

## Article

# Motivated for Action and Collaboration: The Abrahamic Religions and Climate Change

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**Abstract:** Leaders of Judaism, Christianity, and Islam have publicly advocated action to mitigate the adverse effects of human-forced climate change. Particularly prominent prior to, during, and after the 21st Conference of the Parties of the United Nations Framework Convention on Climate Change were Rabbi Arthur Waskow, Pope Francis, and Patriarch Bartholomew. Also prominent was a group of Islamic clerics, leaders of organizations, and scholars who collaborated in issuing a declaration on climate change three months prior to COP 21. Informed by the Earth sciences, these leaders shared their faith-based rationales for acting locally to internationally as indicated in the documents explored in this article. Examples of organizations motivated by their leaders' faith perspectives demonstrate their readiness to act informed by scientists. To work effectively, these religious leaders and activist groups require well-substantiated conclusions from data collected to counter unsubstantiated claims by climate skeptics. Earth scientists will find among the religious leaders and groups allies in the quest for a flourishing planet.

**Keywords:** religious faith; Judaism; Rabbi Waskow; Christianity; Pope Francis; Ecumenical Patriarch Bartholomew; Eastern Orthodoxy; Islam; climate change; collaboration

## 1. Introduction

After years of observing government failures to make decisions aimed at mitigating the adverse effects of human-forced climate change, leaders of the world religions and advocacy groups focused on the 21st Conference of the Parties (COP 21) to the United Nations Framework Convention on Climate Change held near Paris, France in December 2015. Prominent among the leaders were Rabbi Arthur Waskow, Pope Francis, Ecumenical Patriarch Bartholomew, and a group of Islamic imams, leaders of non-government organizations, and scholars. Prior to and parallel with COP 21, these leaders and organizations associated with their religions expressed their faith-based motivations for urging and implementing informed decisions. They subsequently reminded nations of their moral obligation to ratify the Paris Agreement and sign their commitments on 22 April 2016, Earth Day.

This article explores the religious rationales of these leaders when urging adherents of their faiths and decision-makers at all levels of governance to act on the perils that scientists have been identifying in the present and predicting for the future with various levels of certainty. Clearly, these religious leaders value scientific findings from which to draw conclusions and advocate action locally to internationally. Scientists who are aware of the religious motivation of these leaders and will find in them allies who share a mutual goal—a flourishing Earth.

Explored in the following sections are the religious leaders' faith-based rationales for advocating action on climate change. I begin with Rabbi Arthur Waskow and proceed to examine documents issued by Pope Francis, Patriarch Bartholomew, and the Islamic clerics, organizational leaders, and scholars who crafted and signed the *Islamic Declaration on Global Climate Change*. Following my examination of each leader's statements, I identify and discuss a major group that shares the religious leader's

faith and point to the activities in which the members engage that are most pertinent to addressing climate change. The discussion concludes with encouragement to Earth scientists to recognize that these leaders and organizations value scientific findings and essentially function as allies in the goal to mitigate the adverse effects of human-forced climate change.

## 2. Rabbi Arthur Waskow, Jewish Renewal Movement, and Climate Change

A prominent researcher, prolific writer, stimulating lecturer, and dynamic organizer of The Shalom Center, Rabbi Arthur Waskow, Ph.D. has dedicated over forty years to reviving and applying Jewish thought and traditions to ecological concerns across the major denominations of Judaism—Orthodox, Conservative, Reformed, and Reconstructionist [1]. Particularly impressive is his development of “Eco-Judaism” in theology, liturgy, daily practice, and activism. Spurred by his religious faith, he has practiced non-violent civil disobedience at the White House and the U.S. Congress to highlight the perils of human-forced climate change, and he has collaborated with leaders and followers of other religious faiths in addressing climate change and related ecological issues. Popularly referred to as “the Green Rabbi”, he was named a “Wisdom Keeper” by the United Nations in 1996 [2].

As Rabbi Waskow’s exemplary efforts prior to, during, and after COP 21 indicate, Judaism is replete with textual and liturgical sources upon which to draw for confronting human causes of climate change and for acting to mitigate their adverse effects. He finds in the Hebrew Bible beliefs about God, human responsibility to God, Earth, and the universe, and he applies them to ecological concerns informed by contemporary scientific findings. Key to these beliefs is the Jewish commitment to honor their covenantal relationship with God, with one-another, and with Earth. To underscore the significance of this covenantal web of relatedness, he weaves it into Jewish celebrations to focus on particular problems and to initiate action. For example, during *Tu B’Shevat*, the Jewish festival of the rebirthing of trees in midwinter, Rabbi Waskow led an effort to defend ancient redwoods against destruction. Another was orienting *B’nei Mitzvah*, a rite of passage and joyful Jewish celebration when children become young men and women, as a time for underscoring their intergenerational covenant to prevent global climate disaster. Others include special Earth foci for Passover/Palm Sunday, *Tisha B’Av*, *Sukkot*, and *Hanukkah*, the Interfaith Freedom Seder for Earth, “eco-kosher” practices for consuming food and other gifts as an affirmation of their sacred relationship with Earth, and the Green Menorah organizing project and award to congregations for environmental activism [3].

Jewish faith-based sources are drawn upon throughout *A Rabbinic Letter on the Climate Crisis: To the Jewish People, to all Communities of Spirit, and to the World* [4] that Rabbi Waskow initiated with six leading rabbis who represent the aforementioned Jewish denominations. Anticipating Pope Francis’s imminent release of a major document on ecological concerns, other rabbis were alerted to the opportunity to sign the letter beginning 1 May 2015 [5]. By the time the pope’s encyclical was released to the public on 18 June 2015 [6], 408 rabbis from the United States and Canada, The Netherlands, Brazil, The United Kingdom, and Israel had signed the letter. Additional signatories included cantors, rabbinic students, and spiritual directors who asked to join the rabbis in signing the document, bringing the total to 472 [7].

What motivated them to express their concerns about climate change and commit to acting on them? In *A Rabbinic Letter on the Climate Crisis*, the rabbis explain their deep concern that damaging God’s creation violates their covenantal relationship with God the Creator. Throughout the Hebrew Bible, the inspired writers underscored the earth as belonging to God and the responsibility of the faithful to care for God’s creation as specified in the Genesis 2 story of creation and implied in the Genesis 1 story. The ancient Israelites solidified their relationship with God in a series of covenants—agreements with God that lovingly united them with God forever. In their letter, the rabbis emphasize their “great respect” for scientific facts about human activities that are emitting greenhouse gases into the atmosphere and causing “unprecedented floods, droughts, ice-melts, snowstorms, heat waves, typhoons, sea-level rises, and the expansion of disease-bearing insects from ‘tropical’ zones

into what used to be ‘temperate’ regions” are alarming, and scientific projections of the future that “even worse will happen if we continue with carbon-burning business as usual”.

For the rabbis, the present reality and projected threats to Earth are alarming. They view the universe as God’s creation, the place for experiencing the unfolding mystery of God’s presence in the world, “the presence of the divine hand in every earthly creature”, and “the Breath of Life that interweaves” all creatures. They lament the desecration of the “wonder and this beauty” of God’s creation. They are “especially moved” by scientific findings that resonate with texts of the Hebrew Bible about healing the relationships of Earth and “human earthlings, *adamah* and *adam*”. The biblical texts to which they refer are Leviticus 25–26 and Deuteronomy 15 that call for one year of every seven to be a Sabbatical Year, a year of rest for the land, for workers, and for the release of debtors from their debts. Leviticus 26 requires allowing the land to rest and warns that it will “rest” nevertheless “through drought and famine and exile that turn an entire people into refugees”. According to the rabbis:

This ancient warning heard by one indigenous people in one slender land has now become a crisis of our planet as a whole and of the entire human species. Human behavior that overworks the Earth—especially the overburning of fossil fuels—crests in a systemic planetary response that endangers human communities and many other life-forms as well.

Seeking guidance in their wisdom traditions to prevent disasters from occurring and to heal their relationship with Earth, they underscore the presence of God who dwells within as well as beyond the universe, the “interwovenness” of all life, and God’s partaking in this interweaving.

By overburning carbon dioxide and methane into our planet’s air, we have disturbed the sacred balance in which we breathe in what the trees breathe out, and the trees breathe in what we breathe out. The upshot: global scorching, climate crisis.

They recognize that the crisis is worsened by “the spread of extreme extraction of fossil fuels” that causes global warming and directly damages specific regions. Particular problems to which they point include: Hydraulic fracturing for oil that poisons water supplies; coal burning that causes asthma in neighborhoods of people who are often the poorest and “the Blackest”; coal mining that destroys mountains in West Virginia; extracting and pipe-lining tar sands that threaten Native American communities and endanger farmers and cowboys; and drilling for oil deep into the Gulf of Mexico and off Prince William Sound that has killed workers and marine life and caused financial disasters for people and whole communities. The rabbis anticipate additional death and destruction if drilling for oil in the Arctic and Atlantic oceans is approved.

The climate crisis signals to the rabbis the need to heal their relationship with Earth and to seek justice for the poor who are “the first and the worst to suffer from the typhoons, floods, droughts, and diseases” caused by global warming. They call for “a new sense of eco-social justice” for addressing the climate crisis, because “justice and earthiness cannot be disentangled”. Furthermore, Earth has been overworked and must be allowed to “rest”, the rabbis insist. Letting Earth rest is required by their covenantal relationship with God and their responsibility to God. Letting Earth rest is also essential out of a sense of justice for “our children and their children”.

Turning to how this crisis should be mitigated, they identify specific actions to take in their homes, congregations, denominations, and federations. Among these actions are purchasing electricity generated by renewable energy sources, offering grants and loans to solarize buildings, investing in Black, Hispanic, and other poor communities, moving endowment funds from “carbon to life-giving enterprises”, advocating a halt to fossil fuel tax subsidies by governments, a swift deployment of renewable energy technologies, and a system of carbon fees and public dividends that reward moving beyond the carbon economy. The rabbis hope that “communities of moral commitment, religious covenant, and spiritual search” will act on the climate crisis as they did during the Civil Rights movement. To encourage Jewish communities to act, the rabbis called them to gather during *Sukkot* on 4 October 2015 to explore their responsibilities “toward the Earth and all humankind”.

Efforts to address climate change continue through The Shalom Center that Rabbi Waskow founded in 1983 and continues to energize today. Described as “A prophetic voice in Jewish, multireligious, and American life”, The Shalom Center is based in Philadelphia, Pennsylvania where staff network with other Jewish organizations and with interfaith groups on effective ways of confronting the climate crisis [8]. Among the Jewish organizations that network with The Shalom Center are the Coalition on Environment and Jewish Life, the Green Zionist Alliance, and the Jewish Energy Covenant Campaign. These three organizations collaborated in developing the “Green Energy Guide” for using energy efficiently and appropriately in all areas of Jewish life, promoting the use of renewable energy sources, encouraging decreased reliance on fossil fuels while cautioning against nuclear-fueled electricity production, and advocating a clean energy future for Israel [9]. The Shalom Center also interacts with the Jewish Council for Public Affairs which continues to urge elected officials in the United States to contribute to the United Nations Green Climate Fund [10]. The shared religious faith of the dedicated members of these organizations fuels their creative networking efforts. Their traditional celebrations around the Jewish calendar provide opportunities for remembering why they are engaged in confronting the climate crisis and aiming for an efficient and renewable energy future.

### 3. Pope Francis, Roman Catholicism, and Climate Change

*Laudato Si’, On Care for Our Common Home* [6] was the encyclical that the authors and signers of *A Rabbinic Letter on the Climate Crisis* anticipated. Signed on 24 May 2015 by Pope Francis, the primary leader of approximately 1.2 billion people who identify with the Roman Catholic Church. *Laudato Si’* addresses air pollution, climate change, clean water availability, and the loss of biological diversity as problems that have profound ramifications for the poor, the vulnerable, and future generations. Though I focus on his teachings pertaining to climate change, the other problems are affected by the climate crisis and it affects them.

Pope Francis had lamented the current and projected effects of climate change from the beginning of his pontificate in March 2013 [11]. However, his issuing this encyclical signified an advancement in Catholic social teachings on the human-Earth relationship. Encyclicals have been issued by popes since 1891 to provide a Catholic, Christian faith perspective on problematic social issues that Catholics are required to consider and discern a response. Among the major teachings are respecting the dignity of the human person, seeking the common good, and demonstrating preference for poor and vulnerable people [12]. Though prior popes had mentioned ecological degradation as a moral concern in their encyclicals and two had issued statements alerting the faithful to their moral responsibility for addressing them [13,14], *Laudato Si’* was the first encyclical dedicated to ecological problems and their resolution through all levels of governance.

In the first chapter, Pope Francis overviews scientific evidence for an imperiled planet, our “common home”. He focuses directly on climate change in four sections (23 through 26) of the 246 sections that comprise *Laudato Si’*. He begins by declaring: “The climate is a common good, belonging to all and meant for all” (§23). Well-informed by scientific findings, he proceeds to describe the climate crisis as reported by scientists who are engaged in climate research:

At the global level, it is a complex system linked to many of the essential conditions for human life. A very solid scientific consensus indicates that we are presently witnessing a disturbing warming of the climatic system. In recent decades this warming has been accompanied by a constant rise in the sea level and, it would appear, by an increase of extreme weather events, even if a scientifically determinable cause cannot be assigned to each particular phenomenon (§23).

He recognizes natural factors that are causing changes in the climate, including “volcanic activity, variations in the earth’s orbit and axis, the solar cycle.” However, he concludes from scientific studies that “most global warming in recent decades is due to the great concentration of greenhouse gases released mainly as a result of human activity”. Aggravating this problem, he insists, is “a model of

development based on the intensive use of fossil fuels, which is at the heart of the worldwide energy system" (§23). Cutting forests for agricultural purposes further aggravates global warming as scientists have concluded.

The rise in Earth's temperature has adversely affected the availability of drinking water, agricultural production, biological diversity, the acidity of the oceans, and the marine food chain. Based on these scientific findings, he concludes:

If present trends continue, this century may well witness extraordinary climate change and an unprecedented destruction of ecosystems, with serious consequences for all of us. A rise in the sea level, for example, can create extremely serious situations, if we consider that a quarter of the world's population lives on the coast or nearby, and that the majority of our megacities are situated in coastal areas (§24).

For Pope Francis, climate change persists as "one of the principal challenges facing humanity in our day", and it has grave environmental, social, economic, political implications (§24). He is especially concerned about the most vulnerable areas and people who live there:

Its worst impact will probably be felt by developing countries in coming decades. Many of the poor live in areas particularly affected by phenomena related to warming, and their means of subsistence are largely dependent on natural reserves and ecosystemic services such as agriculture, fishing and forestry. They have no other financial activities or resources which can enable them to adapt to climate change or to face natural disasters, and their access to social services and protection is very limited (§25).

Among the most vulnerable are migrants who, forced to leave their homes due to changes in the climate, are not recognized as refugees by international conventions, do not have any legal protection, and suffer great uncertainty about the future of their families. Indifference to their suffering is widespread, he cautions. He attributes this indifference to the loss of a "sense of responsibility" for others—a sense of responsibility that stimulated the development of civil society (§25).

Fearing that these and other adverse effects of climate change will worsen under the current models of production and consumption, the pope urges all nations to develop policies that will drastically reduce the emissions of greenhouse gases and expeditiously substitute renewable energy sources and energy efficiency for fossil fuels. He notes that some nations have progressed toward a renewable and more efficient energy future, but they constitute only a minority (§26). He also alerts all economically developed nations of their responsibility to assist poor and developing nations toward the goal of a renewable and efficient energy future. From his religious faith perspective, all constitute "one single family". There are "no frontiers or barriers, political or social" behind which any nation can hide. Nor is there any room for a "globalization of indifference" toward the poor and vulnerable (§52).

Pope Francis recognizes that there are "different approaches and lines of thought" that have emerged regarding climate change and urges dialogue to develop "comprehensive solutions" (§60). Admitting that the Catholic Church "has no reason to offer a definitive opinion" (§61), he points to the dire scientific facts that require informed action:

[W]e need only take a frank look at the facts to see that our common home is falling into serious disrepair. Hope would have us recognize that there is always a way out, that we can always redirect our steps, that we can always do something to solve our problems. Still, we can see signs that things are now reaching a breaking point, due to the rapid pace of change and degradation; these are evident in large-scale natural disasters as well as social and even financial crises, for the world's problems cannot be analyzed or explained in isolation. There are regions now at high risk and, aside from all doomsday predictions, the present world system is certainly unsustainable from a number of points of view (§61).

Many perspectives must be brought into the conversation to reach a comprehensive solution about climate change, and the pope offers a religious perspective as an example of one way of “interpreting and transforming reality” (§63):

If we are truly concerned to develop an ecology capable of remedying the damage we have done, no branch of the sciences and no form of wisdom can be left out, and that includes religion and the language particular to it. The Catholic Church is open to dialogue with philosophical thought; this has enabled her to produce various syntheses between faith and reason (§63).

Expressing respect for other traditions and welcoming “dialogue with everyone” (§64), he proceeds to show how the Catholic faith motivates Christians “to care for nature and for the most vulnerable of their brothers and sisters” (§64).

Pope Francis draws from biblical and theological sources to highlight the goodness of God’s creation and God’s valuing all creatures (§65), God’s having created out of love (§65), God’s love for each creature which unites all “in fond affection” (§92), and God’s self-revelation through the visible universe—the “book of nature” which “speaks” of God’s love (§84). The pope also highlights the dignity of the human person and the harmonious relationship that each is intended to have with his/her neighbor, Earth and God (§§66–67) and human responsibility to care for God’s creation (§68), to cooperate with God in the ongoing work of creation (§80), to praise God for all creatures and “to worship” God “in union with them” (§87), to experience God’s presence through the creation (§88), and to experience “a sense of deep communion with the rest of nature (§91), a “universal communion”, and a “sense of fraternity [that] excludes nothing and no one” (§92). He culminates the chapter with reflections on Jesus’ recognition of God’s “paternal relationship” with all creatures (§96), attention to their beauty (§97), living in harmony with them (§98), and “directing them toward their fullness” (§100).

As a theologian who has researched the Catholic theological tradition in depth and found promising foundations for ecological ethics, I know that Pope Francis has appropriated many of the best [15]. He provides a rationale for Christians to value all creatures intrinsically, to appreciate their beauty, to feel deeply intertwined with them in the web of existence, and to cooperate with them for their mutual flourishing. He proceeds in subsequent parts of *Laudato Si’* to identify components that must be integrated in order to arrive at a comprehensive solution to the environmental crisis. This crisis is complex, he insists realistically, because there are intertwined ecological and social dimensions that must be considered.

Among the components he identifies sequentially that have particular relevance for addressing climate change are the “intrinsic dignity of the world” (§115), the intrinsic value of ecosystems “independent of their usefulness” to humans (§140), rethinking “the goals, effects, and overall context and ethical limits” of human activity (§132), the complexity of ecosystems and their networks (§134), humans as “part of nature, included in it, and thus in constant interaction with it” (§139), consideration for the poor and vulnerable who are most adversely affected by climate change that their activities did not force and “special care for indigenous communities and their cultural traditions” (§146), seeking the common good of all (§§156–158), the perils to future generations if greenhouse gas emissions are not reduced (§169), the injustice of requiring poor and developing countries to reduce emissions comparable to more industrialized countries that have caused the climate crisis (§170), the need for decision-makers to courageously counter short-term mindsets with long-term responsibility (§181), transparency in decision-making and striving for consensus (§183), and redefining the notion of progress to include quality of life (§194). Underlying these components are attitudes that must change and actions that must be taken in all areas of human functioning.

Thus, addressing human-forced climate change and the other environmental issues requires no less than an “ecological conversion”, Pope Francis insists. The conversion he envisions is from self-centered consumerism, wastefulness, ecological degradation and destruction, thinking of ourselves



apart from and dominating other creatures, allowing the economic–technological paradigm to drive our decision-making, and failing to care about and for the poor and vulnerable whose suffering is exacerbated by the many manifestations of ecological degradation to recognizing our destructive individual and collective actions that are harming vulnerable people, other creatures and Earth, realizing that we are interconnected with them, seeking reconciliation with them, and joining all in “a splendid universal communion” of loving awareness in our thoughts, attitudes, and actions (§220).

Pope Francis offers Christians some suggestions for an ecological spirituality that is grounded in their faith and may motivate their “more passionate concern for the protection of our world” (§216). Pointing to his namesake, the 12th century Saint Francis of Assisi, who had a “healthy relationship with creation”, the pope urged Christians to recognize “errors, sins, faults and failures”, to seek a “heartfelt repentance and desire to change” (§218). Because problems “must be addressed by community networks and not simply by the sum of individual good deeds”, the “ecological conversion needed to bring about lasting change is also a community conversion” (§219). Thus, the ecological conversion that he envisions is both interior and exterior. It is a conversion that begins within the person and is demonstrated outwardly through action in solidarity with others. For Pope Francis, an ecological conversion manifests the “sublime fraternity with all creation which Saint Francis of Assisi so radiantly embodied” (§221).

Pope Francis’s call to action has energized over 900,000 Catholics and 300 Catholic organizations throughout the world that network as the Global Catholic Climate Movement out of a “shared sense of responsibility to care for God’s beautiful, life-giving creation” [16]. United by their religious faith and inspired by Pope Francis, his predecessors, and fellow bishops, the Movement describes itself as guided by the virtue of prudence (“right reason applied to action”) and accepting findings by the Intergovernmental Panel on Climate Change that greenhouse gas emissions are contributing to “harmful changes to the planetary systems” which endanger God’s creation and all people—especially the poor [17]. After having appealed to all nations to sign the Paris Agreement, the Movement is leading an effort to reach all national and local governments in the world with this basic message:

Climate change affects everyone, but especially the poor and most vulnerable people among us. Inspired by Pope Francis and the *Laudato Si'* encyclical, we call on you to drastically cut carbon emissions to keep the global temperature rise below the dangerous **1.5 °C threshold**, and to aid the world’s poorest in coping with climate change impacts [18].

One of the organizational members of the Global Catholic Climate Movement that is most prominent in the United States is the Catholic Climate Covenant [19] which partners with the U.S. Conference of Catholic Bishops, Catholic Relief Services, religious orders, and other major Catholic organizations [20]. Among the many achievements of the Covenant are initiating the St. Francis Pledge through which individuals and institutions commit to mitigate the climate crisis [21], collaborating with the U.S. Conference of Catholic Bishops to stimulate scholarly thinking about the climate crisis and disseminating educational materials to parishes throughout the United States aimed at informing their approximately 70 million Catholics [22], and commissioning twenty-five Catholic Climate Ambassadors to teach about human-forced climate change and advocate its resolution [23].

Months prior to the issuance of *Laudato Si'*, Covenant staff gathered representatives of twenty Catholic organizations in the Washington DC area to plan a coordinated response to the media, the circulation of synopses of the encyclical, initiation of encyclical study guides for parish use, and actions aimed at advocating national action on climate change. Staff representing various levels of Catholic community life were involved in this planning—departments at the U.S. Conference of Catholic Bishops, dioceses, catechetical offices, institutions of higher learning, and religious orders (e.g., Franciscans and Jesuits). The week prior to and months after the encyclical was issued, Covenant staff worked with other Catholic organizations to call attention to Pope Francis’s teachings in the encyclical and his speeches during his visit to the United States in September 2015 and the Vatican’s efforts during the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change held near Paris in December 2015. The Covenant also participated in efforts to urge

the U.S. Congress to contribute to the Green Climate Fund, act on legislation to curb the use of fossil fuels, promote energy efficiency, and move toward a renewable energy future. Covenant staff and partners continue to educate on climate change and advocate action at all levels of Catholic life [24].

Many efforts are underway within dioceses of the United States to study and reflect on *Laudato Si'* and to apply the teachings of the encyclical to parish life. One example is an action plan within the Archdiocese of Atlanta for implementing *Laudato Si'* that was prepared by professors at the University of Georgia at the request of Atlanta's Archbishop Wilton D. Gregory. The plan provides a variety of options for energy conservation and efficiency, transportation, water consumption, sustainable landscaping, recycling, assisting vulnerable populations, and political action that parishes and families can consider initiating [25]. Among the guides for studying the encyclical and applying it individually and in parish life is *Laudato Si' Study & Action Guide for Individuals & Small Groups* prepared by the Columban Center for Advocacy and Outreach based in Washington DC [26]. The extent to which these efforts will reach the 70 million Catholics in the United States will be determined in large part by the bishops of dioceses and the priests of parishes within those dioceses due to the diffusive nature of authority and responsibility in the Catholic Church [27].

#### 4. Patriarch Bartholomew, Eastern Orthodox Christianity, and Climate Change

In *Laudato Si'*, Pope Francis lauded the efforts of Ecumenical Patriarch Bartholomew of Constantinople [28] who has been raising awareness of biological diversity loss, the degradation and destruction of ecological systems, and threats to the life-sustaining capacity of Earth from the beginning of his patriarchate in 1991 to the present. Several expeditions of religious leaders, scientists, environmentalists, journalists, and policy makers that he has led to imperiled rivers and seas (e.g., the Danube, Amazon, and Mississippi rivers and the Mediterranean, Black, Baltic, and Adriatic seas) have attracted world-wide attention [29] (pp. 10–15), but his prominence escalated, especially among the media and environmental organizations, when he categorized ecologically destructive actions as sinful:

For human beings to cause species to become extinct and to destroy the biological diversity of God's creation; for human beings to degrade the integrity of the earth by causing changes in its climate, by stripping the earth of its natural forests, or destroying its wetlands; for human beings to injure other human beings with disease; for human beings to contaminate the earth's waters, its land, its air, and its life, with poisonous substances—these are sins [30] (p. 99).

The first religious leader to proclaim the sinfulness of ecologically destructive acts, Patriarch Bartholomew urged prayer and repentance “for the forgiveness of sins committed both willingly and unwillingly. And it is certainly God's forgiveness, which we must ask, for causing harm to His own creation” (p. 99).

The “Green Patriarch” concluded to the sinfulness of environmental degradation in 1997 approximately seven weeks prior to the opening of the 3rd Conference of the Parties to the UN Framework Convention on Climate Change in Kyoto, Japan. After explaining the religious basis for how people who believe in God should act—a basis shared by other symposium participants—and referring to the upcoming conference in Kyoto, he exclaimed:

It is with that understanding that we call on the world's leaders to take action to halt the destructive changes to the global climate that are being caused by human activity. And we call on all of you here today to join us in this cause. This can be our important contribution to the great debate about climate change. We must be spokespeople for an ecological ethic that reminds the world that it is not ours to use for our own convenience. It is God's gift of love to us and we must return his love by protecting it and all that is in it (p.100).

That the world is God's “gift of love” is key to understanding the traditional Orthodox Christian theology and spirituality that ground Patriarch Bartholomew's commitment to environmental



protection. From the Orthodox perspective, the true nature of God is love, God created the world out of love, and the world is like an icon—a symbol of God the Creator—through which the faithful are invited to contemplate God [29] (pp. 20–21). The world is where the “divine and human meet in the slightest detail contained in the seamless garment of God’s creation, in the last speck of dust” [31].

The relationship of humans to the world as a gift does not mean that it is a possession, the patriarch teaches. As God’s gift, there are “certain boundaries established by the giver”, and within these boundaries are two conditions: One is “to protect the gift” that is the world so it is preserved from harm. The second condition is to show “self-restraint” (*enkrateia*) when consuming its goods [32] (p. 107). Understanding the world as a symbol through which God is contemplated and as a gift from God to protect and use with restraint are teachings that permeate Patriarch Bartholomew’s homilies, addresses, and statements.

Protecting God’s gift of the creation is a spiritual responsibility, he insists [29] (p. 4). He follows his predecessor, Ecumenical Patriarch Dimitrios, who had established the first day of September as a day for all Orthodox Christians to offer prayers for protection and preservation of God’s creation (p. 6). In 2015, Pope Francis joined this Eastern Orthodox celebration by declaring 1 September the World Day of Prayer for all Catholic Christians [33].

Bringing Orthodox, Catholic, and other Christian leaders together to raise ecological awareness has been a hallmark of the Bartholomew’s patriarchate. To facilitate understanding environmental problems, he began early in his ecclesial position to seek scientific information about ecological degradation, the loss of biological diversity, and threats to the biosphere of Earth. He established the Religion and Scientific Committee in 1994 to “share the responsibility for our pollution of the earth and the obligation to find tangible ways of healing the natural environment” [29] (p. 9). His reflections and teachings on the climate crisis well demonstrate his reliance on scientific findings to address this vexing problem.

In his address at the opening of the World Exposition in Aichi, Japan, in September 2005, the patriarch expressed his alarm over the adverse effects of climate change and environmental pollution on “everyone” [34] p. 221). The information from the scientific community is “clearly unsettling” from his perspective. He continued with one example:

Dramatic increases of greenhouse gases in our atmosphere—largely due to fossil fuel burning—are causing global warming and in turn leading to melting ice caps, rising sea levels, and spread of disease, drought, and famine. The European heat wave of 2003 could be unusually cool by 2060, while the 150,000 people that the World Health Organization conservatively estimates are already dying annually because of climate change will be but a fraction of the actual number” (p. 211).

A response to this “scientific testimony” by religious communities “has been generally reluctant and gravely inadequate”, he admitted. “Unless we take radical and immediate measures to reduce emissions stemming from unsustainable...excesses in the demands of our lifestyle, the impact will be both alarming and imminent” (p. 211).

The ethical ramifications of climate change go beyond environmental preservation, he insisted during his address in Japan:

Religious leaders throughout the world recognize that climate change is much more than an issue of environmental preservation. Insofar as it is human-induced, it is a profoundly moral and spiritual problem. To persist in the current path of ecological destruction is not only folly. It is no less than suicidal, jeopardizing the diversity of the very earth that we inhabit, enjoy, and share. Indeed, we have repeatedly described it as a sin against both the Creator and creation (pp. 211–212).

When pointing to “a handful of affluent nations” that account for “two-thirds of global DGP and half of all global carbon dioxide emissions”, he held affluent nations accountable for the effects of their emissions and, at least implicitly, placed their decisions makers among the sinful (p. 212).

In a joint statement with the late Pope John Paul II in 2002, Patriarch Bartholomew identified climate change as “a matter of social and economic justice” [35]:

For those who will most directly and severely be affected by climate change will be the poorer and more vulnerable nations (what Christian Scriptures refer to as our “neighbor”) as well as the younger and future generations (the world of our children, and of our children’s children) (pp. 338–339).

The patriarch and the pope recognize the “close link between the economy of the poor and the warming of our planet” and the intimate connection between “conservation and compassion”:

Conservation and compassion are intimately connected. The web of life is a sacred gift of God—ever so precious and ever so delicate. We must serve our neighbor and preserve our world with both humility and generosity, in a perspective of frugality and solidarity alike (p. 339).

The two religious leaders also agreed on their need for action within their respective denominations. They recognized that they “must undoubtedly put their own houses in order”, and “their adherents must embrace the urgency of the issue”:

This process has already begun, although it must be intensified. Religions realize the primacy of the need for a deep change with people’s hearts. They are also emphasizing the connection between spiritual commitment and moral ecological practice. Faith communities are well placed to take a long-term view of the world as God’s creation (p. 339).

Building on their shared Christian faith, they acknowledged the need to act in solidarity with vulnerable people who are most adversely affected by changes in the global climate:

[W]e have been taught that we are judged on the choices we make. Our virtue can never be assessed in isolation from others but is always measured in solidarity with the most vulnerable. Breaking the vicious circle of economic stagnation and ecological degradation is a choice with which we are uniquely endowed at this crucial moment in the history of our planet” (p. 339).

Clearly, these two religious leaders committed to working with one another to change thinking and acting on climate change.

In several statements during his tenure, Patriarch Bartholomew underscored the need for acting immediately. One example is a message sent to representatives attending COP 19, the decision-making body of the U.N. Framework Convention on Climate Change, who were meeting in Warsaw, Poland in 2013. On the heels of the devastating hurricane that swept the Philippines, he expressed his hope for “prompt practical results” to address the growing escalation of climate change [31]. Relating scientific, political, and religious perspectives, he warned about the consequences of continuing to fail to take action on climate change:

There will come a point, and it may be very soon, when it is simply too late. Our scientists talk of ‘tipping points’ and ‘abrupt climate change.’ Our political leaders talk of the challenges that lie ahead. The Bible speaks of God’s grace in giving us many, many chances. But it makes it clear the time will come for all of us when we have to face consequences of our wrongdoing [36] (p. 349).

Before it is too late, an “act of repentance” is required, the Patriarch continued, also “a change in our established ways”, a “transformation”. To achieve this transformation requires “nothing less than a radical reversal of our perspectives and practices” [37] (p. 200).

What are the “radical” reversals the Patriarch is urging? He urges replacing consumption with sacrifice, greed with generosity, wastefulness with a spirit of sharing, and an asceticism that “entails

learning to give, and not simply to give up". This transformation constitutes "a way of loving, of moving gradually away from what I want to what God's world needs" [38] (p. 203). Christians are also called by God "to accept the world as a sacrament of communion, as a way of sharing with God and our neighbours on a global scale", and to live with the conviction that "the divine and the human meet in the slightest detail in the seamless garment of God's creation, in the last speck of dust of our planet" [31].

Clearly, Patriarch Bartholomew and Pope Francis share a similar approach to the transformation that is needed to mitigate the climate crisis. The pope's appreciation for the Patriarch's thinking is obvious in *Laudato Si'*, and the Patriarch's support for *Laudato Si'* was visibly demonstrated when sending his distinguished representative, Metropolitan John (Zizioulas) of Pergamon, to the Vatican when the encyclical was issued publicly on 18 June 2015 [39]. This united front of Eastern Orthodoxy and Roman Catholicism on climate change may have some influence on the approximately 260 million adherents of Eastern Orthodoxy and 1.2 billion Roman Catholics in the world.

## 5. Islamic Clerics, Leaders, and Scholars on Climate Change

Issued prior to COP 21, the *Islamic Declaration on Global Climate Change* [40] resulted from the International Climate Change Symposium held in Istanbul in August 2015 at which senior international development policy makers, leaders of faith groups, academics, and other Islamic experts sought "broad unity and ownership from the Islamic community" for acting on the climate crisis [41]. A group of "top academics" had drafted the declaration and circulated it widely prior to the symposium where the draft was discussed and finalized [40].

The symposium participants considered 2015 "a watershed year for the climate movement" in light of the fact that government representatives would be converging in Paris where they are expected to forge "a new, international climate agreement that is robust, ambitious and commensurate with the scientific imperatives outlined by the Intergovernmental Panel on Climate Change". Convinced that "a bigger, broader and stronger citizens' movement" was essential to influence the nations' delegates to forge an agreement that will mitigate the climate crisis, the symposium participants committed to conveying the Islamic faith perspective in a way that might inspire the COP nations toward a positive outcome of their deliberations.

The Islamic faith-based rationale for confronting the climate crisis appears succinctly in the preamble of the declaration:

God—Whom we know as Allah—has created the universe in all its diversity, richness and vitality: the stars, the sun and moon, the earth and all its communities of living beings. All these reflect and manifest the boundless glory and mercy of their Creator. All created beings by nature serve and glorify their Maker, all bow to their Lord's will. We human beings are created to serve the Lord of all beings, to work the greatest good we can for all the species, individuals, and generations of God's creatures.

Following this statement of faith, the signatories reflected on scientific findings about the gradual fluctuations in the Earth's climate:

Our planet has existed for billions of years and climate change in itself is not new. The earth's climate has gone through phases wet and dry, cold and warm, in response to many natural factors. Most of these changes have been gradual, so that the forms and communities of life have adjusted accordingly. There have been catastrophic climate changes that brought about mass extinctions, but over time, life adjusted even to these impacts, flowering anew in the emergence of balanced ecosystems such as those we treasure today. Climate change in the past was also instrumental in laying down immense stores of fossil fuels from which we derive benefits today."

"Ironically", they continued, "our unwise and short-sighted use of these resources is now resulting in the destruction of the very conditions that have made our life on earth possible". Humans have

become “a force dominating nature” that has ushered Earth into a new age that is currently described in geological terms as the “Anthropocene, or ‘Age of Humans’”.

This new age is highly problematic for Muslims who are committed to Islam, the signatories conclude. Humans are supposed to be caretakers of Earth, they are intended by God to “savor” the “gifts” of Earth, and they are accountable to God for their actions. However:

Excessive pollution from fossil fuels threatens to destroy the gifts bestowed on us by God, whom we know as Allah—gifts such as a functioning climate, healthy air to breathe, regular seasons, and living oceans. But our attitude to these gifts has been short-sighted, and we have abused them. What will future generations say of us, who leave them a degraded planet as our legacy? How will we face our Lord and Creator?

The signatories point to manifestations of the “corruption...that humans have caused” due to their “relentless pursuit of economic growth and consumption”. Global climate change is their “present concern”, but also looming are the contamination and “befoulment of the atmosphere, land, inland water systems, and seas”, the erosion of soil, “deforestation and desertification”, and damage to human health, including a host of modern-day diseases”.

Citing the past ten years of climate assessments by the United Nations Environment Programme and the latest report of the Intergovernmental Panel on Climate Change, the signatories list reasons for their concerns about the over-use of fossil fuels that are forcing changes on the global climate: Ecosystems and human cultures that are currently at risk; extreme weather in the form of heat waves, heavy precipitation, and coastal flooding; the poor and disadvantaged communities in all countries that are most adversely affected; predictions of effects on biodiversity; adverse effects on ecosystems and the overall global economy; and predictions of abrupt and irreversible changes in the core physical systems of Earth. From these warnings, they conclude to the need for an “urgent and radical reappraisal” of how humans are using fossil fuels, and they criticize the “present deadlock” in international climate change negotiations that has occurred in the COPs to the U.N. Framework Convention on Climate Change.

Furthermore, they express their alarm over the “rising per capita consumption combined with the rising human population” and “the multi-national scramble now taking place for more fossil fuel deposits under the dissolving ice caps in the arctic regions”, the human consumption of “much of the non-renewable resources which have taken the earth 250 million years to produce—all in the name of economic development and human progress”, the “combined impacts of rising per capita consumption combined with the rising human population”, and the “multi-national scramble now taking place for more fossil fuel deposits under the dissolving ice caps in the arctic regions”. Alarmed by this obsession with fossil fuels, the signatories exclaim, “We are accelerating our own destruction through these processes”.

Looking for benchmarks that might mitigate the climate crisis, they point to Earth scientists’ conclusion that a rise of two degrees centigrade in global temperature, which had been identified as the “tipping point” for climate disaster, is “very unlikely to be avoided” if present activities continue. They point to other leading scientists who consider 1.5 degrees centigrade to be a more likely “tipping point” which, when reached, would expose “countless other creatures to drought, hunger and flooding”. They lament that the “brunt of this will continue to be borne by the poor”. From their faith perspective, all countries, “especially the more developed nations,” must “increase their efforts and adopt the pro-active approach needed to halt and hopefully eventually reverse the damage being wrought”.

To strive to reduce this predicted damage, the signatories call for action by delegates at the forthcoming COP 21, by wealthy nations and oil-producing people of all nations and their leaders, by corporations, finance, and the business sector, by all groups, and by all Muslims. They begin by citing pertinent passages from the *Qur’an* that motivate their call to all to take action on the climate crisis.

Among the motivating principles of faith that the signatories identify are their beliefs in “God is the Lord and Sustainer of all beings, “the One Creator”, “the Maker, the Giver of Form”, who “has

perfected every thing He has created”, who “encompasses all of His creation”, who “created the Earth in perfect equilibrium”, and who values all creatures. The signatories move to their faith-based view of the human role within God’s creation and explain that God, out of “immense mercy” has given humans “fertile land, fresh air, clean water and all the good things on Earth that makes our lives here viable and delightful”. Though humans constitute “a miniscule part of the divine order”, we are “exceptionally powerful beings” who are responsible to God for establishing “good” and averting “evil” and who are accountability to God for their actions. The “creation of the heavens and the earth” are “far greater” than humankind, most humans “do not know it”. Thus, they have corrupted the earth. They need to change their destructive ways and follow the example of Prophet Muhammed who “[d]eclared and protected the rights of all living beings”, “prohibited killing living beings for sport, guided his companions to conserve water even in washing for prayer, forbade the felling of trees in the desert,” established “protected areas (himas) for the conservation and sustainable use of rangelands, plant cover and wildlife”, lived “a frugal life, free of excess, waste, and ostentation”, renewed and “recycled his meagre possessions by repairing or giving them away”, ate “simple, healthy food, which only occasionally included meat”, took “delight in the created world”, and was “a mercy to all beings”. Evoking the Prophet’s teachings and way of life has high significance for Muslims.

From this faith perspective and recognition of transgressions against their faith, the signatories of the *Islamic Declaration* call upon the delegates to COP 21 of the U.N. Framework Convention on Climate Change and the Meeting of the Parties to the Kyoto Protocol to be held in Paris in December 2015 “to bring their discussions to an equitable and binding conclusion, bearing in mind” the “scientific consensus on climate change, which is to stabilize greenhouse gas concentration in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate systems” and to set “clear targets and monitoring systems”, remembering the “dire consequences to planet earth if we do not do so”. The signatories express the “enormous responsibility” of the delegates at COP 21 on behalf of “the rest of humanity, including leading the rest of us to a new way of relating to God’s Earth”.

Exhorting the other categories of people at various levels of governance to responsible action, the tasks the signatories identify appear formidable, and their moral obligations heavy. To the wealthy nations and oil producing states, the signatories ask them to lead the way in “phasing out their greenhouse gas emissions as early as possible and no later than the middle of the century”; to provide “generous financial and technical support to the less well-off to achieve a phase-out of greenhouse gases as early as possible”; to recognize “the moral obligation to reduce consumption so that the poor may benefit from what is left of the earth’s non-renewable resources”; to stay within “the ‘2 degree’ limit, or, preferably, within the ‘1.5 degree’ limit, bearing in mind that two-thirds of the earth’s proven fossil fuel reserves remain in the ground”; to re-focus “their concerns from unethical profit from the environment, to that of preserving it and elevating the condition of the world’s poor”; and, to invest in the creation of “a green economy”.

The signatories call “people of all nations and their leaders to “phase out greenhouse gas emissions as soon as possible in order to stabilize greenhouse gas concentrations in the atmosphere”; to commit “to 100% renewable energy and/or a zero emissions strategy as early as possible, to mitigate the environmental impact of their activities”; to invest in “decentralized renewable energy, which is the best way to reduce poverty and achieve sustainable development”; to pursue growth wisely and in moderation, “placing a priority on increasing the resilience of all, and especially the most vulnerable, to the climate change impacts already underway and expected to continue for many years to come”; to initiate “a fresh model of wellbeing, based on an alternative to the current financial model which depletes resources, degrades the environment, and deepens inequality”; and to prioritize “adaptation efforts with appropriate support to the vulnerable countries with the least capacity to adapt. And to vulnerable groups, including indigenous peoples, women and children”.

Corporations, finance, and the business sector are called to shoulder “the consequences of their profit-making activities, and take a visibly more active role in reducing their carbon footprint and other forms of impact upon the natural environment”; to commit themselves “to 100% renewable

energy and/or a zero emissions strategy as early as possible and shift investments into renewable energy”; to change “from the current business model which is based on an unsustainable escalating economy, and to adopt a circular economy that is wholly sustainable”; to heed “to social and ecological responsibilities, particularly to the extent that they extract and utilize scarce resources”; and to assist in “the divestment from the fossil fuel driven economy and the scaling up of renewable energy and other ecological alternatives”.

All groups are called to “join us in collaboration, co-operation and friendly competition in this endeavour”. The signatories “welcome the significant contributions” made by other religious faiths so all can be “winners in this race”. They continue with hope: “If we each offer the best of our respective traditions, we may yet see a way through our difficulties”.

The signatories’ final call is to “all Muslims wherever they may be” and list “heads of state”, “political leaders”, “people in the business community”, “delegates to the UN Framework Convention on Climate Change”, “religious leaders and scholars”, “mosque congregations”, “Islamic endowments”, “educators and educational institutions”, “community leaders”, “civil society activists”, “non-governmental organisations”, and “communications and media”. Obviously, they are striving to be inclusive of Muslims in all occupations. Siting a phrase from the *Qur’an*, the signatories recalled a meaningful warning: “Do not strut arrogantly on the earth. You will never split the earth apart nor will you ever rival the mountains’ stature’ (*Qur’an* 17: 37)”. The *Islamic Declaration on Global Climate Change* closes with a teaching by the Prophet Mohammad underscoring his valuation of Earth and each Muslim’s responsibility and accountability to God for functioning appropriately: “The world is sweet and verdant, and verily Allah has made you stewards in it, and He sees how you acquit yourselves (Hadith related by Muslim from Abu Sa’id Al-Khudri)”.

This call to all Muslims could have immense ramifications for mitigating the climate crisis if the imams in mosques are committed to reminding the current two billion and rapidly increasing number of Muslims of their moral responsibilities as taught in the *Qur’an* and by their revered prophet [42,43]. Imams and representatives of institutions of higher learning are among the signatories of the *Islamic Declaration* and could be instrumental in assuring that these responsibilities are included in imam training. Other signatories include the Climate Action Network International based in Lebanon which endeavors to influence Arab climate policy and raise the priority of the issue among the public and governments [44], the Green Mosque Initiative which encourages energy efficiency in mosques [45], the Indonesian Council of Ulema, and the Saudi Wildlife Authority. Though not a signatory of the *Islamic Declaration* per se, the organization known as Green Muslims is engaged in community action and education [46]. One chapter in the United States is Wisconsin Green Muslims (formerly the Islamic Environmental Group of Wisconsin) that has been drawing deeply upon Islam for ten years when educating, acting, demonstrating, and advocating the efficient use of energy, decrease in fossil fuel reliance, and a renewable energy future [47].

## 6. Discussion and Conclusions

Judaism represented by Rabbi Arthur Waskow, Christianity by Pope Francis of the Roman Catholic Church and Ecumenical Patriarch Bartholomew of Eastern Orthodoxy, and Islam by the signatories of the *Islamic Declaration on Global Climate Change* share a basic faith in God as the Creator of the world to whom they believe they are responsible for how they function in relation to one another and to God’s creation. Among these responsibilities are to care for and use God’s creation with restraint, demonstrate concern for the poor, vulnerable, and future generations, and account to God for their actions. While these are basic faith perspectives common to the Abrahamic religions, each religion has unique ways of expressing its faith in worship, word, and deed. These faith-based expressions constitute attempts to convey why and how to live meaningfully in relation to others persons, the world of diverse entities God made possible, and God.

The subjects of this article also share a reliance on climate and other Earth sciences that study the constituents of the world to make informed decisions about actions to take individually, by



their religious communities, and in the public square. For these efforts, they need the best possible conclusions that Earth scientists can draw from their research—predictions of adverse effects from a warming planet, ranges of certainty pertaining to these predictions in the future, and methods for mitigating the effects of human-forced climate change. These religious leaders and representative organizations also rely upon the social sciences for knowing the pros and cons of adaptation strategies and how to implement the most effective and acceptable from their faith-based moral perspectives.

In addition to the four aforementioned religious leaders and organizations, others have relied upon scientific conclusions about climate change when advocating action at various levels of governance. Anglican, Baptist, Churches of Christ, Evangelical Lutheran, Methodist, Presbyterian, Quaker, United Church of Christ, Unitarian Universalist, and the churches of Scotland and Sweden are among other Christian denominations that have issued statements on climate change and/or advocating action at COP 21 [48,49]. Statements have also been issued by Baha'i, Buddhist, Daoist, Shinto, and other world religions [48].

Furthermore, many of these religious communities collaborated in issuing interfaith statements. One is the *Statement of Faith and Spiritual Leaders on the upcoming United Nations Climate Change Conference, COP21* that was signed by 154 religious leaders from different faith groups throughout the world and hand delivered to Christiana Figueres, the Executive Secretary of the United Nations Framework Convention on Climate Change, on 20 October 2015 in Bonn when representatives of the nations were drafting the text to be considered at COP 21 [50]. In this statement, the religious leaders urged governments to cut emissions of greenhouse gases and investment in fossil-fueled energy. Another is the *Interfaith Declaration on Climate Change* that had been endorsed by leaders of the world religions and affiliated organizations who stipulated that their “religious convictions and cosmological narratives tell us that this earth and the whole universe are gifts that we have received from the spring of life, from God. It is our obligation to respect, protect and sustain these gifts by all means” [51].

Did these religious-based efforts contribute to the positive outcome of COP 21? Were the representatives of nations that flocked to U.N. headquarters in New York City on 22 April 2016 to sign the Paris Agreement influenced by religious leaders and advocacy efforts by religious communities?

A recent analysis of surveys conducted in the United States suggests that a charismatic religious leader can be highly influential for decision-making on climate change. When comparing surveys conducted in Spring 2015 before Pope Francis issued *Laudato Si'* and Fall 2015 after the encyclical became public followed by his visit to the United States, researchers at the University of Michigan and Muhlenberg College concluded that the pope and his call to action contributed to a rise in the acceptance of the vexing climate change phenomenon across religions, that 15% of the people surveyed were more convinced climate change is occurring and should be addressed than they were in the earlier survey, that 60% support the pope's call to action on climate change but only 49% believe their religious leaders should discuss environmental issues within the context of their faith, and that people are more likely to connect their attitudes about climate change to their moral convictions, not their religious faith [52]. Apparently, a charismatic leader who articulates and demonstrates a moral purpose that transcends self-interests can be influential.

However, followers are essential for action on climate change at all levels of governance from individuals in their homes, work, and recreational activities to increasingly expansive opportunities for decision-making that culminate at the international level. The representative organizations of the Abrahamic religious discussed above appear motivated by their leaders, equipped by their faith, informed by climate science, and engaged in addressing human-forced climate change in all facets of human life. Though this article is limited to four communities selected from the Abrahamic religions that have issued key statements on climate change, other denominations, religions, and affiliated groups deserve attention [53,54].

Perhaps countries throughout the world will be influenced by religious leaders and their followers to fulfill commitments they made when signing the Paris Agreement in a ceremonial setting that was broadcast by satellite throughout the world. Perhaps national, regional, and local governments will be

influenced to facilitate energy efficiency and renewable energy in all sectors of society. Perhaps sizable numbers of the 14 million Jews, 1.2 billion Roman Catholics, 260 million Eastern Orthodox, and 2 billion Muslims in the world will respond positively and effectively to their leaders' calls to action and urgings by their respective faith-motivated organizations. Perhaps the leaders of other religions and organizations who are addressing the climate crisis and related problems will persuade and facilitate the response of millions of people who share their faith.

Theologians and scientists have roles to play as distinct contributors to religious motivation and action on climate change. Both research within the scope of their disciplines where they use their respective data and methods, realize their limitations, and recognize that each can open to the other for a more comprehensive understanding of issues at their boundaries [55]. While scientists continue to study the world from an empirical perspective, theologians focus on the meaning of the Earth community, the human place within it, and how humans should function accordingly.

As a systematic theologian and ethicist whose primary data base is the Catholic theological tradition that I relate constructively and meaningfully to the natural sciences and technology, I am aware of efforts by hundreds of scholars of the world religions to reflect theologically and ethically on ecological concerns [56] and many who have been particularly attentive to the climate crisis [57]. An escalation of these efforts is warranted as scientific findings point to the reality of adverse effects that are occurring today, causing hardships especially for poor and vulnerable people, and threatening a life-impooverished Earth in the future. While remaining alert to scientific findings, scholars of the world religions must dig deeply into the traditions on which they focus and make promising insights known to leaders who can teach, preach, act, and pray with members of their communities. Earth scientists will find these religious scholars, leaders, and affiliated groups allies in the quest for a flourishing Earth—our common home.

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## References

1. Movements of Judaism. Judaism 101. Available online: <http://www.jewfaq.org/movement.htm> (accessed on 22 May 2016).
2. Waskow, Rabbi A. Arthur Waskow: Full Biography and Selected Bibliography. The Shalom Center: Philadelphia, PA, USA. Available online: <https://theshalomcenter.org/node/1008> (accessed on 14 February 2016).
3. Life-history of Rabbi Arthur Waskow. The Shalom Center: Philadelphia, PA, USA. Available online: <https://theshalomcenter.org/life-history-rabbi-arthur-waskow> (accessed on 16 February 2016).
4. *A Rabbinic Letter on the Climate Crisis*; The Shalom Center: Philadelphia, PA, USA, 2015. Available online: <https://theshalomcenter.org/RabbinicLetterClimate> (accessed on 16 February 2016).
5. Waskow, Rabbi A. Rabbinic Letter on Climate -Torah, Pope, & Crisis Inspire 425+ Rabbis to Call for Vigorous Climate Action. The Shalom Center: Philadelphia, PA, USA, 29 October 2015. Available online: <https://theshalomcenter.org/RabbinicLetterClimate> (accessed on 16 February 2016).
6. Francis, Pope. *Laudato Si', On Care for Our Common Home*; Our Sunday Visitor: Huntington, IN, USA, 2015.
7. Waskow, Rabbi A. (The Shalom Center, Philadelphia, PA, USA). Private E-mail communication, 6 February 2016.
8. The Shalom Center. About the Shalom Center: Philadelphia, PA, USA. Available online: <https://theshalomcenter.org/content/about-shalom-center-mission-more> (accessed on 15 February 2016).
9. *The Jewish Energy Guide*; Jewish Council for Public Affairs: New York, NY, USA. Available online: <http://aytzm.org/JewishEnergyGuide-web.pdf> (accessed on 22 May 2016).
10. The Green Climate Fund. Jewish Council for Public Affairs: New York, NY, USA. Available online: <http://jcpamain.dev.confluencecorp.com/jcpa/2016/05/04/the-green-climate-fund/> (accessed on 22 May 2016).
11. Schaefer, J. Anticipating Pope Francis' forthcoming encyclical on the human-Earth relationship. The Forum on Religion and Ecology at Yale University: New Haven, CT, USA, 11 April 2015. Available online: [http://fore.yale.edu/files/Schaefer--Anticipating\\_Francis\\_Encyclical.pdf](http://fore.yale.edu/files/Schaefer--Anticipating_Francis_Encyclical.pdf) (accessed on 15 February 2016).

12. United States Conference of Catholic Bishops. Seven Themes of Catholic Social Teaching. Available online: <http://www.usccb.org/beliefs-and-teachings/what-we-believe/catholic-social-teaching/seven-themes-of-catholic-social-teaching.cfm> (accessed on 15 June 2016).
13. John Paul II, Pope. *Peace with God the Creator, Peace with All of Creation*; Message on the 1990 World Day of Peace. Vatican City, Vatican City State, 8 December 1989. Available online: [http://w2.vatican.va/content/john-paul-ii/en/messages/peace/documents/hf\\_jp-ii\\_mes\\_19891208\\_xxiii-world-day-forpeace.html](http://w2.vatican.va/content/john-paul-ii/en/messages/peace/documents/hf_jp-ii_mes_19891208_xxiii-world-day-forpeace.html) (accessed on 18 February 2016).
14. Benedict, XVI, Pope. *If You Want to Cultivate Peace, Protect Creation*; Message on the 2010 World Day of Peace; Vatican City, Vatican City State, 8 December 2009. Available online: [http://w2.vatican.va/content/benedict-xvi/en/messages/peace/documents/hf\\_ben-xvi\\_mes\\_20091208\\_xliii-world-daypeace.html](http://w2.vatican.va/content/benedict-xvi/en/messages/peace/documents/hf_ben-xvi_mes_20091208_xliii-world-daypeace.html) (accessed on 18 February 2016).
15. Schaefer, J. *Theological Foundations for Environmental Ethics: Reconstructing Patristic and Medieval Concepts*; Georgetown University Press: Washington, DC, USA, 2009.
16. Introduction. Global Catholic Climate Movement: New York, NY, USA. Available online: <http://catholicclimatemovement.global/introduction/> (accessed on 25 May 2016).
17. Our Statement to the Church and to the World. Global Catholic Climate Movement: New York, NY, USA. Available online: <http://catholicclimatemovement.global/our-statement/> (accessed on 25 May 2016).
18. Support the Pope's Ecological Call. Global Catholic Climate Movement: New York, NY, USA. Available online: <http://catholicclimatemovement.global/petition/> (accessed on 25 May 2016).
19. About. Catholic Climate Covenant: Washington, DC, USA. Available online: <http://www.catholicclimatecovenant.org/about> (accessed on 28 February 2016).
20. Covenant Partners. Catholic Climate Covenant: Washington, DC, USA. Available online: <http://www.catholicclimatecovenant.org/partners> (accessed on 23 May 2016).
21. The St. Francis Pledge: Pledge to Pray, Act, and Advocate to Solve Climate Change. Catholic Climate Covenant: Washington, DC, USA. Available online: <http://www.catholicclimatecovenant.org/pledge> (accessed on 28 February 2016).
22. Environment/Environmental Justice Program. United States Conference of Catholic Bishops: Washington, DC, USA. Available online: <http://www.usccb.org/issues-and-action/human-life-and-dignity/environment/index.cfm> (accessed on 26 February 2016).
23. Catholic Climate Ambassadors. Catholic Climate Covenant: Washington, DC, USA. Available online: [http://www.catholicclimatecovenant.org/partners/catholic\\_climate\\_ambassadors](http://www.catholicclimatecovenant.org/partners/catholic_climate_ambassadors) (accessed on 28 February 2016).
24. Current Actions. Catholic Climate Covenant: Washington, DC, USA. Available online: <http://www.catholicclimatecovenant.org/Advocacy> (accessed on 25 May 2016).
25. Archdiocese of Atlanta. An Action Plan for the Roman Catholic Archdiocese of Atlanta. Atlanta, GA, USA. Available online: <http://archatl.com/catholic-life/refreshatl/> (accessed on 24 May 2016).
26. *Laudato Si' Study & Action Guide for Individuals & Small Groups*; Columban Center for Advocacy and Outreach: Silver Spring, MD, USA. Available online: <http://columban.org/wp-content/uploads/2015/07/Laudato-Si-Study-and-Action-Guide-by-Columban-Center-for-Advocacy-and-Outreach.pdf> (accessed on 24 May 2016).
27. Agliardo, M. The U.S. catholic response to climate change. In *How the World's Religions Are Responding to Climate Change: Social Scientific Investigations*; Veldman, R., Szasz, A., Haluza-DeLay, R., Eds.; Routledge: London, UK, 2012; pp. 174–192.
28. Bartholomew, Patriarch. BARTHOLOMEW, Archbishop of Constantinople-New Rome and Ecumenical Patriarch. Ecumenical Patriarchate: Istanbul, Turkey. Available online: <https://www.patriarchate.org/biography> (accessed on 20 February 2016).
29. Chrysavgis, J. Introduction. In *On Earth as in Heaven: Ecological Vision and Initiatives of Ecumenical Patriarch Bartholomew*; Chrysavgis, J., Ed.; Fordham University Press: New York, NY, USA, 2012; pp. 1–22.
30. Bartholomew, Patriarch. Keynote address at the Santa Barbara symposium, CA, 8 November 1997. In *On Earth as in Heaven: Ecological Vision and Initiatives of Ecumenical Patriarch Bartholomew*; Chrysavgis, J., Ed.; Fordham University Press: New York, NY, USA, 2012; pp. 95–100.
31. Bartholomew, Patriarch. Quotes by His All-Holiness the Ecumenical Patriarchate of Constantinople on Peace and the Environment. Ecumenical Patriarchate: Istanbul, Turkey. Available online: <http://www.spiritualecology.org/article/quotes-his-all-holiness-ecumenical-patriarchate-constantinople-peace-and-environment> (accessed on 26 February 2016).

32. Bartholomew, Patriarch. Keynote address at the international ecological symposium, Kathmandu, Nepal, November 2000. In *On Earth as in Heaven: Ecological Vision and Initiatives of Ecumenical Patriarch Bartholomew*; Chrysavgis, J., Ed.; Fordham University Press: New York, NY, USA, 2012; pp. 100–110.
33. O’Kane, L. Pope Francis Announces World Day of Prayer for the Care of Creation. Vatican Radio: Vatican City, Vatican City State, 8 October 2015. Available online: [http://en.radiovaticana.va/news/2015/08/10/pope\\_francis\\_announces\\_day\\_of\\_prayer\\_for\\_creation/1164087](http://en.radiovaticana.va/news/2015/08/10/pope_francis_announces_day_of_prayer_for_creation/1164087) (accessed 26 February 2016).
34. Bartholomew, Patriarch. Opening Address for the World Exposition, Aichi, Japan, 20 September 2005. In *On Earth as in Heaven: Ecological Vision and Initiatives of Ecumenical Patriarch Bartholomew*; Chrysavgis, J., Ed.; Fordham University Press: New York, NY, USA, 2012; pp. 211–215.
35. Bartholomew, Patriarch; John, Paul, II, Pope. Joint declaration with Pope John Paul II, Symposium IV, Venice-Vatican, 10 June 2002. In *On Earth as in Heaven: Ecological Vision and Initiatives of Ecumenical Patriarch Bartholomew*; Chrysavgis, J., Ed.; Fordham University Press: New York, NY, USA, 2012; pp. 335–340.
36. Bartholomew, Patriarch. Urges Leaders to Act Now on Climate Change. *Zenit*. 15 November 2013. Available online: <https://zenit.org/articles/patriarch-bartholomew-urges-leaders-to-act-now-on-climate-change/> (accessed on 26 February 2016).
37. Bartholomew, Patriarch. The moment is coming when it will be too late. In *On Earth as in Heaven: Ecological Vision and Initiatives of Ecumenical Patriarch Bartholomew*; Chrysavgis, J., Ed.; Fordham University Press: New York, NY, USA, 2012; pp. 349–350.
38. Bartholomew, Patriarch. Keynote Address, North Sea Symposium, Utstein Monastery, Germany, June 23, 2003. In *On Earth as in Heaven: Ecological Vision and Initiatives of Ecumenical Patriarch Bartholomew*; Chrysavgis, J., Ed.; Fordham University Press: New York, NY, USA, 2012; pp. 199–204.
39. Zizioulas, Metropolitan J. Pope Francis’ Encyclical *Laudato Si’*: A Comment. Vatican Radio: Vatican City, Vatican City State, 18 June 2016. Available online: [http://en.radiovaticana.va/news/2015/06/18/metropolitan\\_john\\_zizioulas\\_laudo\\_si\\_give\\_orthodox\\_grea/1152356](http://en.radiovaticana.va/news/2015/06/18/metropolitan_john_zizioulas_laudo_si_give_orthodox_grea/1152356) (accessed on 23 May 2016).
40. *Islamic Declaration on Global Climate Change*. International Islamic Climate Change Symposium, Istanbul, Turkey, 17–18 August 2015; Available online: <http://islamicclimatedeclaration.org/islamic-declaration-on-global-climate-change/> (accessed on 26 February 2016).
41. About the Symposium, International Islamic Climate Change Symposium, 17–18 August 2015. Available online: <http://islamicclimatedeclaration.org/#home> (accessed on 26 February 2016).
42. The Future of World Religions: Population Growth Projections, 2010–2050. Pew Research Center: Washington, DC, USA, 2 April 2015. Available online: <http://www.pewforum.org/2015/04/02/religious-projections-2010-2050/> (accessed on 25 May 2016).
43. Merchant, E.F. The Islamic Climate Change Declaration Could be More Effective than Pope Francis’s Encyclical. *New Republic*. 19 August 2015. Available online: <https://newrepublic.com/article/122575/islamic-climate-change-declaration-more-effective-encyclical> (accessed on 26 May 2016).
44. Profile. Climate Action Network International: Beirut, Lebanon. Available online: <http://climatenetwork.org/profile/wael-hmaidan-director> (accessed on 23 May 2016).
45. Green Mosques. Eden Keeper: Honolulu, HI, USA. Available online: <http://edenkeeper.org/2014/11/20/uae-energy-conservation-green-mosques/> (accessed on 23 May 2016).
46. About Green Muslims: Washington, DC, USA. Available online: <http://www.greenmuslims.org/about/> (accessed on 23 May 2016).
47. Celebrating 10 Years! Connecting Faith and Sustainability. Wisconsin Green Muslims: Milwaukee, WI, USA. Available online: <https://wisconsingreenmuslims.org/> (accessed on 23 May 2016).
48. Climate Change Statements from World Religions. The Forum on Religion and Ecology at Yale University: New Haven, CT, USA. Available online: <http://fore.yale.edu/climate-change/statements-from-world-religions/> (accessed on 25 May 2016).
49. Religious Statements on Climate Change. Interfaith Power and Light: San Francisco, CA, USA. Available online: <http://www.interfaithpowerandlight.org/resources/religious-statements-on-climate-change/> (accessed on 29 February 2016).
50. Statement of Faith and Spiritual Leaders on the Upcoming United Nations Climate Change Conference, COP 21. The UN Framework Convention on Climate Change Newsroom. Available online: <http://newsroom.unfccc.int/unfccc-newsroom/religious-leaders-call-for-effective-paris-agreement/> (accessed on 28 February 2016).

51. Interfaith Declaration on Climate Change. Available online: <http://www.interfaithdeclaration.org/endorsements.html> (accessed on 28 February 2016).
52. Mills, S.; Rabe, B.; Borick, C. Acceptance of Global Warming Rising for Americans of All Religious Beliefs. In *Issues in Energy and Environmental Policy*; Available online: <http://closup.umich.edu/issues-in-energy-and-environmental-policy/26/acceptance-of-global-warming-rising-for-americans-of-all-religious-beliefs/> (accessed on 25 May 2016).
53. World Council of Churches. *Making Peace with the Earth: Action and Advocacy for Climate Justice*; Kim, G., Ed.; World Council of Churches: Geneva, Switzerland, 2016; This interfaith educational effort was recently initiated by the World Council of Churches. Founded in 1948, the WCC is a global fellowship of Christians that brings together 345 Protestant, Orthodox, Anglican, and other denominations representing approximately 550 million Christians to promote their unity in faith, witness and service for a just and peaceful world and that works cooperatively with the Roman Catholic Church; Available online: <http://www.oikoumene.org/en/resources/publications/making-peace-with-the-earth-action-advocacy-for-climate-justice> (accessed on 26 May 2016).
54. Religious Diversity. Pew Research Center: Washington, DC, USA, 4 April 2014. Available online: <http://www.pewforum.org/2014/04/04/global-religious-diversity/> (accessed on 26 May 2016).
55. Barbour, I.G. *Religion and Science: Historical and Contemporary Issues*; Harper: San Francisco, CA, USA, 1997; pp. 100–161.
56. Religions of the World and Ecology. Forum on Religion and Ecology at Yale University: New Haven, CT, USA. Available online: <http://fore.yale.edu/publications/books/> (accessed on 25 May 2016).
57. Books on Religion and Climate Change. Yale Forum on Religion and Ecology at Yale University: New Haven, CT, USA. Available online: <http://fore.yale.edu/climate-change/books-and-websites-on-religion-and-climate-change/> (accessed on 25 May 2016).



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