-by-side with the key issues and evidence regarding Anthropogenic Climate Change in order to help Christians react appropriately to the current climate of Climate Change.

## Climate Change: The Current Debate within the Church

The mainline denominations within Christendom have jumped on board with the United Nations' scientists of the International Panel on Climate Control (IPCC) founded in 1988. They blame humanity for the rise in the earth's surface temperature over the past century.<sup>5</sup> Surprisingly, an increasing number of evangelicals are also joining this camp. The following sections lay out some

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secs. 1 and 4, accessed July 3, 2015,

[http://w2.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco\\_20150524\\_enciclica-laudato-si.html](http://w2.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html).

<sup>5</sup> "The theory behind global warming holds that emissions from automobiles and industrial activity will reduce the rate at which heat from the sun is reflected back into space from earth's surface. Acting like the glass panes in a greenhouse roof, these accumulation 'greenhouse gases' will produce a gradual rise in average global temperatures." Jeremy Rabkin, "Greenhouse Politics," *Commentary* 104, no.5 (1997): 40. "The IPCC is a consultative body of volunteer scientists charged with periodically assessing the state of knowledge in many areas of research relating to climate change...The IPCC has come to be viewed as the singular authority on climate change." Mary-Elena Carr and Madeleine Rubenstein, "Challenges to Authority: Understanding Critiques of the Intergovernmental Panel on Climate Change," *Union Seminary Quarterly Review* 63, no.1 (2010): 42. The IPCC's 4<sup>th</sup> Report claims "the evidence is 'unequivocal' that the earth is warming at a dangerous rate." Harold Wells, "Climate Holocaust, Mortal Planet, and Eschaton," *Touchstone* 30, no.3 (2012): 9.

major arguments for and against ACC, and define the major “Climate Camps” that presently exist within Christian circles.

## Climate Change Catastrophe

The elevation in atmospheric temperatures has been attributed to the burning of fossil fuels in factories and automobiles which causes a rise in Green House Gases (GHG). If these GHG are doubled, it is predicted that glaciers will melt, the sea levels will rise, food production will decrease and more species will become extinct by 2050.<sup>6</sup> ACC advocates believe that a rise in global temperature of 2 degrees Celsius will lead to greater melting of the polar ice caps, declining fresh water supplies, coastal flooding, a lower pH in the oceans (Ocean Acidification), deadlier storms, more forest fires, increased infectious diseases and the death of hundreds of millions of the world’s poorest people.<sup>7</sup> Since ice reflects more of the sun’s rays while dry ground absorbs them, the more the polar ice caps and glaciers disappear, the less heat from the sun gets reflected back into space and the more heat is retained by the earth’s atmosphere.<sup>8</sup> The Anglican Communion Environmental Network claims, “we are now demanding more than [the earth] is able to provide....We are engaged in the process of destroying our very being.”<sup>9</sup> The Bishops of the Episcopal Church believe that the words of Jeremiah 12:4 “describe these times and call us to repentance as we face the unfolding environmental crisis of the earth.”<sup>10</sup>

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<sup>6</sup> B. Heap and F. Comim, “Climate Change and Well Being,” *International Journal of Public Theology* 3 (2009): 45. Adding more CO<sub>2</sub> to the atmosphere is like adding more insulation to one’s attic, trapping more heat in the house instead of radiating it out. With this scenario, experts predict a global average warming trend of 2-4 degrees Celsius by 2100 or sooner. Thomas Ackerman, “Global Warming: Scientific Basis and Christian Responses,” *Perspectives on Science and Christian Faith* 59, no.4, (December 2007): 255-56.

<sup>7</sup> Barbara R. Rossing, “‘Hastening the Day’ When the Earth will Burn? Global Warming, Revelation and 2 Peter 3 (Advent 2, Year B),” *Currents in Theology and Mission* 35, no.5, (October 2008): 363.

<sup>8</sup> “Surface air temperatures were generally unchanged from 1850 to 1900, increased somewhat from 1900 to 1940, decreased and flattened from 1940 to 1975, and then experienced a rapid rise from 1975 to 2005.” Ackerman, “Global Warming,” 251, 256.

<sup>9</sup> The burning of fossil fuels could elevate global temperatures by 3 to 11 degrees Fahrenheit by the end of this century. “A Pastoral Teaching on the Environment from the House of Bishops of the Episcopal Church,” *Anglican Theological Review* 94, no.2 (Sep 2011): 305-07.

<sup>10</sup> *Ibid.*, 305. “How long is the land to mourn, and the vegetation of the countryside to wither? For the wickedness of those who dwell in it, animals and birds have been snatched

“Climate modelers generally agree that farmers in sub-arctic latitudes will benefit from warmer summers and milder winters, their forecast for the rest of the planet approximates an apocalypse: famine, drought, hurricanes, floods, mass extinctions.... Most of these calamities, said to be of such a scale that they could threaten the viability of human civilization.”<sup>11</sup> Some believe that humanity is heading for a climate holocaust. With the melting of the West Antarctica and Greenland Ice Sheets, rising sea levels will significantly affect London, Shanghai, New York, Tokyo and other major coastal cities around the world, leading to the possible end of human history.<sup>12</sup> Rain forests are predicted to lose many species to extinction through the destruction of their habitats from harvesting of raw materials and converting jungles to agricultural land. There has also been a great reduction in the size of glaciers, like the ones on Mt. Kilimanjaro, which supply millions of Africans with drinking water.<sup>13</sup>

Some believe that action must be taken before the earth reaches its maximum carrying capacity for humans. “We are the species that uses the vast majority of the world’s resources, so if there were fewer of us, globally speaking, the stress on the planet would be greatly reduced.”<sup>14</sup> It is commonly held that the poorest people on the planet, who had the least to do with the Industrial Revolution, modern technology and their poisonous by-products, will be most

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away, because men have said, ‘He will not see our latter ending.’” Unless otherwise noted, all quotations from the Bible are from the *New American Standard Bible*, (La Habra, CA: The Lockman Foundation, 1995).

<sup>11</sup> Kevin Shapiro, “Global Warming: Apocalypse Now?” *Commentary* 122, no.2 (September 2006): 42.

<sup>12</sup> Some fear the earth will become like Venus, whose atmosphere contains 97% CO<sub>2</sub>. There is also a concern that mankind will annihilate itself or go back into another Dark Ages for centuries to millennia until the final resurrection of the dead is orchestrated by God. Wells, “Climate Holocaust,” 8-11, 19-20. The EPA calculated as much as 33% of coastal lands and wetland habitats were likely to be lost over the next 100 years with a sea-level rise of 0.66 meters. It is estimated that if the Greenland Ice Sheet disappears that there is enough water in it to raise sea levels by 7 meters, and if the West Antarctica Ice Sheet melts the oceans would rise another 5 meters. Since over 600 million people live in coastal areas under 10 meters, including two-thirds of cities with a population of over 5 million, such melting would significantly impact humanity. “Oceans & Sea Level Rise,” Climate Institute, n.d., accessed April 22, 2015, <http://www.climate.org/topics/sea-level/index.html#sealevelrise>.

<sup>13</sup> Anthony D. Barnosky, et al., “Approaching a State Shift in Earth’s Biosphere,” *Nature* 486 (June 2012): 54.

<sup>14</sup> “Theologically, we need to reframe our theology so that instead of seeing ourselves as exceptions to the created order we see ourselves as dependent upon it for our very lives.” Lynne Lorenzen, “Religion and Science: What is at Stake?” *Dialog* 46, no.3 (Fall 2007): 294.

affected by the effects of ACC.<sup>15</sup> It is argued that since the U.S. emits 25% of the world's greenhouse gases with only 5% of the world's population, it is only just for this country to contribute more funds for the most impoverished nations to be able to keep their emissions in check.<sup>16</sup> The 2007 IPCC Report "narrates the future passion and suffering, even death, of hundreds of millions of the world's poorest and most vulnerable people, even if temperatures rise only as much as 3.6 degrees Fahrenheit or 2 degrees Centigrade."<sup>17</sup> America's premier climatologist from NASA's Goddard Space Institute warned in 2007 that if carbon emissions were not reduced, "it will be too late to save the Greenland and West Antarctic ice sheets" by 2017.<sup>18</sup>

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<sup>15</sup> It is argued that just as Christ came to the defense of the poor and downtrodden, so should the Church as it pertains to the severe environmental impacts caused by the developed countries of the earth. Callon W. Holloway Jr., "Adaptation Assistance and Climate Change: Testimony to the U.S. House of Representatives, March 25, 2009," *Currents in Theology and Mission* 37, no.2 (April 2010): 138.

<sup>16</sup> "The U.S. must acknowledge its responsibility for this global crisis and should commit to providing substantial financial support..." Ibid., 140. There is a moral concern for the poor, who produce only 20% of the emissions on the planet, but will receive 80% of the impact of the CC because they live predominantly along the coastlands and island regions where severe weather will have its greatest impact. Michael S. Hogue, "Global Warming and Religious Stick Fighting," *Cross Currents* 57, no.1 (Spring 2007): 121.

<sup>17</sup> Rossing, "Hastening the Day," 363.

<sup>18</sup> Ibid, 364. Hansen argues that the sea-level rise this century may be measured in meters if we continue our current output of emissions. "The West Antarctica ice sheet in particular is very vulnerable. If it collapses, that could yield a sea-level rise of sixteen to nineteen feet, possibly on a time-scale as short as a century or two." He contends that if our CO<sub>2</sub> output is not seriously reduced, that within ten years there will be no Arctic Ice Sheet and that the coastal regions would be devastated by various severe weather events and erosion. James Hansen, "Why We Can't Wait," *Thenation.com*, April 19, 2007, accessed April 24, 2015, <http://www.thenation.com/article/why-we-cant-wait>. If the sea level rises 0.5 meters, it would displace 67% of the population of Alexandria, Egypt and nearly 66% of its industry and 76% of its service sector would be under water, and nearly two million people would have to flee the Nile Delta region. David Sterman, "Climate Change in Egypt: Rising Sea Level, Dwindling Water Supplies," *Climate.org*, July 2009, accessed April 22, 2015, <http://www.climate.org/topics/international-action/egypt.html>. The Fertile Crescent may disappear by the end of the century due to rising temperatures and diminished water supplies. Hassan Janabi, "Climate Change Impact on Iraqi Water and Agriculture Sectors," *Iraqieconomists.net*, March 8, 2013, accessed April 22, 2015, <http://iraqieconomists.net/en/2013/04/05/climate-change-impact-on-iraqi-water-and-agriculture-sectors/>.

The onus on developed nations to clean up the environment has been summed up in the “Statement on Eco Justice and Ecological Debt” which has been adopted by the World Council of Churches in 2009:

Ecological debt refers to damage caused over time to the ecosystems, places and peoples through production and consumption patterns; and the exploitation of ecosystems at the expense of the equitable rights of other countries, communities or individuals. It is primarily the debt owed by industrialized countries of the North to countries of the South on account of historical and current resource plundering, environmental degradation and disproportionate appropriation of ecological space to dump greenhouse gases (GHGs) and toxic wastes. It is also a debt owed by economically and politically powerful national elites to marginalized citizens; the debt owed by current generations of humanity to future generations; and, on a more cosmic scale, the debt owed by humankind to other life forms and the planet.<sup>19</sup>

In summary, many within Christendom who accept the premise of ACC would concur with the following statement: “While Israel was prohibited from offering its children as burnt sacrifices to Molech, our technical society stands ready to offer our neighbors, children, grandchildren, and God’s good creation as burnt sacrifices to Mammon in the fiery furnace of earth’s future climate.”<sup>20</sup>

## Climate Change Challengers

Not every scientist accepts the premise that mankind is responsible for a significant rise in the planet’s temperature, leading to the destruction of

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<sup>19</sup> Ernst M. Conradie, “Climate Change and the Common Good: Some Reflections from the South African Context,” *International Journal of Public Theology* 4 (2010): 281-82.

<sup>20</sup> Noah J. Toly, “Climate Change and Climate Change Policy as Human Sacrifice: Artifice, Idolatry, and Environment in a Technological Society,” *Christian Scholar’s Review* 35, no.1 (2005): 75. In a 2014 summit hosted by the World Council of Churches, the following was declared, “We acknowledge the overwhelming scientific evidence that [CC] is human induced...The climate crisis is about the survival of humanity on planet earth.” “Interfaith Statement on Climate Change,” World Council of Churches, Sep 21, 2014, accessed April 24, 2015. <https://www.oikoumene.org/en/resources/documents/general-secretary/joint-declarations/interfaith-statement-on-climate-change>. “If we successfully fight the fire of Climate Change, the earth will not fall to future destruction.” D. Cameron Murchison, “Stewardship Preaching and the Care of the Earth: The Fire This Time,” *Journal for Preachers* 36, no.1 (2012): 36.



civilization if left unchecked. These “deniers” are not just a few stuffy old eccentric PhDs in worn-out lab coats who are out of touch with reality. The Non-governmental International Panel on Climate Change (NIPCC), not to be confused with the UN’s IPCC, issued an 880-page report compiled by 35 contributors from 14 countries with 31,478 signatures of American scientists in 2009 who do not believe in anthropogenic climate change.<sup>21</sup>

These scientists do not deny that global temperatures were on the rise at the end of the 20<sup>th</sup> Century. They believe the earth has gone through multiple cycles of hot and cold periods long before the Industrial Age and the modern day rise in CO<sub>2</sub> emissions, contending that climate change is primarily triggered by natural processes. Over the past two-thousand years there has been a Roman Warm Period (1-300 A.D.), a Dark Ages Cold Period (300-800 A.D.), a Medieval Warm Period (800-1300 A.D.), a Little Ice Age (1300-1900 A.D.), and a Current Warm Period (1900-Present).<sup>22</sup>

One reason for the current warming trend from 1977 to 1998 is because of the change in ocean temperatures. This twenty-year period switched from El Niño to La Niña, and since then, “despite the IPCC’s prediction of a 1 degree rise by 2010, it has gotten cooler. We have been in a cooling trend lately that’s related to ocean temperatures offshore.”<sup>23</sup> Some recent data collected by the National Oceanic and Atmospheric Administration (NOAA) supports a slight cooling trend for the U.S.<sup>24</sup> During the Little Ice Age, the level of solar activity was very low,

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<sup>21</sup> “There is no convincing scientific evidence that human release of carbon dioxide, methane, or other greenhouse gases is causing or will, in the foreseeable future cause catastrophic heating of the Earth’s atmosphere and disruption of the Earth’s climate.” “About the NIPCC,” NIPCC, n.d., accessed April 13, 2015, <http://www.nipccreport.org/about/about.html>.

<sup>22</sup> “A Two-Thousand Year Temperature History of the Extra Tropical Northern Hemisphere,” NIPCC, Dec 15, 2010, accessed July 1, 2015, <http://www.nipccreport.org/articles/2010/dec/15dec2010a4.html>. “It’s not even as warm now as it was a paltry 900 years ago, when the atmosphere’s CO<sub>2</sub> concentration was 100 ppm [parts per million] less than it is today, which sure doesn’t say much for the warming power of CO<sub>2</sub>.” S.B. and C.D. Idso, “Separating Scientific fact from Personal Opinion,” CO<sub>2</sub> Science, June 6, 2007, accessed April 13, 2015, <http://www.co2science.org//co2-custom/education/reports/hansen/hansencritique.php>.

<sup>23</sup> Michael Bastasch, “Multiple Lines of Evidence Suggest Global Cooling,” Daily Caller, Nov 13, 2013, accessed April 13, 2015, <http://dailycaller.com/2013/11/13/multiple-lines-of-evidence-suggest-global-cooling/2/>; See also Josh Holloday, “Western Professor Doubts Global Warming,” Western Frontline, Jan 13, 2012, accessed April 13, 2015, [http://www.westernfrontonline.net/news/article\\_bafa1460-b553-52fc-a0fd-2d849ca44848.html](http://www.westernfrontonline.net/news/article_bafa1460-b553-52fc-a0fd-2d849ca44848.html).

<sup>24</sup> NOAA, “National Temperature Index,” Noaa.gov, June 2015, accessed July 1, 2015, [http://www.ncdc.noaa.gov/temp-and-precip/national-temperature-index/time-series?datasets%5B%5D=cmbushcn&parameter=anom-tavg&time\\_scale=p12&begyear=2005&endyear=2015&month=12](http://www.ncdc.noaa.gov/temp-and-precip/national-temperature-index/time-series?datasets%5B%5D=cmbushcn&parameter=anom-tavg&time_scale=p12&begyear=2005&endyear=2015&month=12) ; and Michael Bastasch,

which contributed to the extreme cold weather across northern Europe. Some predict that earth is beginning to head into another such period due to lower solar activity.<sup>25</sup>

The evidence for the oscillating climate periods of the past is not based on projected computer models, but from ice-core samples, tree stump elevations, tree ring measurements and historical records. For instance, during the Medieval Warm Period (MWP), the alpine tree line was over 100 meters higher in the mountains of Norway than it is today.<sup>26</sup> The Vikings were able to colonize Greenland and explore eastern Canada at that time, due to the greater navigability of the seas caused by the retreat of ice in the northern Atlantic. Yet, by the 14<sup>th</sup> Century, these colonies ceased in part, due to the colder climate that ensued during the Little Ice Age, making farming and sailing nearly impossible in Greenland.<sup>27</sup>

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“America’s Most Advanced Climate Station Data Shows US in a 10-Year Cooling Trend,” Daily Caller, June 15, 2015, accessed July 1, 2015, <http://dailycaller.com/2015/06/15/americas-most-advanced-climate-station-data-shows-us-in-a-10-year-cooling-trend/#ixzz3eegcJFY>.

<sup>25</sup> Paul Hudson, “Real Risk of Maunder Minimum ‘Little Ice Age’ says Leading Scientist,” BBC, Oct 28, 2013, accessed April 13, 2015, <http://www.bbc.co.uk/blogs/paulhudson/entries/6d50a6bd-779a-32d6-bfca-06e4484d6835>.

<sup>26</sup> Subfossil wood samples in northern Russia between 1000 and 1300 A.D. indicate that the alpine tree line was 100 to 140 meters higher than it is today. “Middle Warm Period (Europe) – Summary,” CO2 Science, n.d., accessed April 13, 2015, <http://www.co2science.org/subject/e/summaries/europemwp.php>. This research is also confirmed by a Swedish study of 455 radio-carbon dated fossilized tree stumps revealing that pine trees and birch trees grew 100 meters higher up the slopes of their mountains during the MWP than they presently do. Craig Sherwood and Keith Idso, “The Broad View of Holocene Climate from Swedish Scandes,” CO2 Science, Dec 11, 2011, accessed April 13, 2015, <http://www.co2science.org/articles/V16/N50/EDIT.php>. There were also higher tree lines in the Canadian Rockies and wider tree ring growth in the Bristlecone Pines of California during the MWP. “Earth’s Climate History: The Last Thousand Years,” Co2 Science, n.d., accessed April 13, 2015, [http://www.co2science.org/subject/other/clim\\_hist\\_1thousand.php](http://www.co2science.org/subject/other/clim_hist_1thousand.php).

<sup>27</sup> “The great voyages of Eirik the Red, Leif, and Karlsefani all took place when the northern lands and seas enjoyed a comparatively favourable climate. But after 1200 it began to grow colder, and by the middle of the fifteenth century it was very cold indeed. Over much of Europe the glaciers were advancing, the tree-line fell lower, vegetation and harvest were diminished by the cold, and the alpine passes were sealed for longer periods....By [1350] Ivar Bardarson...tells how the old sailing route west has been abandoned as too dangerous because of the down-swinging polar ice.” Gwyn Jones, *A History of the Vikings*, 2<sup>nd</sup> ed., (Oxford: Oxford University Press, 1984), 307. See also D.M. Brown, “The Fate of Greenland’s Vikings,” Archaeology.org, Feb 28, 2000, accessed April 21, 2015, <http://archive.archaeology.org/online/features/greenland/>.

Although the CO<sub>2</sub> levels (0.04% of the atmosphere) have increased over the past two centuries from 250 ppm to 380 ppm, there should be no reason for alarm. Coal mine safety standards allowed miners to work underground at much higher levels.<sup>28</sup> If the CO<sub>2</sub> rises to 450 ppm, it should form additional clouds which will reflect more of the sun's heat away from the planet, generate extra rain and increase productivity of land and sea plants.<sup>29</sup> So instead of rising CO<sub>2</sub> levels heating up the planet, the increase of this GHG may actually help the world become greener! CO<sub>2</sub> can be viewed as more of a plant fertilizer rather than a pollutant, for "the CO<sub>2</sub> released by burning fossil fuels was taken from the atmosphere that existed in the pre-Flood world. If a higher concentration of CO<sub>2</sub> wasn't a problem in the lush pre-Flood earth, it should not be problem now."<sup>30</sup>

The ice caps of the Polar Regions are not really getting smaller, contrary to media reports.<sup>31</sup> Although Greenland's coastal ice below 1500 meters above sea level has reduced in modern times, the thickness of its ice above 1500 meters elevation has increased.<sup>32</sup> In fact, temperature readings taken at weather stations

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<sup>28</sup> "The US federal threshold for CO<sub>2</sub> in underground mines is currently 5000 ppm....During the 1940s and earlier, the threshold was over 12,000 ppm....This increased concentration is helping farmers world-wide to feed a hungry world." Rod J. Martin, "A Proposed Bible-Science Perspective on Global Warming," *Answers Research Journal* 3 (2010): 98-99.

<sup>29</sup> The photosynthesis rate of aspen leaves with a CO<sub>2</sub> rate of 1935 ppm at 36 degrees Celsius is 450% of the rate of those leaves exposed to 325 ppm. Raising up the CO<sub>2</sub> in the current atmosphere by 300 ppm increases the productivity of herbaceous plants by 30%, and woody plants by 50%. S.B. and C.D. Idso, "Carbon Dioxide and Global Change," *CO2 Science*, June 6, 2007, accessed April 13, 2015, <http://www.co2science.org/co2-custom/education/reports/hansen/hansencritique.php>. "Clouds tend to limit, rather than aggravate warming trends." Shapiro, "Global Warming," 45.

<sup>30</sup> "In view of the great benefit of CO<sub>2</sub> it is absolutely unnecessary to consider spending billions of dollars to restrict something that is extremely good for mankind and the earth." Martin, "A Proposed Bible-Science Perspective," 100-05.

<sup>31</sup> James Taylor, "Updated NASA Data: Global Warming not Causing any Polar Ice Retreat," *Forbes*, May 19, 2015, accessed Aug 10, 2015, <http://www.forbes.com/sites/jamestaylor/2015/05/19/updated-nasa-data-polar-ice-not-receding-after-all/>; Levi Winchester, "Ice in the Arctic and Antarctic is 'not melting' says Global Warming Expert," *Express.co.uk*, April 24, 2015, accessed Aug 10, 2015, <http://www.express.co.uk/news/nature/548516/North-South-poles-not-melting-Dr-Benny-Peiser>.

<sup>32</sup> "On average, the bulk of the ice sheet grew 5.4 cm/yr or 60 cm in 11 years." "Greenland Ice Sheet: Going, Going...Growing!" *CO2 Science*, Nov 2, 2005, accessed April 20, 2015, <http://www.co2science.org/articles/V8/N44/C1.php>. A study of 2018 glaciers in the Himalayas (Jan 2002 to Nov 2009) observed 18 of them increasing in size, 248 decreasing in size and 1752 remaining the same size, resulting in a 0.2% overall loss. I.M. Bahuguha, et al., "Are the Himalayan Glaciers Retreating?" *Current Science* 106, no.7 (2014): 1008-1013.

in Greenland recently have been below normal,<sup>33</sup> and this with rising CO<sub>2</sub> levels. There has been a thirty-year period when temperatures in this frigid land leveled out (1940s to 1970s), yet this phenomenon occurred during a time of massive CO<sub>2</sub> output from an exponential rise in industrialization and the devastation of portions of Europe, Africa and Asia during World War II, Korea and Vietnam.<sup>34</sup> A study at the summit of the Greenland ice cap conducted by multiple scientists drilling ice core samples of frozen precipitation accumulating over the past 4000 years discovered that there have been 72 decades during this period which were warmer than the present decade.<sup>35</sup> Therefore, the link between rising CO<sub>2</sub> levels and planet temperatures is not as strong as climate change proponents would have the world believe.<sup>36</sup>

There has also been a much greater degree of glacial melting in the distant past than there has been over the last century. Over 1600 years ago, during the close of the Roman Warm Period, ancient Alexandria was lost to the sea. It is currently sitting in fifteen feet of water, while ocean levels have only risen some four to ten inches over the past century, despite the rise in CO<sub>2</sub>.<sup>37</sup> Therefore,

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<sup>33</sup> “Greenland (Temperature History) – Summary,” CO2 Science, n.d., accessed April 15, 2015, <http://www.co2science.org/subject/g/summaries/greenland.php>.

<sup>34</sup> “While greenhouse gases were pouring into the atmosphere, global temperatures actually fell, and there was much talk in scientific circles about the possibility that we are headed into a new ice age.” Jeffrey Salmon, “Greenhouse Anxiety,” *Commentary* 96 (1 July 1993): 26; “According to Professor Lockwood the late 20<sup>th</sup> Century was a period when the sun was unusually active.... Since then the sun has been getting quieter.... solar activity is now falling more rapidly than at any other time in the last 10,000 years.” Hudson, “Real Risk of Maunder Minimum,” <http://www.bbc.co.uk/blogs/paulhudson/entries/6d50a6bd-779a-32d6-bfca-06e4484d6835>.

<sup>35</sup> “...therefore, it is clear that none of Greenland’s recent warming need have been caused by increasing greenhouse gases. Indeed it is far more likely that its recent warmth is nothing more than the next expected phase of the natural oscillation of the climate that has produced several-hundred year periods of alternating warmth and cold over the past four thousand years.” “A 4000-Year History of Greenland Surface Temperature,” NIPCC, Feb 14, 2012, accessed July 1, 2015, <http://www.nipccreport.org/articles/2012/feb/14feb2012a1.html>.

<sup>36</sup> The IPCC issued an apology for claiming in 2007 that the Himalayan glaciers were likely to disappear by 2035. Ironically, the 2007 report won the UN’s IPCC a Nobel Peace Prize. This report, which caused much shock in Asia, was based on an interview with one Indian glaciologist in 1999 who now says he never made such a forecast in his interview with the *New Scientist Magazine*. “Glaciergate, EPA Regs Showdown, And It Just Goes On,” Resilience.org, Jan 21, 2010, accessed April 8, 2015, <http://www.resilience.org/stories/2010-01-21/glaciergate-epa-regs-showdown-and-it-just-goes-jan-21>.

<sup>37</sup> The ancient city of Tyre, which was destroyed by Alexander the Great in 332 B.C., is presently below 20 feet of water, most of which rose before the Industrial Revolution. Martin, “A Proposed Bible-Science Perspective,” 97, 99.

when viewing planet earth through the long lens of time, conditions are not as extreme today as they have been in the days prior to the industrial age. In light of all this scientific evidence from the past and present, humanity is not likely to alter the climate sufficiently enough to destroy itself.

Setting aside all scientific climate data for the moment, one needs to ask why the modern way of life is so railed against by the ACC proponents. They claim that people and technology are the problem and the natural environment is the victim. Yet, does this stack up with reality? “Worldwide trends in human life expectancy are, almost without exception, positive, and they have been throughout the roughly two hundred years since industrialization and modernization began.”<sup>38</sup> Since humanity’s overall quality of life has benefited greatly by technology in modern times, why is there such a push to set developed countries backwards, and keep undeveloped countries from utilizing their own natural resources to improve life for their citizens? To limit developing nations from employing technology is to keep them impoverished, which will only make life more difficult for their poor.<sup>39</sup>

## Climate Change Camps

The following three sections provide general opinions of some leaders and scholars from diverse groups which fall under the umbrella of Christendom. They do not necessarily reflect the opinions of every person who identifies themselves with such groups. Roman Catholic and Orthodox Churches are lumped together,

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<sup>38</sup> “Around the mid-seventeenth century, life expectancy at birth everywhere in the world was about the same – somewhere in the late twenties. Today it is 66 years old world wide...55 in [some] other low-income economies...and 77 in higher income economies. E. Calvin Beisner, “*Imago Dei* and the Population Debate,” *Trinity Journal* 18 (1997): 194.

<sup>39</sup> “The environment...is not just mountains and forests and lakes and streams, but also hospitals and schools and highways and cities and cars and telephones – literally everything that surrounds us. And the best test of its quality is how conducive it is to our survival. By that measure, the long-term news on the environment is clearly good.” *Ibid.*, 194-95. Using ethanol as a fuel is cleaner burning, but also raises the prices of corn around the world. Is this truly helpful to the poor? Robert Benne, “Environmentalism-The New Orthodoxy That Will Save the World,” *Dialog* 50, no.3 (Fall 2011): 224. “Two billion people, more than a third of the earth’s population, currently live without access to electric power. Simply to bring the most basic of modern amenities to this enormous population will entail a huge increase in energy consumption and therefore in carbon-dioxide emissions. To restrict this development is inevitably to freeze the standard of living of billions of people at wretched levels - a morally questionable proposition to say the least.” Rabkin, “Greenhouse Politics,” 41. See also Shapiro, “Global Warming,” 47.

followed by mainline Protestant denominations, concluding with Evangelical congregations.

### Roman Catholic and Orthodox Churches

Though the recent Papal encyclical out of Rome recognizes the special position of mankind among creation, it holds humanity responsible for the damage that has been done to nature, and calls people to a greater care for the environment and for the poor.<sup>40</sup> Bartholemew I, the “Green Patriarch” of the Orthodox Church, declared that it is a sin to mistreat the earth, and calls the church as well as society at large to “ecological repentance.”<sup>41</sup> Many orthodox churches have developed new liturgies to accompany their Feast of Creation on September 1<sup>st</sup> which are environmentally friendly.<sup>42</sup>

### Mainline Protestant Churches

“In 2009...Methodist Bishops asked all Methodist pastors to discuss Climate Change in their churches and to reduce the carbon footprints of their episcopal and denominational offices.”<sup>43</sup> The Episcopal Church committed to the

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<sup>40</sup> “A true “ecological debt” exists, particularly between the global north and south connected to commercial imbalances with effects on the environment, and the disproportionate use of natural resources by certain countries over long periods of time....The warming caused by huge consumption on the part of some rich countries has repercussions for the poorest areas of the world, especially Africa.” Francis I, *Laudato Si'*, secs. 51 and 90; see also secs. 20-42, 67-68.

<sup>41</sup> “Four centuries ago the church had a hard time letting the earth move around the sun; now it appears we may be offended that grace does not revolve exclusively around us.” Gilson Waldkoenig, “Rethinking Environmentalism: A Response to Robert Benne,” *Dialog* 51, no.1 (Spring 2012): 7.

<sup>42</sup> The following article also sites what non-Christian religions are doing to improve the environment, including efforts to make a more environmentally friendly Muslim Hajj. Natabara Rollosson, “The United Nations Development Programme (UNDP) Working with Faith Representatives to Address Climate Change,” *Cross Currents* 60, no.3 (September 2010): 427-28. According to a recent Orthodox Hymn sung on the feast of Epiphany, “I have become the defilement of the air, and water.” John Chrysavgis, “A New Heaven and a New Earth: Orthodox Theology and an Ecological World View,” *The Ecumenical Review* 62, no.2, (July 2010): 216. He goes on to write, “The church is called to be in solidarity with the weakest parts of the Body of Christ, The church must stand for the most vulnerable, the helpless or voiceless elements of this world....the earth too is a member of our body.” *Ibid.*, 220.

<sup>43</sup> “Both Catholic and Lutheran aid agencies have shifted their disaster relief programs to help vulnerable communities cope with and adapt to extreme weather associated with climate

Genesis Covenant, desiring “to reduce greenhouse gas emissions in all church facilities by 50% within ten years.”<sup>44</sup> Yale Divinity School was raising three million dollars to create a chair in Religion and Environmental Stewardship, offering a joint degree with the Yale Forestry and Environmental Studies Departments.<sup>45</sup> In the UK, local churches are being encouraged by the Eco-congregation Network to not only connect with creation and climate care, but to incorporate these concepts with Christian worship.<sup>46</sup>

The National Religious Partnership for the Environment (NRPE), consisting of the US Conference of Catholic Bishops, the National Council of Churches, the Coalition on Jewish Life, and the Evangelical Environmental Network “enables each partner to develop its own strategy for bringing its community along in their understanding of climate change.”<sup>47</sup> Finally, the World Council of Churches has supported the environmental movement for over 30 years.<sup>48</sup>

## Evangelical Churches

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change.” Robin G. Veldman, et al., “Introduction: Climate Change and Religion-A Reviewing of Existing Research,” *Journal for the Study of Religion, Nature and Culture* 6, no.3 (2012): 261-62.

<sup>44</sup> “The vision of the [Gen Cov] is that people of all religious traditions can work together to save the earth....I dare to hope that congregations are awakening to the call to love God, neighbor, and our dear, God-given earth, as ourselves....[for] we are also midwives of God’s new creation.” Margaret Bullitt-Jonas, “The Episcopal Church and Climate Change; the First Twenty-Five Years,” *Anglican Theological Review* 94, no.4, (2013): 676, 679 and 683. “The Green Faith Fellowship program provides an eighteen-month interfaith environmental training program for clergy, laity, and seminarians...[which] enables houses of worship to integrate environmental themes into worship, religious education, facilities management and social outreach....” *Ibid.*, 677.

<sup>45</sup> *Ibid.*, 680.

<sup>46</sup> Michael S. Northcott, “The Concealments of Carbon Markets and the Publicity of Love in a Time of Climate Change,” *International Journal of Public Theology* 4 (2010): 312. “The Church of England is committing significant resources to promote environmental responsibilities amongst its congregants.” Michael W. DeLashmutt, “Church and Climate Change: An examination of the Attitudes and Practices of Cornish Anglican Churches Regarding the Environment,” *Journal for the Study of Religion, Nature and Culture* 5, no.1 (2011): 62.

<sup>47</sup> DeLashmutt, “Church and Climate Change,” 62.

<sup>48</sup> Holloway, “Adaptation Assistance,” 280.

There is a great divide in the evangelical community over Climate Change. Organizations such as the Evangelical Environmental Network (EEN),<sup>49</sup> which includes signers from the executive committee of the National Association of Evangelicals, presidents of Christian colleges (like Wheaton) and mega church pastors such as Rick Warren, state "...we must reduce our global warming pollution to help mitigate the impacts of climate change, as a society and individuals we must also help the poor adapt to the significant harm that global warming will cause."<sup>50</sup> "In the fall of 2004, the National Association of Evangelicals produced a statement advocating more resources to combat environmental degradation and promote environmental sustainability," which is based on their God-given dominion over the earth as well as their moral responsibility to be its stewards.<sup>51</sup>

The creation care movement contends that "Genuine love looks out for the welfare of others. A polluted environment surely does not serve the good of others...A Christian walking with the Lord, rather than eager to exploit the earth for self-gratification, is eager to celebrate creation with thanksgiving and to care for and preserve it."<sup>52</sup> The Cape Town Commitment of Evangelicals calls its

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<sup>49</sup> "As a biblically orthodox Christian organization, EEN totally rejects nature worship and pantheism....At the same time that we condemn nature worship, we must not let our zeal to avoid idolatry prevent us from our biblical call to care for all of creation." "Why Creation Care Matters," Evangelical Environmental Network, n.d., Accessed Aug 7, 2015, <http://creationcare.org/creation-care-resources/why-creation-care-matters/>.

<sup>50</sup> Laurie Goodstein, "Evangelical Leaders Join Global Warming Initiative," New York Times, Feb 8, 2006, accessed April 24, 2015, [http://www.nytimes.com/2006/02/08/national/08warm.html?pagewanted=all&\\_r=0](http://www.nytimes.com/2006/02/08/national/08warm.html?pagewanted=all&_r=0). The five most influential beliefs of evangelicals that shape their perception of the Global Warming debate are Biblical Inerrancy, God's Sovereignty, Human Sinfulness, Eschatology and Evangelism. "Evangelicals' concerns about secularism, evolution, and the earth worship influence their perceptions of climate change, and may be difficult to overcome." Carr et al., "Challenges to Authority," 287, 295-96.

<sup>51</sup> The NAE consists of 50+ evangelical denominations with over 30 million people. Paul A. Djupe and Gregory W. Gwiasda, "Evangelizing the Environment: Decision Process Effects in Political Persuasion," *Journal for the Scientific Study of Religion* 49, no.1 (2010): 73.

<sup>52</sup> R.S. Beal, "Can a Premillennialist Consistently Entertain a Concern for the Environment? A Rejoinder to Al Truesdale," *Perspectives on Science and Christian Faith* 46 (September 1994): 176. Creation Care evangelicals make the following distinction: "While it is important to reject the mechanical materialism of the 17<sup>th</sup> Century (the philosophy that paved the way for industrialization), there is no reason to revert to nature idolatry, paganism, shamanism, or animism. ...we remember that a restored humanity in a restored Eden is the crowning vision of Scripture." David Neff, "Second Coming Ecology," *Christianity Today* 52, no.7 (July 2008): 36-37.



members to “adopt lifestyles that renounce habits of consumption, exert governments...on issues of environmental and potential climate change, and recognize that environmental protection and restoration is part of our missional calling.”<sup>53</sup> An evangelically based education center named the Au Sable Institute in Michigan has been established for advancing environmental stewardship among Christians.<sup>54</sup> Such stewardship harkens back to Eden when God charged Adam to tend the garden (Gen.2:15). It is often contended that since God cares for and enjoys His creation so much (Ps.104), His children should do everything they can to preserve it.<sup>55</sup>

The most common passage employed by Christian Anthropogenic Climate Change advocates (Mainline & Evangelical) is Romans 8:18-25, where the future of mankind and the earth appear to be bound together in the resurrection.<sup>56</sup> If human beings will be released from the curse, so also will creation. More will be said about this passage later. Suffice it to say, since many believe God will redeem both mankind and the earth, the Church should also strive to rescue the planet as it strives to reach the souls of mankind.

Therefore, a growing number of Bible-believing Christians assert that this present world will eventually be made over into a “Renewed Earth,” motivating them to prepare the current planet for that glorious day.<sup>57</sup> Nevertheless, many other evangelicals are convinced that the ultimate end of this earth is a fiery one caused by the Lord, and they don’t see the need to go to extremes in dedicating a lot of time, talent and treasure to preserving the environment of the present

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<sup>53</sup> Athena E. Gorospe, “Evangelicals and the Environment: Going Beyond Stewardship,” *Evangelical Review of Theology* 37, no.3 (2013): 256

<sup>54</sup> Michael A. Bullmore, “The Four Most Important Biblical Passages for a Christian Environmentalism,” *Trinity Journal* no.19 (1998): 139.

<sup>55</sup> *Ibid.*, 145-47. Granted, the Lord cares about what He has made, but He has also allowed, and even directly caused the extinction of thousands of plant and animal species through the global flood and up to the Industrial Revolution without the help of man’s GHGs.

<sup>56</sup> Sigurd Bergmann, “Climate Change Changes Religion,” *Studia Theologica* 63 (2009): 109-110.

<sup>57</sup> Douglas J. Moo, “Nature in the New Creation: New Testament Eschatology and the Environment,” *Journal of the Evangelical Theological Society* 47, no.3 (September 2006): 453. A more detailed discussion of this topic will be given in the section on weather in the Eternal State. See also Al Truesdale, “Last Things First: The Impact of Eschatology on Ecology,” *Perspectives on Science and Christian Faith* 46 (June 1994): 116, accessed April 8, 2015, [http://resources.asa3.org/FMPro?-db=asadb49\\_fm4&-format=%2fasadb%2fdetail3.html&-lay=layout1&-sortfield=first%20author&-op=cn&combo%5ftag=last%20things%20first&-lop=or&-max=2147483647&-recid=34346&-find](http://resources.asa3.org/FMPro?-db=asadb49_fm4&-format=%2fasadb%2fdetail3.html&-lay=layout1&-sortfield=first%20author&-op=cn&combo%5ftag=last%20things%20first&-lop=or&-max=2147483647&-recid=34346&-find).

temporal world.<sup>58</sup> These believers are also wary that increasing the power and the purse of international organizations to mitigate global warming could draw the nations into a centralized world-wide government. They also fear that radical environmentalism in the Church is a major distraction from the Great Commission.<sup>59</sup>

Rather than accepting the premise that a caring Christian should heavily invest in CC mitigation in order to help the planet's poor, the Interfaith Stewardship Alliance in 2006 countered by stating that such measures would actually drive up the costs of energy and all other consumer products, hamper economic growth, reduce jobs and do more harm to the earth's poor.<sup>60</sup> In 2010, the Cornwall Alliance unveiled "An Evangelical Declaration on Global Warming" which was signed by 450 evangelical scholars, pastors, theologians and ministry leaders like Tony Perkins and R.C Sproul.<sup>61</sup> This organization believes,

As the product of infinitely wise design, omnipotent creation and faithful sustaining (Gen.1:1-31; 8:21-22), Earth is robust, resilient, self-regulating and self-correcting. Although Earth and its subsystems, including the climate system, are susceptible to some damage by ignorant or malicious human action, God's wise design and faithful sustaining make these systems more likely – as confirmed by widespread scientific observation –

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<sup>58</sup> "Under dispensationalism, the earth is seen as a backdrop for the actions of God in saving humans, rather than as a central concern." Curry, "Christians and Climate Change," 158.

<sup>59</sup> "The social gospel of the early twentieth-century was the death knell for religious orthodoxy among mainline Protestant denominations. Hence any movement toward social justice would ultimately produce the same slide among current evangelicals." Ackerman, 260-61. Holding to the infallibility of Scripture and taking it literally leads to a Young Earth view, and "extreme opposition to almost all facets of biological evolutionary theory." Ibid., 262.

<sup>60</sup> Brian McCammack, "Hot Damned America: Evangelism and the Climate Change Policy Debate," *American Quarterly* 59, no.3 (September 2007): 652.

<sup>61</sup> Napp Nasworth, "Evangelicalism and Climate Change: What does the future hold? (Pt 1)," Christian Post, June 12, 2012, accessed April 24, 2015, <http://www.christianpost.com/news/evangelicals-and-climate-change-what-does-the-future-hold-pt-1-75935/>. "James Dobson and Charles Colson...refuse to believe that climate change is an issue evangelicals are morally obligated to address, and fear that it may become a wedge within evangelicalism, irreparably dividing what has been a fairly cohesive political force over the past quarter century." McCammack, "Hot Damned America," 645.

to respond in ways that suppress and correct that damage than magnify it catastrophically.<sup>62</sup>

Not all CC deniers are pre-millennialists. Some hail from the Covenant Theology Camp. Their timelines of the last days may look different, but both camps end up at a New Heavens and New Earth. One such advocate from the Cornwall Alliance is E. Calvin Beisner from Knox Theological Seminary, who celebrates the technological advancements made since the Industrial Revolution to the overall betterment of the environment and humanity.<sup>63</sup>

Many dismiss all arguments advanced by Anthropogenic Climate Change deniers in favor of the data from the U.N.'s IPCC, believing that any studies contrary to ACC have been manufactured by big oil and coal dollars.<sup>64</sup> Assuming, for the moment, that all the technical studies from thousands of independent ACC-denying scientists around the globe are tainted because they are in collusion with fossil fuel developers, does this then mean that the U.N. scientists are more in line with what the Bible teaches about the future environment of this planet? Which side of the scientific community does prophetic literature favor?

## Climate Change: The Biblical Evidence for the Church

Are Christians obligated to help save the environment of the planet? Should the green movement be another mission of the Church? Will the desertification of northern Africa and the Middle East intensify to such a degree that peoples there will move towards the poles in search of water and arable land? Will the polar ice caps melt to such an extent that many of the present coastal

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<sup>62</sup> "Protect the Poor: Ten Reasons to Oppose Harmful Climate Change Policies," Cornwall Alliance, Sep 17, 2014, accessed April 8, 2015, <http://www.cornwallalliance.org/2014/09/17/protect-the-poor-ten-reasons-to-oppose-harmful-climate-change-policies/>.

<sup>63</sup> "Environmentalism – in non-Christian circles at least...starts off on the wrong foot, denigrating humanity, denying the *imago dei*. It sees people chiefly as consumers, not producers....The role famines and epidemics, especially the plague, played in shortening and making loathsome the lives of all people before the nineteenth century cannot fail to make us appreciate the healthier environment we enjoy today – an environment made that way largely by the introduction of chemicals that kill pests and germs and protect crops. Is it sensible to consider these chemicals only as pollution?" Beisner, "*Imago Dei*," 181, 195.

<sup>64</sup> See Wells, "Climate Holocaust," 8.

areas, including the Nile Delta, become flooded? Does prophecy instruct believers in how they should then live with regards to Anthropogenic Climate Change (ACC)? Scriptural evidence will be gleaned from climate references to determine whether the weather caused by mankind could play a major role in his future undoing.

## Historical Climate

It is foundational to address the biblical verses which speak to the historical conditions of the planet's environment before examining passages that describe future climatic conditions. For these biblical "ice core samples" help provide the key to viewing the future.

According to the writers of the Old and New Testaments, Almighty God controls the rain, dew, snow, hail, sea ice, frost, winds, waves, clouds, thunder, lightning, vegetation and volcanoes, and He orders the celestial bodies to their appointed places and times.<sup>65</sup> The Lord also manages the evaporation process (Hydrologic Cycle), and does whatever He pleases throughout His creation (Ps.135:6-7; Dan.4:37). Yahweh not only regulated the climate within the borders of ancient Israel, but also in the regions beyond (Gen.7-8; 41; Ex.9; 1 Kgs.17; Ezek.29; Jon.1). In fact, the forces of the entire universe are held together by the Son of God (Col.1:16-17), for there is nothing too hard for the Lord (Jer.32:7). In light of these facts, to suggest that humanity can significantly modify the global climate is to think too highly of the created and too lowly of the Creator.

The Lord proclaimed to Noah that "While the earth remains, seedtime and harvest, and cold and heat, and summer and winter, and day and night shall not cease" (Gen.8:22). This universal promise was given to the post-flood representative of mankind on the mountains of modern day Turkey in the Middle East. It is this region of the globe where Climate Change scientists fear further desertification. They believe that if the temperature of the earth rises much more due to GW, the latitudes of northern Africa and the Middle East could become uninhabitable wastelands. Yet only if this divine promise were to fail could such conditions come to pass.

The Lord has sent down rain upon the just and the unjust throughout history (Mt.5:45). In some cases, this gracious provision of moisture for growing crops is the result of God's goodness to sinful man, so that some might be led to repentance (Rom.2:4). Humanity is not in any position today to determine what

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<sup>65</sup> Job 37:6; 38:22-37; Pss.33:6-7; 48:7; 65:6-7; 74:17; 104:10-32; 147:8, 16-18; Isa.51:15; Jer.10:13; 31:35; Zech.10:1; Ac.14:16-17.

good climate is a result of God's blessing for mankind's obedience or just His benevolence (common grace) to the divine image bearers of His creation.

Yahweh has the power to make a wilderness into a fertile field or a green meadow into a desert place (Ps.107:33-35). He has withheld the rain as a covenant curse to get His wayward people to return to Him (Am.4:7-9). Although a drought like this might be considered, in some sense, man-caused because of the link between human sin and the climate, it was divinely generated in response to the conditional curses of the Mosaic Covenant (Dt.28:22-24). Since God has exercised sovereign control over the global weather of the past,<sup>66</sup> it only makes sense to believe that He has a handle on the weather of the future, because His nature and attributes never change (Num.23:19; Mal.3:6; Jas.1:17).

## Tribulation Climate

Having briefly glimpsed at how Yahweh has controlled the weather in biblical days of old, it is necessary to examine how He will affect the environment during the future Tribulation Period before the return of Christ to the earth. This seven-year stretch (Dan.9:27) of great upheaval among the nations of the earth will have devastating impacts on billions if not trillions of living creatures and plants on the planet. Nobody but God knows how soon this unprecedented global judgment will arrive, but it will surely come to pass before humanity destroys itself (Mt.24:36ff).

One's eschatology, or how one views the end times, has a great deal to do with how one perceives the future of this planet. For instance, the Preterist believes the events in the Book of Revelation have been historically fulfilled in the Early Church, denying a future destruction of the environment by God's judgments.<sup>67</sup> Another twist on interpreting Revelation is that the seals, trumpets

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<sup>66</sup> There is some talk of 'Geoengineering,' which involves "the possibility of large-scale human technological manipulation of the climate in order to forestall temperatures associated with catastrophic global warming." Forest Clingerman, "Geoengineering, Theology, and the Meaning of Being Human," *Zygon* 49, no.1 (March 2014): 6. Although it is fascinating to think what good this could do in the right hands, it is chilling to think what it could do in the wrong hands. The Christian need not fear this scenario though, for "No man has the authority to restrain the wind with the wind" (Eccl.8:8a).

<sup>67</sup> "The Preterist approach says the book is a sketch of first-century conditions in the Roman Empire....this extreme degree of spiritualization requires that one see the words about Christ's second coming as fulfilled in the destruction of the Temple in A.D. 70, even though He did not appear on that occasion. This does injustice to the prophetic nature of the work, which requires a second personal appearance of Christ on earth in fulfillment of Rev.19:11-16." R.L. Thomas, *Revelation 1-7: An Exegetical Commentary* (Chicago: Moody Press, 1995), 29-30.

and bowls are not events that must take place, but are merely warnings to help mankind make the necessary course corrections before they happen.<sup>68</sup> Post-millennialists, who contend that the world is going to get progressively better before the Second Coming of Christ, foresee an important role for the faithful to play in preparing this planet for that future glorious day.<sup>69</sup>

Premillennialists, on the other hand, believe that unprecedented physical judgments will shake the earth just prior to the Second Advent. This position has drawn attacks from some within Christianity who are Theistic Evolutionists, claiming that pre-millennialists are unscientific and that they deny Darwinism, elevating humanity above the other creatures from which they evolved.<sup>70</sup> Such sentiment is driven by viewing eschatology through the lens of environmentalism and secular science. The goal here is to view environmentalism through the lens of eschatology.

There isn't sufficient space in this paper to elaborate further on the various eschatological positions.<sup>71</sup> For the sake of time, a literal-historical-grammatical premillennial view of prophecy will be employed to interpret/exegete eschatological climate passages. The reader is invited to search the Scriptures given below in their literary contexts to properly assess the premillennial position.

According to the Bible, many nations will be in existence during the Tribulation, and numerous Israelites will be scattered among them. Although there will be peoples from every nation, tribe and tongue present (Rev.14:6),

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<sup>68</sup> "The plagues serve rather as warnings, as wake-up calls-like Ebenezer Scrooge's journeys in Charles Dickens's *A Christmas Carol* where Scrooge is shown horrifying future scenarios not because they must happen but so that he can alter the course of his life." Rossing, "Hastening the Day," 371-72. "Due to the Spirit at work in approaching reality both from the past and the future, both need to be treated as non-predictable and non-reducible but spiritually open for God's work." Bergman, "Climate Change Changes Religion," 111.

<sup>69</sup> Janel Curry, "Christians and Climate Change: A Social Framework of Analysis," *Perspectives on Science and Christian Faith* 60, no.3, (September 2008): 156. "A disruption of the present creation in order to establish God's righteous rule on Earth is utterly unnecessary. Whatever the consummation of the kingdom proves to be, it will grow out of the current creation which God has called good." Truesdale, "Last Things First," 119. Postmillennialism ignores the clear teaching of Christ in His Olivet Discourse on the disruptive nature of the days just prior to His return (Mt.24-25).

<sup>70</sup> "Focus on the Family treats Global Warming like the Theory of Evolution, which they deny in favor of an inerrant text." Lorenzen, "Religion and Science," 295, 298.

<sup>71</sup> For a quick overview of the Premillennial Position on eschatology, see John F. Walvoord, "The Millennial Kingdom and Eternal State," *Bibliotheca Sacra* 123, no.492 (October 1966): 291, 295.

specific inhabitants from the Beautiful Land (Israel), Persia (Iran), Egypt, Edom, Moab, Ammon, Libya and Ethiopia are named in prophecy (Dan.11:40-43).

Throughout world history, the majority of people have strayed from their Creator (Mt.7:13-14), and that will sadly hold true during the Tribulation. Yet, there will be “a great multitude which no one could count, from every nation and all tribes and peoples and tongues, standing before the throne and before the Lamb....who come out of the great tribulation” (Rev.7:9, 14). These tribulation martyrs represent a small minority of earth’s population, excluding believers who will survive Daniel’s 70<sup>th</sup> Week, which include the 144,000 Jewish witnesses (Rev.7:4), a majority of unbelievers who will perish at this time and those unfaithful who will live through all the earthly judgements only to be removed before the kingdom commences (Mt.24:27-31; 25:31-46; Ezek.20:33-38). The point is, there will be many multitudes of people inhabiting the earth at that time despite whatever climate variations occur between now and then.<sup>72</sup>

Nevertheless, extreme climate change will take place during the Tribulation Period. It will not be anthropogenic, but “theogenic” (God-caused). The Lord will unleash a series of judgments on the earth through seven seals, trumpets and bowls respectively that will dramatically affect the climate of the planet.<sup>73</sup> A brief overview of some of these disasters is sufficient to make this point.

The fourth seal will eliminate one-quarter of the earth’s population through the sword, famine, pestilence and wild beasts (Rev.6:7-8). Between the sixth and seventh seals, four angels are given power to stop all winds on land and sea (Rev.7:1).<sup>74</sup> After the first trumpet sounds, hail and fire mixed with blood will burn up one-third of the earth, one-third of all trees and all of the grass (Rev.8:7). The second bowl judgement will cause the demise of all creatures that swarm in the oceans, and the third bowl will kill off every living inhabitant within fresh water bodies (Rev.16:3-4), polluting all natural sources of drinking water. The inconvenient truth about the fourth bowl is that extreme global warming will

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<sup>72</sup> Jews will return to the Promised Land from the middle latitudes of the earth (Isa.11:11; 66:19).

<sup>73</sup> The two witnesses will negatively impact the climate for 3.5 years by withholding the rain, turning the waters to blood and striking the earth with various plagues during their ministry (Rev.11:3-6), which is reminiscent of Moses during the Exodus.

<sup>74</sup> “These winds of the earth make life possible on earth through the hydrologic cycle, transporting waters inland from the ocean with which to water the earth....Without earth’s wind systems on earth, there could be no rain.” Henry M. Morris, *The Revelation Record: A Scientific and Devotional Commentary on the Book of Revelation* (Wheaton, IL: Tyndale House Publishers, 1983), 126.

occur when the Lord strikes the sun, vastly increasing solar activity and scorching mankind with intense heat (Rev.16:8-9). The mighty Euphrates River will dry up with the sixth bowl (Rev.16:12), and the seventh bowl will trigger the greatest earthquake ever known to man, dividing Jerusalem into three sections, collapsing the other cities of the world, causing the islands and mountains to flee away and peppering the ground with hailstones weighing 100 pounds (Rev.16:17-21). At this time the demise of the wealthy city of Babylon will occur (Rev.18:17-19). This wicked metropolis will have enjoyed prosperous global sea trade up through most of the Tribulation Period,<sup>75</sup> so many of today's commodities will still be available even during that terrible time of Jacob's trouble, implying that the bounty of the earth will not run out before then.

What a mess the world will be in after those devastating judgments. In fact, if those days are not shortened, no life would survive on the planet (Mt.24:22). Yet the seasons will continue in the Middle East, for Jesus said about the timing of His Second Coming to pray that it might not be in winter (Mt.24:20; Gen.8:22). Other great environmental changes will occur when Christ descends to the Mount of Olives and splits it in half, creating an east-west valley, and darkening the sunlight for a day (Zech.14:3-7; Mt.24:29).

This future devastation of the planet does not give humanity license to trash the earth today, for the race has nowhere else to live. Yet it should also be realized that anything positive which is done by mankind to improve the present environment will be undone by the mighty hand of God during the Tribulation Period.

Now the Lord certainly loves His creation, declaring it to be good (Gen.1:31; 1 Tim.4:4). However, He will purposely destroy most of nature to encourage rebellious human beings to turn to Him and live (Rev.9:20-21; 11:13; 16:9, 11). The Tribulation period is a time when the Creator will figuratively and literally crank up the heat to try and get peoples' attention, and He will destroy most of the surface of the earth to do so.<sup>76</sup> Fortunately, the Lord will revitalize the environment by reversing much of the curse during the subsequent Millennial Kingdom.

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<sup>75</sup> "And the merchants of the earth weep and mourn over her, because no one buys their cargoes any more - cargoes of gold and silver and precious stones and pearls and fine linen and purple and silk and scarlet, and every *kind of* citron wood and every article of ivory and every article *made* from very costly wood and bronze and iron and marble, and cinnamon and spice and incense and perfume and frankincense and wine and olive oil and fine flour and wheat and cattle and sheep, and *cargoes* of horses and chariots and slaves and human lives" (Rev.18:12-13).

<sup>76</sup> "God whispers to us in our pleasures, speaks in our conscience, but shouts to us in our pain: it is His megaphone to rouse a deaf world." C.S. Lewis, *The Problem with Pain* (New York: Harper Collins, 1946), 91.



## Millennial Kingdom Climate

There has been much confusion over the timing of the millennium. Many writers have equated it with the Eternal State because of some common idyllic environmental conditions presented in both eras. However, these periods, which can be viewed as the final two phases of the Lord reconciling all things to Himself,<sup>77</sup> will be distinguished in the following paragraphs.

### Surviving Nations during the Millennium

Gentiles will return dispersed Jews to the Promised Land from Assyria, Egypt, Pathros, Cush, Elam, Shonar, Hamath, Philistia, Edom, Moab, Ammon, Tarshish, Put, Lud, Meshech, Tubal and Javan (Isa.11:11, 14; 66:19). These lands represent today's nations from Saudi Arabia to Spain, and from Ethiopia to Southern Russia. In fact, a remnant of Jews will return from beyond the rivers of Ethiopia, not only implying that peoples will survive the Tribulation from central Africa, but also that the Nile River will still be flowing at that time (Zeph.3:10). The significance of these lands named in prophecy from three continents is that they are located roughly between the latitudes 10 degrees north to 45 degrees north within two thousand miles of Israel. According to climatologists, these regions are some of the first to go if global warming escalates.<sup>78</sup> Yet, even after

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<sup>77</sup> Colossians 1:19-20 says that all things will be reconciled to God. "Therefore, the Bible teaches universal reconciliation, but not universal salvation...and that believers, unbelievers, and the creation are all reconciled in different ways...Sin negatively affected everything in God's created universe, necessitating the reconciliation of all things...the creation itself is cleansed from all the effects of sin and...everything in God's universe is put in its proper place by Christ's atonement for sin." Gary L. Shultz, "The Reconciliation of All Things in Christ," *Bibliotheca Sacra* 167 (October – December 2010): 444, 451 and 458.

<sup>78</sup> Richard Gray, "Our Scorched Earth in 2100," Daily Mail, June 15, 2015, accessed 28 July, 2015, <http://www.dailymail.co.uk/sciencetech/article-3125113/Earth-2100-Nasa-maps-reveal-world-need-adapt-rising-temperatures-caused-climate-change.html>; and Tina Nika Snoj, "New Climate Normal," BQ Doha, Feb 1, 2015, accessed July 28, 2015, <http://www.bqdoha.com/2015/02/climate-change-in-the-middle-east>; Hend El Behary, "Almost One-Third of Nile Delta to Sink by 2030, say Experts," Daily News Egypt, Mar 5, 2013, accessed July 28, 2015, <http://www.dailynewsegypt.com/2013/03/05/almost-one-third-of-nile-delta-to-sink-by-2030-say-experts/>. Alex Tingle, "Nile River Delta of Egypt – Sea Level Rise Map," Geology, n.d. accessed July 31, 2015, <http://geology.com/sea-level-rise/nile-delta.shtml>. If the ice caps melt faster, most of the Nile Delta could be gone by the next century with a sea-level rise of five to

the seven-year Tribulation afflicts the Earth with divinely-caused/Theogenic Climate Change (TCC), many Jews and Gentiles within these nations will still survive. Since this period will be the most environmentally devastating time the world will have ever known up to that point (Mt.24:22), it is unlikely that ACC is going to destroy the planet before the seals, trumpets and bowls of TCC nearly do.

### Changes to the Environment of Israel during the Millennium

After the Lord's return, a number of significant changes to the environment of the Promised Land will occur. As was mentioned earlier, the Mount of Olives will be split in two at the Second Coming, creating a valley running from Jerusalem to the east towards the Jordan River Valley (Zech.14:4). The mountain where the Millennial Temple will reside (Moriah) will be elevated above the rest of the hills in the country, and the land from Geba to Rimmon will become a plain (Isa.2:2; Mic.4:1; Zech.14:10).<sup>79</sup>

A river will flow year-round out of the temple, both west towards the Mediterranean Sea and east towards the Arabah where the Jordan River runs into the Dead Sea (Zech.14:8). The eastern branch will transform the Dead Sea into a 'Living Sea' of fresh water with a great abundance of fish. Along the banks of this river will grow fruit trees that bear every month (Ezek.47:1-12). Jerusalem will then be known as a place of rivers and wide canals (Isa.33:21). Not only will the other mountains in Israel be filled with streams (Isa.30:25; Joel 3:18), but also the desert places (Isa.35:6-7; 41:18; 43:20; 44:3). The wilderness, which is currently powder dry in the summers, will become a lush, fertile land (Isa.32:15; 35:1; 41:19), resembling the Garden of Eden (Isa.51:3; Ezek.36:34-35).

The weather patterns will be radically different in the Promised Land of the Millennium than they currently are in the State of Israel, making dependence on advanced irrigation systems obsolete. The Lord will send the former and the latter rains without fail upon the land (Ezek.34:26; Joel 2:23), leading to incredible fertility for the people and their animals to enjoy (Isa.30:23-24; 55:13; 66:13; Jer.31:12; Ezek.34:27, 29; Hos.2:21-22; Joel 2:24; Am.9:13-14). As the Lord promised Noah, the seasons will continue unabated, even up through the Millennium (Gen.8:22; Zech.14:8).

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ten meters. However, Isaiah predicts a road linking Egypt to Israel to Assyria after Christ's return, which could not happen if the delta is flooded (Isa.11:15; 19:23-25).

<sup>79</sup> "These great land movements will also have eliminated the great mountain ranges and islands of the world, filling up the ocean depths and restoring gentle, globally habitable topography and geography all over the world, as it had been in the antediluvian age, before the cataclysmic upheavals of the great Deluge." Morris, "The Revelation Record," 409.

## The Environment of Animals during the Millennium

When Yahweh gave Adam the task of naming the animals in the Garden of Eden, it was not a life-threatening job to perform (Gen.2:19-20). There were no carnivores among the creatures at that time, for they were all vegetarian (Gen.1:30). It was not until after the fall of man that nature was also cursed, and soon all creatures became part of the global food chain (Gen.3:17; 9:2-5).

During the future one-thousand year reign of Christ on earth (Rev.20:2-7), there will be a reversal of the animals' natures, so that the once mighty predators will eat plants side-by-side with their former prey (Isa.11:6-8; 65:25). The fear that wild beasts have of mankind (Gen.9:2) will also be a thing of the past, since a little child will lead them along. However, humanity will still eat meat, which will require the death of animals for food as well as for worship purposes (Ezek.43:18-27; 44:11; 45:21-25; 46:11-15), so this time cannot be describing the Eternal State on the New Earth where there will be no more death (Rev.21:4).

Land-dwelling creatures will either survive the judgements on the ground, vegetation and fresh water during the Tribulation, or the Lord will create more of them; which will be the case with all sea life (Rev.16:3). God will also have to restock all fresh water creatures due to the effects of the Third Bowl (Rev.16:4).<sup>80</sup> During the Millennium, there will be new bodies of clean water where fish abundantly populate and are caught for human consumption (Ezek.47:9-10). Among the animals in existence at that time are wolves, leopards, lions, lambs, goats, bears, cows, cobras, vipers, camels, oxen, donkeys, horses, mules, pelicans, owls, ravens, hedgehogs, jackals, ostriches and hawks (Isa.30:34; 34:11-15; 66:20; Ezek.43:19-23; Zech.14:20).

## Increased Longevity of People during the Millennium

Prior to Noah's flood, the peoples of the earth lived much longer than they do now. Some of them survived nearly a thousand years, like Methuselah

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<sup>80</sup> Waters flowing from the Millennial Temple are described as "healed" and "living" (Ezek.47:8-11; Zech.14:8). Since the eastern flowing waters will make the Dead Sea fresh, except for some salt marshes, it also stands to reason that the western flowing waters will make the Mediterranean (Great) Sea, and all seas connected to it, fresh/healed/living as well. Due to geographical changes to the land (Zech.14:10), perhaps the Dead Sea will drain south into the Gulf of Aqaba and then into the Red Sea, making them fresh. At that time, the same species of fish from Mediterranean will dwell in the revitalized Dead Sea. Therefore, most sea creatures of the Millennium will likely be swarming in fresh bodies of water, apart from the organisms inhabiting the peripheral salt marshes.

(Gen.5:27). There are differing theories as to why this longevity occurred. Perhaps a combination of there being a very hearty race to begin with,<sup>81</sup> along with a vapor canopy protecting the planet from the sun's harmful UV rays can account for this longevity.<sup>82</sup>

During the millennial reign of Christ, the life expectancy of human beings will once again be great, resembling that of the Antediluvian (Pre-Flood) Period. People will live as long as a tree and wear out the work of their hands (Isa.65:20-25). The environmental conditions will be similar to conditions in Seth's day. There will still be births and deaths during that time, for sin will still exist, infecting future generations (Zech.13:1-6; Rom.5:18-19). That is why Isaiah 65:17-25, which mentions the New Heavens and New Earth (vs.17), should not all be lumped in with the Eternal State, when there will be no death nor giving in marriage (Rev.21:4; Mt.22:30). Since the prophets spoke of the two comings of Christ in one breath (Isa.9:6-7; Zech.9:9-10), it should not be surprising that they also blended the Millennial Kingdom (Isa.65:20) and the Eternal State (Isa.65:17) together in the same context.

### Cursed Lands during the Millennium

Despite the continuously splendid climate Israel will experience during the Millennial Kingdom, not every portion of the earth will be renewed to an Eden-like state of existence. Although much of the curse on the ground (Gen.3:17) will be reversed at that time, some lingering effects of this thorn in nature's flesh will still persist. Because of Edom's mistreatment of Israel throughout history, her territory to the southeast of the Promised Land will experience what climatologists call desertification. The land will remain a curse as long as wild animals continue to breed there. It will be scorched, full of thorns and thistles and inhabited by various creatures common to a desert environment (Isa.34:9-17; cf. Joel 3:18-21).

Additionally, one of the covenant-like curses (Dt.28:22-24) will be enforced for the nations of the world who refuse to come and worship the Lord at the annual fall Feast of Tabernacles during the Millennium. A plague of drought will inflict the lands of the peoples who do not attend this feast in Jerusalem to honor their Creator (Zech.14:16-19).

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<sup>81</sup> There were hardly any genetic defects and diseases to contend with at first, since everything created was very good (Gen.1:31). It was even genetically safe for brothers to marry sisters initially to extend the human race, as in the case with Cain and Seth (Gen.4:16; 5:4-6).

<sup>82</sup> Henry H. Morris, *The Genesis Record* (Grand Rapids, Baker Books, 1976), 57-61. This canopy probably created a positive world-wide greenhouse effect.

Therefore, not all of the earth will be restored from the curse during the thousand years following the return of Christ. Even some lands that have been initially refreshed after the Tribulation could eventually end up afflicted if the descendants of those peoples disobey Yahweh down the line. Such rebellion will be dealt with swiftly under Christ's righteous and holy rule (Isa.11:3-5). Although the Millennium will be initially populated with all believers (Ezek.20:38; Mt.24:37-41; 25:31-46; Rom.11:26-27), due to the removal of any wicked who survive the Tribulation, some of the offspring of the righteous will follow their sin-natures instead of the Lord, as illustrated by the final rebellion (Rev.20:7-9). When such disobedience occurs before the thousand years is completed, their lands will suffer the negative environmental consequences mentioned by Zechariah. These visible climate changes will be a testimony to everyone who lives on the planet of Christ's command and control of nature.

## Eternal State Climate

Before examining the key climate passage for the Eternal State (Rev.21-22), it is essential to address whether this planet will be around at that time. If the current earth will cease to exist one day, why be so anxious about trying to preserve it? Why invest one's energies and hope into something so temporal? A number of passages appear to support the eternal existence of the present world, while others predict its end. Is the current planet going to be renovated and revitalized to some degree or be removed and replaced with another? Finally, what will the environment be like on that "New Earth" in the Eternal State?

## Destiny of the First Earth

How long does the Bible claim this planet will be around? On the one hand, the Promised Land is said to be given to Israel 'forever' (Gen.13:15; 17:8; 48:3-4; Ex.32:13; Josh.14:9; 1 Kgs.8:13; 9:3; 1 Chr.23:25; 2 Chr.20:7; 33:4; Ps.125:1; Isa.33:20; 60:21; Ezek.37:25-28; Joel 3:20; Mic.4:7). The earth itself is said to be established 'forever' (Ps.104:5; Eccl.1:4), as well as the heavenly bodies (Ps.148:3-6). On the other hand, there are passages which predict a termination of the present creation (Gen.8:22; Job 14:12; Ps.102:25-26; Isa.34:4; 51:6; 60:19-20; Mt.5:18; 24:25; Mk.13:31; Lk.21:33; 1 Cor.7:31; Heb.1:10-12; 12:26-28; 13:14; 1 Jn.2:17).

Does Forever Always Mean Forever?

Since the Holy Spirit cannot contradict Himself as He moved the writers of Scripture along (2 Pet.1:21) to record the passages listed above, the answer to this dilemma partially resides in the Hebrew term often translated, “forever” or “perpetual” (עֹלָם [olam] – 440x in OT). There are many times when “forever” does not mean “eternal,” but may be translated “long time” or “farthest remotest time.”<sup>83</sup> A simple way to justify this translation option is by looking at some of the passages that logically cannot be using *olam* in an infinite or eternal sense. The Hebrew system of worship often employed this word to describe the perpetual nature of the blood sacrifices and tabernacle/temple duties (Lev.7:34-36; 17:5-7; 23:14, 21, 31, 41; 24:3; 25:34; Num.19:10, 21; Dt.15:17; see also Ex.21:6 and 1 Sam.1:22).

Although temple sacrifices will recommence in the Millennial Temple in fulfillment of Ezekiel 40-46, these offerings will be memorial sacrifices looking backwards in remembrance of the ultimate sacrifice (Isa.53), and have no salvific power in and of themselves (Heb.10:1-4). They will be for maintaining fellowship with the Lord. Due to the once-for-all sacrifice of Christ on the cross (Heb.9:12), there will be no need to continue the sacrificial system beyond that thousand-year period in perpetuity, nor will there be any shedding of blood in the Eternal State, nor will there even be a temple in the New Jerusalem to offer sacrifices (Rev.21:4, 22). Therefore, “forever” in such contexts must mean that these practices will continue as long as there are generations of mortals being born on this planet who will sacrifice animals at a temple in Jerusalem (Mt.22:30; Dt.12:5-14). When the generations of humanity come to an end at the close of the Millennial Age of Christ’s visible reign on earth, the Jerusalem temple system and all blood sacrifices will cease, for all death will then cease.

In the same way, the passages that allude to the perpetuity of the present earth’s existence could also be limited to the most distant time, or the end of the Millennial Age. A more succinct translation in such contexts for *olam* would be “unto the age” (1 Kgs.9:3; 1 Chr.23:25; Mic.4:7) or “to the age” (Ps.125:1; Eccl.1: 4; Ezek.37:25-28).<sup>84</sup> Passages that refer to Israel’s perpetual possession of

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<sup>83</sup> H.D. Preuss, “עֹלָם,” *TDOT*, (1999), 10:531. “The Eng. Translation “eternity” ... is inappropriate for a number of OT passages with ‘ôlām, and, even when it seems appropriate, it may not be permitted to introduce a preconceived concept of eternity.... ‘ôlām in the OT... has the basic meaning ‘most distant time,’ either with a view to the past...to the future, or to both.” E. Jenni, “עֹלָם,” *TLOT*, (1997), 2:853.

<sup>84</sup> *Young’s Literal Translation*, (Edinburgh: George Adam Young & Co, 1898).

the Promised Land could be using *olam* in its eternal sense if this land promise is transferred to the New Earth.<sup>85</sup>

### Renewed or Replaced Earth?

Two synonyms for the word “new” in the Greek New Testament are *καίνος* [*kainos*] and *νέος* [*neos*]. They are generally distinguished in meaning as being new in quality or nature versus being new in time respectfully.<sup>86</sup> This difference has been used to argue that John was describing a “renewal” or remaking of the old earth (Rev.21:5) instead of the creation of a brand new young planet (20:11), since he used *kainos* instead of *neos* to define the “New” Earth in Revelation 21:1.<sup>87</sup> Nevertheless, just because a word is modified by *kainos*, it does not necessarily follow that the modified noun cannot also be new with respect to time, or newly created. Although John used *kainos* to emphasize the radically new nature of the future planet, as is common among biblical writers when comparing their day with the end times, it does not mean that he denied the temporal newness of that earth.

Some concepts have been described by both adjectives in the original Greek. Both *kainos* and *neos* have been used to portray new wine (Mt.9:57; Mt. 26:29), the new man (Col.3:10; Eph.2:15) and the new covenant (Heb.12:24; Heb.9:15). This means that the new wine, new man and new covenant can be

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<sup>85</sup> “Israel’s covenants guarantee those that people the land a national existence, a kingdom, a king, and spiritual blessings in perpetuity. Therefore there must be an eternal earth in which these blessings can be fulfilled. By translation out of the old earth Israel will be brought into a new earth there to enjoy forever all that God has promised to them.” J.D. Pentecost, *Things to Come* (Findlay, OH: Dunham Publishing, 1958), 561. This translation will occur just before the present earth flees away in Revelation 20:11.

<sup>86</sup> R.C. Trench, *Synonyms of the New Testament* (Grand Rapids: Eerdmans Publishing Company, 1953), 220; “νέος” is new in time or origin, i.e., young, with a suggestion of immaturity... *καίνος* is what is new in nature, different from the usual, impressive, better than the old, superior in value or attraction.” Johannes Behm, “*καίνος*,” *TDNT* (1965), 3:447. So *kainos* can refer to something that is not new in time, but used in a new and unusual way, like the prediction of “new tongues” mentioned in Mark 16:17. These tongues were not brand new human languages, but the Holy Spirit was employing them in a new way at the commencement of the Church (Acts 2:1-11).

<sup>87</sup> H. Alford, *Hebrews - Revelation*, The Greek Testament (Chicago: Moody Press, 1958), 4:736. The changing of the old man into a new (*kainos*) creature (2 Cor.5:17) is often used to highlight the qualitative newness of a Christian. Just as a person takes on new qualities at conversion even though they may be over 50 years old at the time, it is argued that the new earth will be a converted version of the old earth that has been in existence for quite some time. This way the world can be new in one sense, while still being old in another.

temporally recent as well as qualitatively unique. The Septuagint uses *kainos* in a temporal sense to describe a soldier's *new* house which has not yet been dedicated (Dt.20:5), a *new* house which is to be built with a parapet (Dt.22:5), *new* ropes for Samson that have never been used (Jud.16:11-12), and a *new* cart which is to be made for the ark of the covenant (1 Sam.6:7). In Classical Greek, *kainos* can take on the meaning of something which is newly invented, as in the case of various dishes of breads, pastries and meats developed by the Persians which did not previously exist.<sup>88</sup>

Lastly, the new (*kainos*) covenant, which resembles the unconditional Royal Grant, does not come out of the old covenant,<sup>89</sup> which resembles the conditional Suzerain-Vassal Treaty. Instead the new replaces the old, since the old covenant is worn out and ready to disappear (Heb.8:13; see also Jer.31:31-34). This language is similar to what is predicted to happen to the old earth which wears out and is changed like tattered clothes (Ps.102:25-27; Heb.1:10-12). These arguments are by no means a lock for either interpretation of the new earth, but they open the door for both options. The next sections will clarify which position is best.

#### Resurrected Old Creation or Replacement New Creation?

The foundational passage of the Earth Renewal Camp is Romans 8:18-23. Here, the creation groans to be rid of the curse of sin, looking forward to the day when the sons of God will be revealed in glory and nature will be released from its bondage to corruption. Paul seems to be paralleling the resurrection of believing humanity with the resurrection of creation in this passage (esp. v.21). Since redeemed man will receive a new body which is connected in some fashion to the old body (Isa.26:19; Dan.12:2; Jn.5:28-29; Rom.8:11; Phil.3:21; 1 Thes.4:15-16), it is commonly held that the new creation is also physically

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<sup>88</sup> Xenophon, "Cyropaedia," 8.8.76 (trans. Walter Miller, *LCL*, 2:449).

<sup>89</sup> "This adjective conveys the meaning of something that is new but has its origin in the old. The new covenant came forth out of the old...the new Jerusalem has its source in the old." Simon J. Kistemaker, *Revelation*, New Testament Commentary (Grand Rapids, Baker Book House, 2001), 555. Although there is a relationship between the 'new' and 'old,' it does not follow that the new must be derived from the old. Rather, the new can be uniquely separate and distinct from the old in nature and time. New wineskins do not come out of the old wineskins, but replace them (Mt.9:17). The New Jerusalem does not have its origin in the Old Jerusalem, but is distinguished from it (Gal.4:24-31; Heb.13:14). In fact, Abraham was looking for the New Jerusalem, a thousand years before the old Jerusalem was acquired by his descendants and given its present name (Heb.11:10; 1 Chr.11:4).



connected to the old. So the continuity between this mortal body and the next one also exists between this planet and the New Earth.<sup>90</sup> Those who see a reconditioned instead of a replaced earth in Revelation 21:1 contend that this reality should motivate believers to work towards the renewal of the present creation, for that is the direction that God is taking this planet.<sup>91</sup>

But will the materials from the first earth carry over to the Eternal State? To answer this, one has to determine what kind of a body believers will have in glory. Will that body be made up of a reconstituted version of the substance from the old frame? If so, would not the same process be applied to creation? Renewalists believe this to be the case, assuming the materials of the current earth will, by-and-large, be carried over to the New Earth.<sup>92</sup>

This scenario is unlikely, however, for a believer's eternal body will not consist of the same molecular substance as his mortal body according to 1 Corinthians 15:37-49,<sup>93</sup> even though there may be likenesses in appearance and

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<sup>90</sup> Moo, "Nature in the Eternal State," 462; J.D.G. Dunn, *Romans 1-8*, Word Biblical Commentary vol.38A (Dallas, TX: Word Books, 1988), 469-71. "God will transform the earth in much the same fashion that he transformed the resurrected body of Jesus (Lk.24:36-43)...this creation is a transformed creation returned to a likeness of its original state." Gale Z. Heidi, "What is New about the New Heaven and the New Earth? A Theology of Creation from Revelation 21 and 2 Peter 3," *Journal of the Evangelical Theological Society* 40, no.1 (1997): 48. "I believe in the 'resurrection of the flesh' not only of the human body but also the life of the whole groaning creation." Jurgen Moltmann, "The Resurrection of Christ and the New Earth," *Communio Viatorum* 49, no.2 (2007): 149.

<sup>91</sup> Gorospe, "Evangelicals and the Environment," 262. "Just as ... believers should be working to bring as many human beings as possible within the scope of God's reconciling act, so they should be working to bring the created world as close to that perfect restoration for which God has destined it." Moo, "Nature in the Eternal State," 484.

<sup>92</sup> Calvin wrote that the substance of the new world is the same as the substance of the old world. John Calvin, Calvin's Commentaries, vol.45, *Catholic Epistles*, Sacredtexts.com, accessed April 17, 2015, <http://sacred-texts.com/chr/calvin/cc45/cc45028.htm>. "The fire will not destroy the universe. It will still be the same heavens and earth, but gloriously renewed." William Hendricksen, *Exposition of Paul's Epistle to the Romans*, New Testament Commentary (Grand Rapids: Baker Book House, 1980), 1:269. "Heaven is Eden-restored, this very earth, healed of its scars and washed clean of its diseases." Sandra Richter, "Environmental Law: Wisdom from the Ancients," *Bulletin for Biblical Research* 24, no.3 (2014): 326.

<sup>93</sup> Rene A. Lopez, "The Nature of the Resurrection Body of Believers and Jesus," *Bibliotheca Sacra* 170 (April-June 2013): 147. Both bodies of every believer will be material ones. The former could be called the mortal physical body, while the latter is the immortal physical body. In 1 Corinthians 15, the term 'spiritual' does not mean an unembodied spirit. Job anticipated this new body when he said, "As for me, I know that my Redeemer lives, and at the last He will take His stand on the earth. Even after my skin is destroyed, yet from my flesh I shall see God; Whom I myself shall behold, and whom my eyes will see and not another. My heart

personality which carry over (Job 19:25-27). Despite the fact that there are similarities between Jesus' earthly and resurrection bodies (Mt.26:29; 28:9; Lk.24:39-43; Jn.20:17, 27), it does not prove that the future bodies of the redeemed will consist of exactly the same materials from which they are currently composed. Jesus' body did not undergo decay before it was completely transformed (Acts 2:24-31), but many human corpses have already turned to dust due to time (Gen.3:19; Ps.103:14; Eccl.3:19-20), temperature (Cremation) or tragedy (World Trade Center - 911). Since many mortal bodies have already been destroyed and scattered to the four winds, and because fallen flesh and blood cannot inherit the kingdom of God (1 Cor.15:50), it follows that the next world will not be made up of the same raw materials as this infected "mortal coil" (1 Cor.15:37).<sup>94</sup>

The First Earth will wear out and be destroyed, and then be followed by a New Earth.<sup>95</sup> This New Earth will consist of new materials.<sup>96</sup> Just as a believer's old, weak, dishonorable, perishable, earthly body must die (1 Cor.15:36-54), so

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faints within me!" (Job 19:25-27). See also David. E. Garland, *1 Corinthians*, Baker Exegetical Commentary on the New Testament (Grand Rapids, Baker Book House, 2003), 728-42.

<sup>94</sup> "No one pretends that the individual elements of the body will be raised. The individuality only, the personal identity will be preserved....As the body is after corruption and dissolution, so the outward world after destruction by fire shall be rehabilitated and fitted for the abode of the saints....The bodies of the dead fertilized the field of Waterloo. The wheat grown there has been ground and made into bread eaten by thousands of living men. Particles of one human body have been incorporated with the bodies of many others....the same particle might, in the course of history, enter into the constitution of a hundred living men. How can this particle, at the resurrection, be in a hundred places at the same time? Scripture...distinctly denies, that all the particles which exist in the body at death are present in the resurrection-body....The Scripture seems only to indicate a certain physical connection between the new and the old, although the nature of this connection is not revealed. So long as the physical connection is maintained it is not necessary to suppose that even a germ or particle that belonged to the old body exists in the new....So there are two things requisite to make our future bodies one with the bodies we now inhabit. First, the same formative principle is at work in them [personality/soul/the immaterial]. Secondly, there is to be some sort of physical connection between the body that now is and the body that shall be." A.H. Strong, *Systematic Theology*, 3 vols. (Valley Forge, PA: Judson Press, 1907), 3:1019-20.

<sup>95</sup> Although Beale believes the earth will be renewed instead of replaced, he writes, "Renewal does not mean that there will be no literal destruction of the old cosmos, just as the renewed resurrection body does not exclude a similar destruction of the old." G.K. Beale, *The Book of Revelation: A Commentary on the Greek Text* (Grand Rapids: Eerdmans, 1999), 1040.

<sup>96</sup> David J. Macleod, "The Seventh 'Last Thing': The New Heaven and the New Earth (Rev.21:1-8)," *Bibliotheca Sacra* Vol.157 (October-December 2000): 441.

must the planet's mass.<sup>97</sup> As a Christian's 'tent' is destroyed and replaced with a new building (2 Cor.5:1), so also earth's 'tent.' Therefore, if the earth is resurrected like a believer, it will not consist of the same substances as today's planet, but will truly be a "New (qualitatively & temporally) Earth."

Additionally, the premise that Romans 8:21 proves creation will be resurrected like mankind may be false. This passage only claims that creation will be liberated from the ravages of sin. "Paul's meaning is hardly that the creation will share the same liberty-resulting-from-glory as the children of God will enjoy, but that it will have its own proper liberty as a result of the glorification of the children of God."<sup>98</sup> The old creation's liberty from the stain of sin will come through the fires of 2 Peter 3, and it will be replaced with a brand new creation, thus removing the last vestiges of the curse (Rev.22:3).

### Nature and Extent of the Conflagration

A prominent progressive dispensationalist contends that the idea of a conflagration or total disintegration of the material universe, derives from heretical Gnostic thought which views all matter as evil and temporal.<sup>99</sup> This

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<sup>97</sup> It has been suggested that all current mass will be conserved for the eternal state due to the 1<sup>st</sup> Law of Thermodynamics. "After terrestrial matter had been converted either into the vapor state or, more probably, into pure energy, God had once again exercised His mighty powers of creation and integration and the new heavens and the new earth had appeared out of the ashes, so to speak, of the old world." Morris, *The Revelation Record*, 436. Yet if the 2<sup>nd</sup> Law (Entropy) is suspended during this age (Rev.21:4-5), who is to say the Creator will be restricted by the 1<sup>st</sup> Law? Since the Lord knows the DNA of every person's mortal body (Ps.139:15), perhaps He will use some of this genetic information (minus defective genes) taken from one particle of the old body to create the new bodies, thus maintaining some level of physical continuity between the old and the new. This would not be a continuity of substance, but of design.

<sup>98</sup> C.E.B. Cranfield, *The Epistle to the Romans*, The International Critical Commentary, 2 vols. (Edinburgh, T&T Clark, 1975), 1:416. "There is nothing to show that the apostle has in view the return to life of the individual beings composing the present system of nature.... We have therefore to think here only of a new nature in its totality, differing from the old." F. Godet, *Commentary on St. Paul's Epistle to the Romans* (Edinburgh: T&T Clark, 1886), 2:92. None of the sea life could be bodily resurrected for the new earth, since they will have no place to dwell (Rev.21:1).

<sup>99</sup> The Gnostics believed that the spiritual realm was pure and the material realm was evil. Craig A. Blaising, "The Day of the Lord Will Come: An Exposition of 2 Peter 3:1-8," *Bibliotheca Sacra* 169 (October–December 2012): 398. For a list of ancient extra-biblical writers that support the renovation and replacement views of the earth, see G.R. Osborne, *Revelation*, Baker Exegetical Commentary on the New Testament (Grand Rapids: Baker Book House, 2002), 760.

leads some to interpret texts describing the end of the world in a figurative sense so that evil and sin are disintegrated, but not the material planet. Yet, modern conflagrationists do not believe all matter in and of itself is evil, but that evil (human and demonic) has totally permeated the material universe to such an extent that the Lord must purge it thoroughly in order to bring in a superior material world on which the saints' new material spiritual bodies will dwell.

The key passage on the conflagration of the current heavens and earth is found in 2 Peter 3:7-13. If this passage is taken figuratively, then the fiery language is but a metaphor of God's judgment on sin.<sup>100</sup> It would not be annihilation, but transformation. Just as the physical world was not destroyed by Noah's Flood, so it will not be destroyed by the future purifying judgment of God, according to this view.<sup>101</sup>

Yet, the judgment analogy that Peter draws between the literal-physical global flood and the fiery end of the universe, argues for a literal-physical fire. "Since he [Peter] understands water as a physical instrument of judgment in the flood, it follows that he conceives of fire as a physical agent of destruction on the Day of the Lord."<sup>102</sup> The elements of the present universe will be burned up, yet the souls and deeds of mankind will remain and be exposed before the judgment of God.<sup>103</sup>

The Apostle John wrote that when Yahweh sits on the Great White Throne for judgment, heaven and earth will flee away from His face and will not be found (Rev.20:11). Five verses later he adds that the first heaven and earth will pass away and be replaced by the new heaven and earth (Rev.21:1). The normal way of reading these passages is that the old universe will be supplanted by the new; especially when linked to 2 Peter 3.<sup>104</sup> Yet, these texts have been interpreted by

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<sup>100</sup> Moo, "Nature in the New Creation," 465-67; see also Heide, "What is New," 51-54.

<sup>101</sup> Ibid., 469. Yet, Noah's flood was only global, while Peter's fire is universal in extent. The flood was designed to have all mortals begin anew on an old planet, while the fire is designed to have all immortals begin on a new planet.

<sup>102</sup> E. Adams, "Does Awaiting 'New Heavens and a New Earth (2 Pet.3:13) Mean Abandoning the Environment?" *Expository Times* 121, no.4 (2010): 170. Adams believes that the current earth will be destroyed, but not annihilated. He claims that if this will take place soon, then it seems a bit futile to expend a lot of energy towards saving the environment. However, if this will not happen for a long time, then it is incumbent upon humanity to take care of the environment for the sake of those humans who will inherit it. Ibid., 171, 174.

<sup>103</sup> J.W. Roberts, "A Note on the Meaning of II Peter 3:10d," *Restoration Quarterly* 6 (1962): 32-33.

<sup>104</sup> "John's statement gives the fact that the old heaven and earth have passed away without giving the means through which this is accomplished, while Peter gives the means through

some to mean that heaven and earth spiritually pass away because there is no place they could hide from divine judgment.<sup>105</sup> However, if the current planet flees away from the presence of God, then it no longer exists, for where can it go where God is not (Ps.139:7)?<sup>106</sup> Therefore, the “language of 20:11, which depicts an entire dissolving of the old, a vanishing into nothingness followed by a new creation in 21:1 without any sea, is the decisive contextual feature that determines this to be a reference to an entirely new creation.”<sup>107</sup> “For the things which are seen are temporal, but the things which are not seen are eternal” (2 Cor.4:17b).

Now for the sake of argument, if the Lord were simply to give the planet a make-over, how much cleansing would have to be done to purify it according to the standards of Revelation 21:4? In order to purge every remnant of sinful man and the curse, it would require much more than a simple face-lift. Every vestige of death and corruption must be eradicated. This includes fossilized thorns (Gen.3:18) encased deep in solid rock as well as other plant and animal remains in the geological column, from the sea shells buried on Mt. Everest to the whale bones at the bottom of the Marianas Trench to the oil reserves buried far underground.<sup>108</sup> Not only will this cleansing of the curse involve the old planet, but also the old heavens. There are presently over half a million man-made objects bigger than a marble that are in orbit around the earth.<sup>109</sup> This space junk would have to be incinerated, as well as the equipment from the Apollo missions

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which the dissolution takes place. There is no contradiction here.” Pentecost, *Things to Come*, 553.

<sup>105</sup> Heide, “What is New,” 41-43.

<sup>106</sup> “The unavailability of any “place” for the earth and heaven following their departure indicates that theirs is a flight from the present existence. They will give way to the new heaven and new earth.” R.L. Thomas, *Revelation 8-22: An Exegetical Commentary* (Chicago: Moody Press, 1995), 429-30. Compare with Isa.51:6.

<sup>107</sup> *Ibid.*, 440. See also William R. Newell, *The Book of Revelation* (Chicago: Moody Press, 1935), 336.

<sup>108</sup> In 2006, Oil drillers found a dinosaur bone of a huge herbivore some 1.4 miles below the ocean floor of the North Sea nearly 90 miles west of Norway. James Owen, “Oil Driller Strike World’s Deepest Dinosaur,” National Geographic, Oct 28, 2010, accessed July 15, 2015, [http://news.nationalgeographic.com/news/2006/04/0426\\_060426\\_dinos\\_2.html](http://news.nationalgeographic.com/news/2006/04/0426_060426_dinos_2.html). What other remnants of death are buried at least this deep throughout the globe that must be eliminated from the earth if the promise of Revelation 21:4 is to be realized?

<sup>109</sup> There are millions of pieces of space debris that are smaller than a marble still orbiting this planet. Mark Garcia, “Space Debris and Human Spacecraft,” NASA, Sep 26, 2013, accessed April 24, 2015, [www.nasa.gov/mission\\_pages/station/news/orbital\\_debris.html](http://www.nasa.gov/mission_pages/station/news/orbital_debris.html).

left on the moon. ‘The final frontier’ would need to be purged of every man-made vehicle launched into it, including Voyager 1, which exited this solar system in August of 2012.<sup>110</sup> The mechanics of deep space will also have to be significantly modified, so that the threat of meteors, asteroids and comets will no longer exist in the New Heavens as they do today.<sup>111</sup> Simply put, this process could not involve a slight make-over of the old earth’s surface as many assume.

#### Glory of the New Earth

So what will the environment of the Eternal State be like? The most detailed description is found in Revelation 21-22. A New Jerusalem with dimensions of nearly 1500 cubic miles will descend to a new earth. Some theologians imagine the city to be a huge pyramid while others picture it as a giant cube-shaped metropolis.<sup>112</sup> If this heavenly city were super-imposed upon the present location of Jerusalem, “it would stretch across three continents from Greece to Iran to Saudi Arabia to Libya.”<sup>113</sup> The physics of the new world might vary from today’s world in that a structure this large jutting out so far from the surface would probably throw off the rotation of the planet. Perhaps the New

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<sup>110</sup>Voyager 1 was launched in 1977 and is nearly 20 billion miles from earth. “Where are the Voyagers?” NASA, n.d., accessed July 28, 2015, <http://voyager.jpl.nasa.gov/where/>.

<sup>111</sup> See Dan Vergano, “Russian Meteor’s Air Blast was one for the Record Books,” National Geographic, Nov 6, 2013, accessed July 28, 2015, <http://news.nationalgeographic.com/news/2013/11/131106-russian-meteor-chelyabinsk-airburst-500-kilotons/>.

<sup>112</sup> Walvoord, “The Millennial Kingdom,” 299. If the city is a perfect cube, then it resembles the shape of the Holy of Holies in Solomon’s Temple (1 Kgs.6:19-20). Thomas, *Revelation 8-22*, 467. Another factor to consider in the size and shape of the city is the curvature of the New Earth and the Pythagorean Theorem ( $a^2 + b^2 = c^2$ ). If the bottom plane (base) of the New Jerusalem were completely flat (like the bottom of a cube) and the center of it rested on the top of the earth, the far right and left edges of the city would extend nearly 70 miles above the planet’s surface. This is assuming the planet’s diameter is 4000 miles (a), and each half of the city is 750 miles wide (b), in order to determine how far away the city’s edges would be from the planet’s core (c). The hypotenuse “c” minus 4000 miles is the distance between the surface of the earth and the left and right edges of the city when looked at two-dimensionally from space (69.7 miles). This would make access from the ground through the city gates obviously more difficult, unless the city were dug in so the edges were level with the surface of the planet. The simplest solution is that the New Jerusalem hugs the curvature of the New Earth. What a masterful work of engineering this will be, however it plays out!

<sup>113</sup> Nathan Busenitz, “The Kingdom of God and the Eternal State,” *The Masters Seminary Journal* 23, no.2 (2012): 270. If overlaid on top of the U.S., the New Jerusalem would extend roughly from Canada to the Gulf of Mexico and from Colorado to the Atlantic Ocean. C.C. Ryrie, *Revelation*, Everyman’s Bible Commentary (Chicago: Moody Press, 1996), 140.

Earth will be significantly larger (like Jupiter minus the gravitational pull) to accommodate this enormous city, although God could certainly figure out how to make this work on a new 8000-mile-in-diameter rock.

The conditions of the first (atmosphere) and second (space) heavens will most likely be different too. There are presently five layers of atmosphere. The first layer (up to 11 miles above sea level) is the Troposphere containing 80% of the oxygen, the Stratosphere (11-30 miles) blocks out most of the sun's harmful UV rays, the Mesosphere (30-52 miles) is where most of the meteors burn up and the temperature is -180 degrees F, the Ionosphere (52-430 miles) is considered a part of outer space where the International Space Station and many satellites orbit, and the Exosphere (430-6200 miles) merges with interplanetary space.<sup>114</sup> It is hard to imagine what it will be like near the top of that great future city which rises far into the Exosphere. Perhaps the new heavenly bodies can be observed from up there.

Since the gates of the city will always be open (a sign of peace and security), people will have access to go in and out of it and travel around the New Earth (Rev.21:25). Just as the leaders of Gentile nations will bring gifts to Millennial Jerusalem (Isa.60:1-11), so they will bring offerings from the abundant natural resources of the New Earth to the New Jerusalem (Rev.21:24, 26).<sup>115</sup> Although Revelation does not provide any details about the terrain outside the heavenly city, one can hardly imagine it being a lunar landscape.<sup>116</sup> Since the original "very good" creation was filled with so many more creatures and plants before the fall and the flood than exist today, imagine the variety of life that this

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<sup>114</sup> "Earth's Atmosphere," National Geographic, n.d., accessed April 24, 2015, <http://science.nationalgeographic.com/science/earth/earths-atmosphere>. Since many of today's meteors entering the atmosphere reach the Mesosphere before disintegrating, this would put the New Jerusalem in great danger of impacts due to its protrusion into Exosphere. Yet in the new heavens, one can assume that the movements of bodies in space will be completely orderly and non-destructive.

<sup>115</sup> Some argue that the New Earth is a made-over old earth because the kings will continue to bring their glory into it, as they did on the old earth in ancient times (Rev.21:24, 26). Keith Innes, "Towards an Ecological Eschatology: Continuity and Discontinuity," *Evangelical Quarterly* 81, no.2 (2009): 142-43. Yet, there is no reason to assume that this will not also be possible on a brand new planet. See Thomas, *Revelation 8-22*, 476; and Walvoord, *The Revelation of Jesus Christ*, (Chicago: Moody Press, 1966), 327.

<sup>116</sup> Although Revelation 22:15 refers to the wicked being 'outside' the city, their actual presence in the Lake of Fire is not on the new earth. A contrast is merely being set up in verses 14-15 between those who have access to the city and those who do not. People who are not qualified to pass through the city gates have no access to the lands surrounding the New Jerusalem either, nor do they have access to any place on the New Earth or within the New Heavens where only righteousness dwells (2 Pet.3:13; 2 Thes.1:9).

eternally perfect planet could contain (Ps.139:17-18). It will not have its polar regions encased in ice either, resembling the globally moderate conditions of the pre-flood old earth.<sup>117</sup>

The leaves from the Tree of Life “that are for the healing of the nations” will not be needed to cure diseases or soothe wounds, but will be used to promote enjoyment and perpetuate excellent health for the residents of that pristine planet.<sup>118</sup> There will be no need for sunlight in the New Jerusalem, for the glory of God will provide all the light needed and there will never be any darkness within and around the city (Rev.21:23-24). Similar to the water that flows from the Millennial Temple of the Old Jerusalem, an unpolluted river will run from the throne of God through the center of the New Jerusalem lined with fruit trees that bear monthly (Rev.22:1-2; “Theosynthesis,” see also Gen.1:3-13). In short, death, disease, decay and desertification will not exist there (Rev.21:4).

Apparently the ocean-less New Earth will not depend upon the hydrologic cycle of the present world,<sup>119</sup> which also parallels the Antediluvian world (Gen.2:5-6). There will be no additional generations of people being produced, for all of Adam’s race will have eternal bodies then (Mt.22:30). If the divine light from the New Jerusalem does not also illuminate the rest of the New Earth, then regions of the planet further away from the eternal city could experience the day-night cycles of the new heavenly bodies for light, assuming that the New Heavens are populated with new stars, planets and moons. Perhaps the Tree of Life will act as a kind of lunar calendar inside the New Jerusalem, since it will bear monthly (Rev.22:2). Maybe the new heavenly bodies will be visible to the naked immortal eye even with divine light brightly shining on the new planet. “Things which eye has not seen and ear has not heard, and which have not entered the heart of man, all that God has prepared for those who love Him” (1 Cor.2:9).

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<sup>117</sup> Buddy Davis, “Antarctica – Dinosaurs on Ice,” Answers In Genesis, July 1, 2010, accessed Aug 14, 2015, <https://answersingenesis.org/dinosaurs/types/antarctica-dinosaurs-on-ice/>; Walt Brown, “In the Beginning: Compelling Evidence for Creation and the Flood – Frozen Mammoths,” Creation Science, updated Aug 13, 2015, accessed Aug 14, 2015, <http://www.creation-science.com/onlinebook/FrozenMammoths2.html>.

<sup>118</sup> Thomas, *Revelation 8-22*, 481; Ryrie, *Revelation*, 142; Morris, *The Revelation Record*, 466.

<sup>119</sup> Busenitz, “The Kingdom of God,” 263. Perhaps the river will flow outside the city nourishing the new earth as well. Morris, *The Revelation Record*, 464. The New Earth will have nearly 70% more habitable land to enjoy without the presence of oceans if the diameter of the future planet is similar to today’s globe. Thomas, *Revelation 8-22*, 437. If there is a New Moon, its gravitational pull will not impact any tides on this ocean-less planet.



## Conclusion

Those who hold to Theogenic rather than Anthropogenic Climate Change do not advocate a blatant or careless polluting of the planet. Though the earth will be around for a good long time, because the Lord is preserving it (2 Pet.3:7; Col.1:17), Christians should utilize natural resources in an efficient way for the sake of the human beings who come behind them. As one who has experienced the glaciers of Mt. Ranier and the geysers of Yellowstone, it is profitable to the human spirit for places of spectacular beauty to be set aside, as the United States has done through its national parks. After all, creation will still be a powerful testimony of God's fingerprints to the generations that follow (Rom.1:20). Therefore, it is important to tend and not trash the garden for the sake of other human beings, not for the sake of the garden itself.

America has made vast improvements in this area over the past 100 years. Nearly a century ago, the hotels along the Delaware River in PA boasted about their new 'modern' plumbing that removed all sewage from the grounds, flushing it down the river. This is hardly a valid application of Deuteronomy 23:12-13. Unfortunately, this author has witnessed such practices in some undeveloped countries today, adding to the misery of the human condition. Each nation must be responsible for cleaning up their own back yard for the sake of their citizens.<sup>120</sup>

Nevertheless, Bible-believing Christians in the west should not be 'guilted' by politicians, climate scientists and religious leaders into supporting huge amounts of their personal and national resources going to an international panel controlled by the UN under the guise of helping the poor. The cost will run into the trillions of dollars.<sup>121</sup> To entrust this amount of capital to a central

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<sup>120</sup> China shut down many industries near Olympic venues so the air would clear up for the athletes and international press, but this was only temporary. See Katie Hunt and Shen Lu, "Olympic Study Links Chinese Pollution to Lower Birth Rates," CNN, April 29, 2015, accessed July 28, 2015, <http://www.cnn.com/2015/04/29/asia/china-pollution-effect-on-babies-weight-study/>.

<sup>121</sup> "Over the next 15 years, the global economy will require an estimated \$89 trillion in infrastructure investments across cities, energy, and land use systems and \$4.1 trillion in incremental investment for low-carbon transition to keep within the internationally agreed limit of 2 degree Celsius temperature rise. In addition, developed countries are working to meet a commitment made in 2010 to mobilize \$100 billion a year from public and private sources by 2020 for climate mitigation and adaptation in developing countries. Showing the pathways to that \$100 Billion commitment will be important for building trust and confidence around the Paris climate negotiations that are expected to produce a new international agreement later this year." "Mobilizing the Billions and Trillions for Climate Change Finance," World Bank, April 18, 2015, accessed April 24, 2015, <http://www.worldbank.org/en/news/feature/2015/04/18/raising-trillions-for-climate-finance>. See also Holloway, "Adaptation Assistance," 139. Never forget that "public alarm is a powerful generator of science funding." Shapiro, "Global Warming," 46.

authority diminishes national autonomy, enslaves peoples to international controls, and may lead to a one-world government to enforce all the required regulations attached to CC. Enough is already being invested domestically on the environment. As it is, plans are being made in the next U.S. federal budget to spend even more tax dollars on CC.<sup>122</sup> Instead, believers should be donating their energies and resources to Christian agencies that directly feed (physically & spiritually), shelter, clothe and inoculate the poor. The monies will go to the people who need it most, not to scientific grants, corporations and bureaucrats. Let the free market richly reward those who invent cleaner burning engines and more highly efficient alternative sources of energy.

There is no contradiction in appreciating the purple mountain majesties, while also acknowledging that people are more important to God than the planet. If the population continues to greatly increase, it would not be an unpardonable sin to allow additional farm land to be carved out of the forests of the world to feed human beings. This should be done even if some smaller species lose their habitat.<sup>123</sup> After all, God will sacrifice billions if not trillions of the creatures on this planet to judge mankind and save more souls of Adam's helpless race during the Tribulation. Though this sounds very anthropocentric (man-centered), it is bibliocentric, and even Christocentric. As Jesus said, "Are you not worth much more than these?" (Mt.10:31; see also Gen.1:26, 28; Ps.8:5-6; Ps.115:16; Mt.6:26; 12:12; Lk.12:7, 24).

In the meantime, one can apply eschatology to the global warming debate by using it evangelistically. When someone brings up Anthropogenic Climate Change, remind them of the coming Theogenic Climate Change. When alarm is expressed about Global Warming, mention the fourth bowl judgment when there will be unprecedented scorching heat on the planet. Let them know that God is in control of the future climate, and that He promises to deliver those who trust in Him from a much hotter place. Christians must not expend a lot of calories investing in human organizations that are attempting to control the current environment. Rather, they should be investing in human beings, who are heading towards one of two eternal environments.

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<sup>122</sup> Increases in the EPA's budget from \$8.1 to \$8.6 billion and the Department of Energy from \$27.3 to \$27.9 billion are in the works, as well as \$500 million to start up a U.N. Green Climate Fund, which is only the down payment for a total pledge of \$3 billion made last November. Alan Neuhauser, "Obama Budget a Gas for Environmental Advocates," US News, Feb 2, 2015; accessed July 15, 2015, <http://www.usnews.com/news/articles/2015/02/02/obama-budget-spends-big-on-climate-clean-energy>.

<sup>123</sup> "California's Man-Made Drought," Wall Street Journal, Sept 2, 2009, accessed July 28, 2015, <http://www.wsj.com/articles/SB10001424052970204731804574384731898375624>.

In a line from the most recent Godzilla movie, Dr. Serizawa aptly told Admiral Stenz “the arrogance of man is thinking that nature is in our control.”<sup>124</sup> It obviously is not. God sovereignly manages the environment of planet earth, preserving it and the rest of the universe for a time of literal fire to eradicate every last vestige of evil. Humanity cannot save the planet, neither can mankind destroy it. The earth will be dissolved by God in His providential time, and be replaced by a pristine brand new planet, never to be polluted by sewage, sin, disease or death.

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<sup>124</sup> *Godzilla*, directed by Gareth Edwards (Hollywood: Warner Brothers & Legendary Pictures, 2014).