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Religion and Climate Change

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### Abstract

Understanding the cultural dimensions of climate change requires understanding its religious aspects. Insofar as climate change is entangled with humans, it is also entangled with all the ways in which religion attends human ways of being. Scholarship on the connections between religion and climate change includes social science research into how religious identity figures in attitudes toward climate change, confessional and constructive engagements of religious thought with climate change from various communities and traditions, historical and anthropological analyses of how climate affects religion and religion interprets climate, and theories by which climate change may itself be interpreted as a religious event. Responses to climate change by indigenous peoples challenge the categories of religion and of climate change in ways that illuminate reflexive stresses between the two cultural concepts.

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## 1. INTRODUCTION

Insofar as climate change is entangled with humans, from causes to consequences and from meanings to meliorations, it is also entangled with all the ways in which religion shapes, haunts, interprets, inspires, or otherwise attends human ways of being. Fully understanding climate change therefore requires understanding its religious aspects, especially the way religion is involved in human experiences of and human responses to climate change.

This review discusses recent research on that entanglement, drawing on scholarship across multiple disciplines and methods. Despite an explosion of literature, including attention from a past president of the American Academy of Religion (1), there are few synthetic overviews focused specifically on climate change (see, however, 2–4). That could be because the field of religious studies has not yet reckoned with the intellectual challenge presented by climate change (5), which may seem to some scholars as a particular application in the generic domain of “religion and environment.” However, as this review shows, connections of religion and climate change have generated scholarship with far-reaching implications. In some of those connections, “religion” becomes an unstable category, used to designate quite different phenomena across different research projects, with various consequences for understanding climate change in particular and human ecology in general.

Another explanation for the lack of synthetic overviews may be that dominant framings of climate change present it as a physical phenomenon that can be described apart from cultural influence. However, if, as the climate scientist Mike Hulme (6, p. 28) argues, “the idea of climate exists as much in the human mind and in the matrices of cultural practices as it exists as an independent and objective physical category,” then understanding it should include investigating how religious patterns of mind and formations of practice interpret climate change. Hulme himself has emphasized the influence of religious people, institutions, and ideas in constructing the meanings of climate change. Arguing for improved public understanding of the religious heterogeneity through which climate change is experienced and politicized, he writes: “Science is never enough to resolve problems that are cultural in origin” (7, p. 246).

Just because climate change is irreducibly cultural does not, of course, mean that religious responses to it are intrinsically helpful (8). As we show, some religious identities are caught up in denialist politics, religious thought interprets climate change in different ways, and religious dynamics can intensify cultural conflicts. By cumulative demonstration, we argue that, simply, there is no understanding the cultural dimensions of climate change without understanding religion.

Because interpreting it involves evaluating how humans across the globe relate to one another, as well as how humanity interacts with other species and the planet itself, climate change raises unavoidable ethical questions. Some of those questions seem to reach toward religious

dimensions—for example, they may inquire into the position of human beings in a cosmological order—even when they do not appear in conventionally religious institutions or contexts. At the least, adequately understanding the ways in which people interpret all the relations involved in climate change requires fluency with religious imaginations (9).

This review begins with social science research into how religious identity figures in attitudes toward climate change. Then, in Section 3, we describe the wide-ranging landscape of engagements with climate change from various communities and traditions of religious thought. Section 4 explains how concepts of “religion” and “climate change” have begun to exert recursive pressure on one another, and we close, in Section 5, by asking whether climate change should itself be interpreted as a religious event.

## 2. RELIGIOUS IDENTITY AND CLIMATE CHANGE

Over the past decade, an expanding body of social scientific research has examined the relationship between religion and climate change. The main trunk of this research scrutinizes the degree to which various empirical measures of religiosity predict people’s opinions about climate change; however, from this trunk new branches are growing. Although sociologists of religion did much of the pioneering research in this area, the religion and climate change relationship is now an active topic of research across an array of social scientific disciplines and methodologies, including anthropology, communications, psychology, and political science. This section describes the origins, key debates, and trajectories for research about the ways religion shapes societal engagement with climate change.

Social scientific research on religion and climate change stems directly from previous generations of research about the relationship between religion and environmental attitudes. Beginning in the early 1980s, sociologists of religion sought to test the Lynn White Hypothesis, which asserted a negative correlation between “Judeo-Christian” religiosity and **proenvironmental** beliefs and behaviors. Although the hypothesis held that Christian theology had facilitated broad cultural patterns of environmental destruction—human mastery over an inanimate nature—it was rendered in sociological terms as a question about whether particular forms of religious commitment correlate with lower levels of environmental concern (10). By the end of the 1990s, there was a rough consensus among researchers in the United States that other factors weighed more heavily than religious identity in the construction of environmental sensibilities, especially party affiliation, but also education and region. Over the past decade, as public opinion on climate change in the United States has become increasingly fragmented, these debates have been renewed under a different guise.

Polling shows stark differences in climate opinion among Americans of different religious affiliations. For example, surveys indicate that white US Evangelicals are much less likely than other religious groups to affirm the reality of climate change or accept anthropogenic explanations for it (11, 12). What accounts for these divergences? Do they follow from specific theological commitments? Do they reflect religiously grounded antipathies about scientific modes of knowledge? Researchers have repeatedly confirmed the strong tendencies to climate denial and to opposition to climate action among white Evangelicals in the United States but have offered contradictory explanations (13).

At the heart of debates about religion and climate change is a question about whether religious commitments are the key drivers of worldly action, or whether beliefs are themselves embedded in broader systems of identity that conjoin secular and religious modalities. Some political scientists, for example, have suggested that the environmental antipathy of white American Evangelicals is tied up with “end times beliefs” (14). Other researchers have found statistically significant

correlation between “biblical literalism” and opposition to public spending on environmental policies, including climate mitigation (15). These claims, however, remain hotly contested and are contravened by studies that locate climate denial and climate policy antagonism in relation to identity features of white American Evangelicals that are distinct from theology. That is, some studies suggest that Evangelicals’ climate opinion is shaped by factors such as suspicion about international governance (16) or a generalized distrust in scientific authority (17).

Given the difficulties in tracing the unique impact of specific theological positions on public opinion about climate change, a new approach has emerged using multifactorial analysis. Several recent studies have framed religion—measured variously as affiliation, strong belief in God, worship service attendance—as a kind of reagent mixed into views about environmental issues. One advantage of this approach is that it simultaneously speaks to two countervailing effects of religion on climate opinion. On the one hand, this approach shows how religious identity can sometimes depress concern about the environment (18). On the other hand, it also shows how religious affiliation can act as a secondary force, softening the degree to which political ideology dictates climate opinion (19). These findings are corroborated by research showing that certain religious features (e.g., frequency of religious attendance and strength of religious identity) tend to ameliorate the negative impact of conservative partisanship on environmental behavior, but that other religious features (e.g., biblical literalism) intensify the negative correlation between conservatism and environmental behavior (20).

Departing from models that focus exclusively on the relationship between personal religious identity and climate opinion, several recent studies have focused on the activities of religious and political elites. For example, do the religious commitments of elected officials have a demonstrable impact on environmental policy decisions (21)? Also with an eye to the role of elite discourse, a slew of studies have sought to evaluate claims that Pope Francis’s encyclical on global environmental matters, *Laudato Si’* (*LS*), had a measurable impact on levels of public concern and support for climate policies (e.g., 22). Although research on this question has generally concluded that *LS* produced a measurable, positive bump in levels of concern about climate change, there is also data that support the secondary force argument described above. That is, Pope Francis’s intervention into public conversations about climate change seems to have further polarized the issue, hardening both liberal and conservative views on the matter (23, 24).

There is not yet a substantial body of quantitative research about the relationship between religious identity and climate change opinions outside of North America and Northern Europe. The few published quantitative studies on religion and climate change that focus on other geographies suggest that the patterns of denominationally organized climate polarization that characterize environmental politics in the United States (and Canada and Australia to lesser degrees) do not adequately account for the relationship between religion and climate change in many Global South societies. Instead, this nascent body of research shows that religion is sometimes a key conduit for knowledge dissemination and public mobilization around climate policy frameworks (25, 26). The various ways the religion/climate relationship has been instantiated outside the confines of North Atlantic societies have been more thoroughly explored by scholars using qualitative methodologies.

Scholarship employing qualitative methods has helped map the public role of religion as it differs across regional and national contexts. Religious institutions and religious systems of thought may or may not be salient vehicles for climate change in different parts of the world. Environmental anthropologists have taken the lead in describing how climate activism at local and regional scales can be linked with religious culture. Those links may be formal, as when religious leaders draw on their political influence to advocate for robust national climate action (27, 28) or when indigenous peoples’ movements draw on religious or spiritual themes in their political discourse

(29). But religion may also operate in the background of climate change conversations, where underlying cultural concepts about places, environments, humans, and other animals generate particular expressions of environmental concern. The emphasis on “traditional ecological knowledge” (a category that often, but not always, overlaps with religio-cultural tradition) is not a new scholarly development. However, the past few years have seen a proliferation of research on the environmental implications of specific religious traditions with specific attention to the ways in which climatic processes appear within the logic of particular cultural lifeworlds (e.g., 2, 30, 31).

Taken as a whole, this disciplinarily diverse body of ethnographic scholarship finds that perceptions of climate change are rooted in intimately local frames of reference, which are often tied to ritual and mythological traditions associated with living in a particular place. Much of the early literature of this kind was generated by scholars working in arctic and high-elevation societies, where changing temperatures have tangible implications for communities whose livelihoods are linked to the conditions of snow and ice. An early voice in this domain, Julie Cruikshank, has written about how the traditions of the Tlingit peoples of the Yukon region offer a reservoir of coping strategies for environmental change (32). Among anthropologists of high-latitude cultures, there is significant ethnographic corroboration for this claim (e.g., 33).

Similar narratives are emerging from other regions where climate-related vulnerabilities are acute, including low-lying islands and the glaciated parts of the tropics and subtropics. The people who inhabit these ecosystems are on the front lines of climate change, and are visible to the anxious gaze of the international policy community. Although not always recognized as religious, the ways in which these communities navigate environmental change are often shaped by modes of understanding the more-than-human world that can be described as cosmological or theological. The unique imperilment of low-lying atoll communities is a paradigmatic case. Perhaps as an outcome of longstanding anthropological attention to the intersection of ritual and ecological regulation in Pacific Island cultures, there is a replete body of scholarship investigating how climate change is experienced and understood by societies in the South Pacific (34, 35). Ethnographers researching community responses to climate change have attended, for example, to the role of indigenous knowledge systems in shaping climate perception (36), to the political agency of Christian churches in Oceania (37), and to the revivification of the story of Noah’s Ark in Pacific Island Christianities (38).

Glacial melt, another highly visible manifestation of climate change, has received robust attention from ethnographers working in Andean and Himalayan contexts. The ways in which climate change is destabilizing high-altitude environments—reducing snowfall, creating erratic melt rhythms, causing glacial lake outburst floods, etc.—not only disrupt local economic livelihoods, but also negatively impact religious life (39). Glaciers often figure prominently in ritual practice, and ethnographic attention to the question of whether and how the sacred imaginations of high-elevation peoples shift in response to glacial change allows inquiry into whether and how climate change may be driving contemporary religious change (40–45).

As social scientific scholarship about the relationship between religion and climate change advances, two major gaps in the research are apparent. First, there is a pressing need for more robust quantitative data from beyond the Anglophone world. Specifically, there is little empirical information on religion and climate opinion in the Global South, especially across the diversity of Muslim-majority nations, in Sub-Saharan Africa and in East Asia. Second, there is a need for more systematic, comparative scholarship that examines convergences and divergences across traditions, polities, and environments. A handful of research collaborations have pursued such comparison, but given the scale and complexity of the global climate crisis, this remains a poorly understood domain (2, 46–49).

### 3. RELIGIOUS ENGAGEMENTS WITH CLIMATE CHANGE

This section reviews recent responses to climate change formulated by religious communities or through religious thought. “Religious engagements” here include (Section 3.1) statements from leaders of religious communities and (Section 3.2) confessional and constructive proposals for how climate change should be interpreted that work from religious traditions, for religious constituencies, or with religious ideas. Both literatures demonstrate formal religious thought interpreting the meaning of climate change. Many of the texts and movements in this section emerge from dialogue with the ethics and politics of climate change, which this review cannot cover, and sometimes with discourses about the Anthropocene, which we briefly note in Section 5. Christian engagements present a disproportionately large literature here, likely for two reasons. First, Christianity remains overrepresented within the academic fields of theology and religious studies, so there are relatively more researchers with institutional support to consider the challenge of climate change to Christianity. Second, as the dominant religion of the North Atlantic societies that developed fossil-fuel industrialism, Christianity seems more deeply entangled than other religions with the historical dynamics that gave rise to climate change, and may therefore require greater investigative scrutiny or bear special responsibility for developing responses.

However, some of the most important fault lines in religious engagements with climate change are not between religious traditions but within them, often following rifts in the geopolitical relations of climate change. Between Global South Christianity and North Atlantic Christianity, climate change generates increasingly significant theological conflict. The “engaged Buddhism” of North American environmental activism differs significantly from the reception of Buddhist thought in the world’s greatest emitter, China, and from that in Bhutan, a carbon-negative country.

At stake in this section, therefore, is not simply whether a tradition supports action on climate change, but how a tradition’s ideas and values are mobilized by religious agents to interpret the relations and responsibilities of a particular context. Those ideas and values help constitute possibilities for climate politics; although they do not always map neatly onto distinct political positions, they interpret the relations within which policies will seem more or less responsible.

#### 3.1. Formal Statements

Religious authorities have been making statements on climate change for about as long as scientists have been drawing attention to it. The World Council of Churches already had a Climate Change Program when the IPCC was instituted in 1988. The Dalai Lama made his first speech on climate change in 1990 (7). Most formal statements affirm the universal moral significance of climate change as seen by the light of the practices and beliefs of a particular religious tradition, although some seek to contest its significance or to shift global climate discourse.

One of the most important formal statements does both. The 2015 encyclical of Pope Francis, *LS*, seeks to shift certain ways of framing climate change while fundamentally affirming its moral significance as seen by the light of Catholic teaching (50). Encyclicals are book-length teaching documents in the Catholic Church, so the very act of devoting one to global ecological change signals moral gravity. However, *LS* is not content to simply motivate concern; it sharply criticizes what it calls “the technocratic paradigm” for addressing global environmental problems. That paradigm’s instrumentalist attitude toward other people and all of “creation,” argues *LS*, has produced ecologies of destruction and economies of immiseration. *LS* therefore argues against responses to climate change that it thinks would intensify human control over Earth and exploitation of the poor by the wealthy. Francis is thus skeptical of carbon trading and technological solutions, which seem to him likely to intensify inequality and domination. Instead, an inward change, within

the human spirit, is first required to hear “both the cry of the earth and the cry of the poor” (50, p. 49).

Francis’s prescribed change is not, however, an uncritical or exclusivist turn to Christian faith. *LS* criticizes “mistaken” historical expressions of Christianity, which “justify mistreating nature, to exercise tyranny over creation” (50, p. 200). Acknowledging his own tradition’s association with that view, Francis encourages pluralist conversation over the common good, devoting an entire chapter to describe the multiple dialogues needed to address grave ecological problems.

In 2015, several other bodies issued formal statements, sometimes specifically taking up the call for dialogue in *LS*, to encourage the Conference of the Parties (COP) meeting in Paris. The “Islamic Declaration on Climate Change,” drafted at an Islamic Conference on Climate Change, holds that although humans are called to the role of caretaker or steward (*khalifa*) of Earth, corrupt performance of that caretaking role by humans has instead wrought damage and destabilization. The Islamic Declaration specifically calls on oil-producing states to phase out greenhouse gas emissions, and calls on all nations to commit to a zero emissions strategy. Meanwhile, the 2015 “Rabbinic Letter on the Climate Crisis” interprets climate change in terms of humans overworking God’s creation, and therefore as a failed obligation to let Earth rest. It calls on Jewish communities to integrate damaged ecological relations into their strong historic commitments to social justice.

The “Buddhist Climate Change Statement to World Leaders,” signed by the Dalai Lama and Buddhist leaders from many countries, articulates concern from the classic teaching of dependent co-arising, which illuminates the interconnection of all things. Dangerous climate change thus reveals lack of insight, and moving toward clean energy is therefore important not only for stabilizing planetary systems but for spiritual renewal. The “Hindu Declaration on Climate Change” focuses on the suffering caused by climate change. Interpreting duties of response through principles of reverence for life and understanding of karma, the Hindu Declaration calls for personal service.

While those four statements each interpret responsibilities for climate change through their respective traditions, two interfaith statements attempt to identify values shared across traditions that support action on climate change. The 2015 “Interfaith Climate Statement” to the Paris meeting affirmed that all **faith** recognize a moral obligation to avoid harm, respect fairness, and care for the vulnerable. That follows closely the 2015 exhortation to climate action from the Parliament of World Religions, “Embracing Our Common Future,” which also mentions duties to future generations and respect for all life.

Taken together, those statements seem to show a united front of support from religious leaders for robust action on climate action. However, some religious statements contest the interpretation of climate change in the documents of coreligionists. Statements from Evangelical Christianity are especially interesting for the tale they tell of internal conflict over climate change. Among the supportive statements, in 2006 many prominent US Evangelicals signed the “Evangelical Call to Action,” which summarized a theological case to support national and global climate policies. In 2011, Evangelicals from around the world developed the “Cape Town Commitment,” an international evangelical confession of faith, which describes climate change as an urgent challenge as morally grave as world poverty. However, the 2009 “Evangelical Declaration on Global Warming,” organized by the Cornwall Alliance, a US group supportive of fossil fuels and skeptical of climate action, criticizes the notion that planetary systems are vulnerable to human action and argues that fossil fuel energy is important to human flourishing.

Formal climate statements from indigenous peoples differ from other religious statements in two major ways. First, because indigenous peoples are usually also sovereigns or engaged in efforts to secure sovereign rights over territory, the category of “religion” risks obscuring how their climate statements are as much declarations for political survival as they are statements of

belief and value (see Section 4). Second, insofar as they interpret climate change as a consequence of the colonial practices that have exploited and oppressed indigenous peoples, they may hold that indigenous teachings have unique importance for understanding the world's predicament. For example, the "Indigenous Elders and Medicine Peoples Council Statement" to COP21 Paris declared "We have sent out messages to the people of this world warning that 'this dark time' or 'this day' would come if the people did not immediately stop their destructive activities and realign themselves in harmony and balance with the Creator's Natural Law" (51, p. 256).

Unlike many of the religious statements above, therefore, indigenous climate statements tend to show less interest in presenting themselves in alliance with statements of other religious bodies. Recognizing the special vulnerability of indigenous peoples to climate change and the relevance of indigenous knowledges for responding to climate change, they argue more explicitly for the global relevance of their particular teachings. For example, the 2009 "Mystic Lake Declaration," developed by the Native Peoples Native Homelands Climate Change Workshop, argues that the whole world should treat Earth as kin, indeed as a Grandmother whose instructions function as spiritual laws. The 2009 "Anchorage Declaration" of the Indigenous Peoples' Global Summit on Climate Change not only calls for immediate and robust international action on climate change, but also offers to teach the rest of humanity knowledge and practices needed to live rightly with Mother Earth. All three indigenous statements emphasize that adequate international climate action must begin with respecting the intellectual and territorial rights of indigenous peoples.

### 3.2. Confessional and Constructive Thought

Beyond the official statements of religious organizations, many scholarly engagements with climate change work with religious traditions or ideas. They generally do so for one of two purposes: either (a) to show how climate change matters within the moral world of a particular tradition, sometimes with critique of the tradition and proposals for its transformation, or (b) to describe in religious terms moral and political dimensions of climate change that seem obscured or missing in nonreligious discourses. We might respectively designate the two approaches as "confessional" and "constructive," although the terms are imperfect and some texts (52, 53) work in both modes simultaneously.

**3.2.1. Confessional.** By interpreting climate change through a religious community's native ethical concepts, religious thinkers may seek to show members of a tradition why climate change is a moral issue, and perhaps also why their tradition is particularly well-suited for responding to it. Vinay Lal (54), for example, argues that a cosmology of interconnectedness and concomitant moral posture of solidarity makes Hinduism specially fit for the Anthropocene age. Lal highlights how Hinduism inflects climate comprehension by training practitioners to think in multiple temporal registers, and thus to affirm the existential significance of the deep past and distant future.

The diversity of Hindu traditions exemplifies why no single account of a religion's way of making climate significant will be satisfactory. Albertina Nugteren (55, p. 27) argues that the scholarly impulse to uncover religious remedies for environmental woes has led to "uncritical, selective, noncontextual and a-historic" treatments of religious traditions, and that confessional engagements with climate change are often narrowly oriented toward "reproduction of inspiring imagery." She points out that Hindu views of creation and time might just as well promote fatalist attitudes and quietist politics (55; see also 56–58).

Making climate change matter within the moral cosmology of a religious community is always an interpretive exercise, conducted with ambivalent inheritances among multiple possible futures. In the case of Daoism, James Miller embraces the ambivalence to reconstruct an account of the



tradition that at once clarifies how ecological relations matter within it and then relies on that account to criticize dominant modern environmental discourses (53). Chinese interpretation of the meaning of climate change will, obviously, be increasingly important for international cooperation; however, focused considerations of climate change from Confucian and Daoist perspectives remain few (see 59–62).

A decade ago, the scholar of Buddhism and environmental thought, Stephanie Kaza, observed that attention to global climate change was virtually absent from academic and popular conversations on “green Buddhism” or “eco-Buddhism” (63). The broader body of literature on environmental themes in Buddhism had focused on debates around the implications of Buddhist cosmology, especially the idea of *pattica-samuppāda* (dependent origination), Buddhist appreciations of nature and respect for nonhuman creatures, mindfulness in consumption, and the role of environmental activism in emerging forms of “engaged Buddhism” (64). But Kaza’s observation no longer applies, as each of those loci of interpretation have been developed in specific engagement with climate change (65). Several recent studies explore the perspectives and activities of Buddhist communities or organizations facing climatic changes in particular national or subnational contexts, such as Tibet (66), Bhutan (67), Ladakh (68), Nepal (69), Indonesia (70), and Taiwan (71). As practitioners of Buddhism respond to it in each context, climate change forces renegotiations of inherited meanings of Buddhism.

Today, Kaza’s observation about the relative absence of climate change could be applied more readily to Judaism and Islam, with some notable exceptions. When the scholar of Jewish ethics, Laurie Zoloth, served as President of the American Academy of Religion she made climate change the theme for the organization’s annual meeting. Zoloth appeals to Jewish themes of justice and hospitality to call her colleagues to treat “climate change, and the way that it threatens the lives of the most vulnerable” as a “critical focus of scholarship, thought, speech, and action in our field” (72). Her keynote address drew on the Jewish practice of Shabbat (“sabbath”), the scriptural theme of the **Smita** year (“sabbatical year,” in which labor periodically ceases and debts are forgiven), other themes from the Talmud and Hebrew Scriptures, and modern Jewish thinkers such as Hannah Arendt, Walter Benjamin, and Emmanuel Levinas to explain the moral and intellectual urgency of climate change (1). Belser, another scholar of Jewish ethics, frames climate change as a matter of justice and vulnerability, revisiting ancient narratives to diagnose contemporary “moral oblivion” among the privileged (73).

Although there is a substantial body of confessional work within Islam that engages environmental issues (74, 75), relatively few works directly address climate change. Jonathan Brockopp (76) argues that Islam may motivate concern by framing destructive climate change as disrespectful to God’s revelation within creation. Ali (77) suggests that such reflection on Muslim norms may soon support principled energy shifts in fossil-fuel-exporting Islamic countries. There are also useful ethnographic studies on Islamic climate thought and practice in particular contexts, including northern Kenya (78), Ghana (79), Indonesia (70, 80), and Mali (81).

Work from or for Christian contexts is more voluminous. There are theologies of climate change arising from many specific subtraditions and contexts, including Catholic (82, 83), Lutheran (84), Wesleyan (85), evangelical (86), Oceanic (87), Pentecostal (88), African (89), liberationist (90), feminist (91), and womanist (92)—among others. There is moreover a large South American Christian theological literature on environment and climate change written in Spanish and Portuguese, which is not reviewed here (but see 93).

Does the relatively large theological literature indicate that Christianity is rapidly changing in response to climate change? Not necessarily. There may be more theological activity within Christianity, as compared with other global traditions, because Christianity is more historically entangled with the North Atlantic societies from which industrialism spread, and because

environmental thought has long held well-developed criticisms of Christianity, thus creating tensions to which Christian theologians have had to respond (94). In fact, several thinkers within the tradition hold that climate change poses a massive destabilizing theological challenge to the forms of Christianity prevailing in the North Atlantic world (52, 95–99). Some theologians have thus begun systematic reconsideration of basic Christian doctrines in light of climate change (100). Others, including Conradie (94) and Kim & Koster (91), suggest that Christian climate discourses arising from the Global South should decenter predominant North Atlantic Christianities, by presenting alternative points of departure for Christian faith and life.

In stark contrast, some of the most conspicuous theological work around climate change in the Christian tradition attempts to deflate the challenge by debunking its importance. The Cornwall Alliance declares climate concern anti-Christian, claiming that such environmentalism constitutes a rival globalist religion that demeans God’s world-sustaining providence, debases humanity’s God-given “dominion” over Earth, threatens the sanctity of life, and harms the poor by diminishing prospects for fossil-fueled development (101). As noted in Section 3.1, theological divergence between Evangelicals in the US and those in other parts of the world suggests a climate-driven rift within this form of Christianity.

Some scholars argue that climate skepticism in white US Evangelicalism represents a contingent, elective alliance between evangelical theology and extractive industry (102). The existence of evangelical theologies of climate concern (103–105) offers evidence that such skepticism is not required by basic evangelical commitments, and should therefore be engaged pragmatically (106, 107).

Nonetheless, many North Atlantic Christian theologians concerned about climate change take pains to counter climate denialism theologically. Michael Northcott (96) argues that climate change mediates God’s judgment on a bad biopolitical order. Experienced through planetary feedback, he holds that climate change is rightly interpreted as God’s wrath on extractive civilization, and particularly on its secular salvation narrative of human progress through mastery of nature. For Northcott, the myths that make possible climate denialism, whether they appear religious or secular, stand in need of correction by theology. On the view that bad religion prevents political response to climate change, Northcott calls readers to a true theological vision, which is, for him, a Christian vision (52).

**3.2.2. Constructive.** Constructive religious thought does not necessarily require a confessional context; an argument may use elements from a religious tradition to interpret the demands or obligations involved in climate change. Northcott, for example, moves beyond confessional thought to a more broadly constructive position when he uses Christian ideas to describe a form of climate politics that people of any or no faith might inhabit. In his virtue-based approach to global climate politics, for example, “the central duty of moral and political communities in relation to the mitigation of climate change is to train their members in new ritual practices of daily living in which care for the environment and the climate is honoured” (52, p. 263). Northcott illustrates what he means by appealing to practices found in the Transition Towns movement, implying that his theological vision for climate politics might be cultivated in nonecclesial settings by people who do not identify as Christian. Even though many members of Transition do not identify as religious in any way, constructive religious thought may help interpret their practices or orient their commitments (108).

The broader field of nonreligious normative climate ethics lies beyond the scope of this review; however, demarcating “religious” from “nonreligious” normative thought is not always straightforward. For example, the Dalai Lama develops a global ethic for a time of climate change and other global threats by developing universalist moral claims, ostensibly accessible to all modern

humans, illuminated by Buddhist teachings and apt for cultivation in any tradition (109). Elements from traditionally religious inheritances—including ideas, symbols, rituals, and practices—may thus sometimes be developed to contribute to pluralist, public domains or to intervene in “nonreligious” climate ethics.

Religious ethicists have recently engaged questions of climate engineering (110, 111), the moral meaning of IPCC (Intergovernmental Panel on Climate Change) scenarios (112), and responsibilities to future generations (97, 113) in that sort of constructive pluralist mode. Here we briefly note three important cross-cutting themes in recent constructive religious engagements with climate change: stewardship, climate justice, and apocalyptic.

The first of these, stewardship, connotes entrusted responsibility for something properly belonging to another. It has long been prominent in modern Jewish, Christian, and Islamic environmental thought (as *khilafa* in the latter), probably because its basic form of responsibility is especially compatible with accountability to a Creator for use of creation. Over the past decade, it has risen in prominence as some environmental scientists, observing anthropogenic change in multiple planetary systems, have called for active stewardship of coupled human/Earth systems (114, 115).

The environmental philosopher Robin Attfield (116) engages the Abrahamic form of stewardship with climate change to develop an account of humanity as “trustees of the planet.” In this case, climate change exemplifies a situation of expanded human responsibility, in that humans must now take care of the planetary systems on which they depend. As Attfield works with Abrahamic ideas to highlight humanity’s role as Earth’s caretakers, he develops a moral anthropology that seems tailor-made for the Anthropocene. If climate change reveals humanity’s extraordinary Earth-transforming powers, the stewardship paradigm presents believers with strong reasons to acknowledge these powers, to accept responsibility for them, and to exercise them on behalf of God and future generations. However, stewardship frameworks are liable to the criticism that they entrench anthropocentric arrogance and legitimate an exploitative ideal of global ecological control (117, 118).

Stewardship sometimes appears differently in contemporary indigenous environmental thought. Indigenous leaders may describe the biocultural practices of their peoples as a form of responsible membership in Earth and an intergenerational trust that they have an obligation to pass on. Although indigenous accounts involve an analogous sense of original responsibility as Earth’s “caretakers” (as in the 2009 Anchorage Declaration; see also 51), their version of stewardship is sharply distinguished from the typical Abrahamic form by shaping responsibility through interdependence and reciprocity with bioregional relations, rather than through accountability to a transcendent God. Here, stewardship is entrusted to humans by other members of an ecological community, who may be held as sacred and even rights-bearing on their own, as well as by past and future generations (119, 120). The typical contrast between Abrahamic and indigenous versions of stewardship illustrates how the future of stewardship as a concept of global responsibility depends in part on which background religious traditions inform its public use.

A second important theme in recent religious engagements is climate justice. Joining a broader discourse of climate justice, these engagements draw on religious inheritances to expand or intensify interpretations of the way justice bears on aspects of climate change. For example, indigenous political thought sometimes draws from indigenous cosmological traditions to expand or criticize considerations of justice in mainstream climate ethics. Although “religion” may be an inept category for indigenous peoples’ movements (see Section 4), what is important to see is how representatives bring indigenous cosmologies to bear on analyses of fairness in climate change. When the Indigenous Elders and Medicine Peoples Council declared that “all Creation has a right to live and survive on this Sacred Earth and [to] raise their Families where the Creator placed them to

be” (51), they reaffirmed a series of interventions in climate discourse which insist that the survival of indigenous peoples and their collective rights to traditional lands, waters, and sacred sites are entwined with the survival and rights of the Earth as a sacred ecological community (see, however, 30, 121).

Appealing to the cosmivision helps underscore how failure to adequately address climate change constitutes both a rights violation and a desecration. It also deepens indigenous peoples’ critiques of major climate policy proposals. For example, they may hold that carbon trading regimes such as REDD (Reducing Emissions from Deforestation and Degradation) not only allow polluters in the Global North to continually violate the rights to subsistence, development, and self-determination of indigenous and other marginalized peoples, but also reinscribe colonialist ideologies into global environmental politics, insofar as they “objectify, commodify, and put a monetary value” on the sacred (119, p. 468). Indigenous peoples’ resistance to climate injustice often mobilizes ceremony and ritual for protest, and reasserts spiritual kinship with Earth (122).

Indigenous peoples’ political participation in climate discourse may then require, as a matter of procedural justice, the opportunity to speak in (what appears to modern categories as) “religious” ways. Understanding impacts of climate change on indigenous peoples will be inadequate apart from recognition of the cosmological relations and cultural practices that carry indigenous ecological knowledge and collective survival. Such recognition will also be crucial to understanding the contribution of indigenous ecological knowledge to the climate resilience of all cultures (122).

One aspect of climate injustice recognized by constructive thought from multiple traditions is ecological debt—the idea that Global North countries owe the South, generally, and indigenous peoples, particularly, a debt for historical overuse of global resources, beginning from colonial extraction. For example, in 2009 the World Council of Churches, in its “Statement on Eco-Justice and Ecological Debt,” called on Christian churches to acknowledge an obligation to address debts incurred by ecological exploitation and asked policymakers to include ecological debt in global economic implications. Pope Francis, in *LS*, incorporates the concept of ecological debt, which had already entered Catholic social thought through liberation theologies and dialogue with indigenous peoples, in his argument for responses to climate change that put justice for the marginalized at the center (50). Developing implications of that line of thought from Protestant theology, Cynthia Moe-Lobeda interprets the dynamics of ecological debt as “climate sin.” Thus, she integrates global political ecology into the central Christian narrative of sin and salvation in a way that intensifies the moral seriousness of climate change (123). Doing so also begins to reimagine central moral concepts in Christianity; “love,” she writes, “means faithfully seeking to dismantle the power structures and ways of life that undergird climate change” (124, p. 214).

A third prominent theme is apocalyptic. “Apocalypse” carries the colloquial meaning of a catastrophic end to some world, and as such may seem the most dire form of pessimism. However, from ancient Jewish and Christian religious thought, it has more literally meant the uncovering or revealing of the future, which may have either optimistic or pessimistic valences. As models of climate change forecast dangerous feedback through planetary systems, cultural interpretation may draw on both meanings and both valences.

Apocalyptic narratives in US Evangelicalism have been implicated in political inaction on climate change. Here beliefs about the imminent interruption of history by God cast “shorter shadows of the future” and therefore make concern about long-term risks appear irrational (14). Or, especially as depicted in popular religious fiction, they may interpret climate change as in fact part of divine apocalyptic activity, the beginning of the end times, such that “the Anthropocene does not represent a human-made problem but a God-made, biblically prophesied conclusion that should be welcomed” (125, p. 218). In either case, apocalyptic evangelical climate narratives function to delegitimize political responses to climate change.

That is not the inevitable outcome of Christian apocalypticism, which may instead construe this historical moment as a time for decisive responsibility. An apocalyptic theology may interpret the age of climate change as a time when God begins the final overthrow of extractive empires, perhaps by drawing all Earth into violent judgment on a corrupt civilization (52, 126). Because speculation about cataclysmic futures may appear inexplicable to outsiders, it is important to understand that at stake in competing ways of narrating climate change within Christian apocalyptic are fundamental questions about how to regard political forces currently shaping life on Earth, about how to act in the face of uncertain futures, and about the limits of human agency in bringing about certain futures (127).

The term apocalyptic is also sometimes used in interpretations of climate science as a catastrophist metaphor for how bad climate change scenarios may become. The practical implication there may be either pessimist (catastrophe is unavoidable) or optimist (there is just enough time to change course). The term is also employed as a pejorative by climate skeptics and others critical of urgent activism or robust policy proposals. Here, describing climate discourse as apocalyptic downplays the moral urgency of climate change by rhetorically associating it with religious speculation. Stefan Skrimshire analyzes how apocalyptic language appears in both religious and nonreligious contexts to interpret climate scenarios and to support environmental politics ranging from “eco-catastrophism” to “eco-utopianism” (128, 129; see also 130). Again, the apocalyptic genre hosts an interpretive contest regarding human responsibilities in the face of uncertain futures.

The emergence of apocalyptic as a genre for interpreting climate change may suggest something about a dark cultural mood around climate change—that “we live with a sense of the inevitability of our worst fears” (129, p. 242). That may explain why there is a significant cluster of Christian theological work around hope and climate change (103, 131, 132), and, more generally, why there is broad engagement across cultural domains with questions of hope and despair in times of rapid environmental change.

If there is a thrilling, dreadful sense of the novelty of this time, however, indigenous scholar Kyle Powys Whyte observes that many indigenous peoples already live in worlds that were their ancestors’ worst fears, and are now, in climate change, living through yet another period of settler-imposed environmental dislocation (133). As Danowski & Viveiros des Castros (134, pp. 22, 104) put it, if “the Anthropocene is the Apocalypse” then “indigenous people have something to teach us when it comes to apocalypses. . . for the native people of the Americas, *the end of the world already happened*—five centuries ago.”

The salience of the apocalyptic genre for interpreting climate change suggests that, regardless of whether or how it is taken up by conventional religious agents, climate change may carry a depth of cultural significance aptly described as religious (see Section 5). Before we consider that possibility, we take up something illustrated by the conceptual traffic between religious and scientific uses of apocalyptic: the way that connections of religion and climate exert reconceptualizing pressure on both categories.

#### 4. REFLEXIVITY OF RELIGION AND CLIMATE

Understanding of religion is shifting as its relations with climate comes into view. Contemporary cultural stresses from climate change have, for example, led historians of religion to reconsider how climate change may have been involved in major periods of religious change (135, 136). The Little Ice Age may have played a role in intensifying cultural stresses that fueled the Protestant Reformation. Some researchers have linked that period of adverse climate change to moral and religious conflict, including European Christian persecution of witches (137). Northcott goes so far as to suggest that the Little Ice Age pressured Christian theologians into separating their perception of divine will from natural events, presaging the distinction and separation of “nature”

and “culture” that underlies the modern idea that climate can somehow be disentangled from political and economic life (52). Conversely, Lydia Barnett (138) argues that Christian ideas about sin as a potent form of agency were crucial to early development of the scientific hypothesis that humans could alter the planet’s climate. The key point is that if religion has a role in shaping ideas of climate change, and if at the same time climate acts on religion, then research into both need to take into account that reflexive relationship.

With that reflexivity in view, scholars have begun to anticipate how contemporary climate change may be stimulating religious changes, and how those changes may in turn affect human participation in climate systems. For example, researching everyday life in the Western Himalayas, Ehud Halperin discusses processes of climate change driving doubts about key features of Hindu worldview and ritual. Halperin suggests that local understandings of divine and human agencies are shifting under pressure from environmental change and global climate discourse (139). More generally, Prasenjit Duara argues that climate change may push Asian societies to break from European cultural foundations of global modernity in order to construct with classical Asian religious inheritances a new cosmology that supports sustainability (140). The various Asian political movements responding to climate change are then, in his view, constructing new formations of sacrality.

Halperin and Duara offer ways of answering Bronislaw Szerszynski’s question: “As the flows of energy and matter around the world are altered, and a new geological epoch emerges, what will become of the sacred?” (141, p. 253). Even if not always in predictable, linear patterns, and not always in explicit response to climate change, the basic idea here is that anthropogenic changes in human-natural systems exert reflexive pressure on the religious systems through which, in turn, many persons interpret the meaning of global environmental change. That reflective interpretive spiral may drive cosmological shifts analogous in scope to those of the Axial Age (142).

Rapid growth in the number of formal responses from religious bodies and of constructive proposals from religious thinkers suggests that response to climate change may be accelerating religious processes of interpretation and ritualization (143), perhaps even driving their “shared symbol-making capacity” in convergence toward a shared ecological worldview (144). However, as is clear from the phenomenon of denialism among white US Evangelicals, religious processes might just as well incorporate the idea of climate change into opposition to environmental governance and endorsement of fossil energy. The religious creativity elicited by climate-related cultural stresses does not yet seem to take a consistent pattern (8). Moreover, some forms of climate-pressured religious creativity may not explicitly thematize climate change (145). In that case, “religious” engagements with “climate change” may happen without either term explicitly appearing, however, with consequences for both how humanity materially participates in a planetary system and how it interprets the meaning of its participation.

Indigenous peoples’ movements are especially important for understanding climate-religion reflexivity—and for critiquing both categories. Any religious practice that takes place in a particular ecosystem, involves a particular species, or focuses on a particular relation will be particularly stressed by the way global warming shifts habitats, drives extinctions, and changes ecological relations (146–148). Insofar as sacred indigenous traditions have their meaning in particular landscapes or ecological relations, climate change seems to escalate the threat to free exercise of religion posed by dislocative impacts of settler culture (121). If climate change threatens to disrupt or alter indigenous religious practice, then, in turn, indigenous political responses may emphasize the centrality of those practices to interpreting climate change. For example, the Indigenous Environmental Network’s account of climate justice includes “recognizing Mother Earth as a living being with which we have an indivisible, interdependent, complementary and spiritual relationship” (quoted in 122).

Around the world, indigenous peoples' movements are on the front lines of climate change, protesting the ways in which their communities are impacted by imposed environmental precarity and mobilizing resistance to toxic ecologies of hydrocarbon extraction. In many cases, these resistance movements are rooted in the desire to protect sacred landscapes or cosmologically grounded notions of territorial sovereignty. As such, the politics of indigenous environmental resistance is increasingly wrapped up with legal frameworks related to religious freedom, including the United Nations Declaration on the Rights of Indigenous Peoples (article 12), Canada's Charter of Rights and Freedoms (sections 2 and 25), and the United States' American Indian Religious Freedom Act and the Religious Freedom Restoration Act.

However, "religion" may be a distortive category to describe the biocultural ways of indigenous peoples. Insofar as it is used to isolate "sacred" practices from "secular" ones, or to compare "supernatural" ideas with "scientific" ones, the category of religion may promote a classificatory scheme that discriminates against indigenous ways of life at every turn. Religion was used as a category in the colonial period to delineate "primitive" from advanced cultures, and thereby legitimate colonialism. It is sometimes used in the postcolonial period to marginalize indigenous ecological knowledges (as sacred but not scientific) or to treat relations with a landscape as individual spiritual experiences and, therefore, in the secular imagination, as inessential to political governance and portable across geography (121, 149, 150).

"Climate change" is also a contested category for indigenous lifeways. On one hand, as paradigm of the serial threat to indigenous peoples everywhere of imposed environmental change, it seems to have occasioned or accelerated development of a global indigenous political identity that often presents itself with a common Mother Earth cosmology. So climate change seems to drive a process of indigenous meaning-making that carries cosmological and political dimensions (151). On the other hand, as a product of modern science, the idea of climate change can exclude indigenous knowledges of environmental change and cultural resilience (152). When worries about climate change present it as an unprecedented sustainability threat, the idea of climate change may also conceal the way that settler colonialism has already imposed dystopic environmental change on indigenous peoples (133). Conversely, as settler cultures become interested in the adaptive strategies of indigenous peoples as possible models for their own adaptation, framing those strategies as "climate strategies" may obscure the cosmology in which they make sense (121).

The relationship of indigenous peoples to global climate change deserves an entire review article of its own. The point here is simply that the difficulty of using either category in regard to indigenous interpretations and political activity is helpful both for depicting the reflexivity of religion and climate and for destabilizing the categories of "religion" and "climate change."

## 5. CLIMATE CHANGE AS RELIGIOUS EVENT

As the paradigmatic issue of an era characterized by pervasive anthropogenic change in planetary systems, climate change may represent a cultural event aptly described as religious due to the scope of the relations it affects and the cultural significance of the questions it raises. When, for example, a team of environmental scientists writes that "human imprint on the global environment has now become so large and active that it rivals some of the great forces of Nature in its impact on the functioning of the Earth system" (153, p. 843), they suggest that climate change is part of an epochal shift in humanity's understanding of itself and its relations with Earth.

One aspect of the debate over whether to designate this new epoch as the Anthropocene thus involves interpreting the extent to which climate change should be understood as an event with implications of a religion-like depth (154). The proposal that human habitat modification has aggregately become a geological force, to an extent that it makes sense to name a new geological

epoch, seems to represent at once the apotheosis of humanity and its eclipse. The emergence of a species-level drama of humanity with its planet threatens to engulf capacities of individual human experience and moral agency, especially those that have relied on “nature” as stable background, thus creating a crisis of cultural imagination (155). Interpretations of climate change as Anthropocene event thus destabilize imaginative construals of the human and its purposes with Earth. Indeed, criticism of Anthropocene discourse often intervenes with alternative cosmological frames or spiritual possibilities, in part to criticize myth-making in the guise of natural history (156, 157). Making sense of climate change as convergent geological and cultural event thus may entail religious judgments and anticipate new religious formations (141).

Those entailments become more visible in discussions about geoengineering. When scientists, policymakers, ethicists, and others debate whether and how humans should intentionally manipulate planetary systems, they inevitably raise questions about imaginative construals of humanity’s place in the cosmos. Climate engineering helps exemplify why climate change may be “a question of ultimacy,” in the sense that it is a site of conflicting interpretations about what it means to be human (158). Investigating intentional climate change may then require a quasi-theological mode of inquiry (110).

Religious engagement with climate change may then happen outside conventionally religious communities (e.g., the Catholic Church) and beyond formal reflection on discrete traditions (e.g., Buddhist responses). Religious interpretation of climate change may also happen within secular social movements, and in forms of nature-based spiritualities that draw on multiple, hybrid streams of culture. Bron Taylor has drawn attention to the way environmental movements sometimes carry and cultivate formations of nature-based spirituality (159). Although research remains sparse in this arena, Taylor’s observation seems to hold for climate activism as well. For example, Boudinot & LeVassuer (108) find that participants in the Transition Towns movement, which seeks to remake communities for life after fossil fuels, regularly express ethics, affects, and values that can be described as spiritual, even though they do not map onto conventional religious traditions. Those spiritual dimensions inform how Transition participants interpret the meanings of climate change and frame its challenges.

Two different claims may be made about the religious entailments of climate activism. First, one may hold that religion is involved in how civil society engages and interprets climate change when secular climate movements invite participants into rituals, ceremonies, or meditations, or when participants experience any aspect of the movement as spiritually important (see 160). A different kind of claim holds that climate movements carry inherent, if inchoate, religious dimensions. Taylor (159, p. 13) argues that much of the religious creativity within environmental movements has been what he calls “dark green”—“flowing from a deep sense of belonging to and connectedness in nature, while perceiving the earth and its living systems to be sacred and interconnected.” Such perceptions, Taylor emphasizes, do not require belief in a spiritual realm; this sort of religiosity is compatible with naturalist materialism.

Insofar as climate movements attempt to cultivate such belonging and connection, or to establish the moral value of Earth’s living systems, then, it is possible to see them as doing a kind of religious work by shifting cultural perceptions of the human condition or transforming moral cosmologies (140). Climate movements may claim that adequate response to climate change cannot avoid such deep cultural engagement. However, as Howe (149) shows, religious work can also render precarious the cultural position of secular environmentalism. For example, insofar as secular climate movements depict Earth as sacred and humans as belonging to it, some US Evangelicals depict them as crypto-religious rivals (101).

Taylor (159, p. 178) thinks that sort of conflict is unavoidable: “For the most part, despite occasional efforts to hybridize religious traditions, most of the world’s major religions have worldviews



that are antithetical to and compete with the worldviews and ethics found in dark green religions.” If adaptive cultural response to climate movement eventually must include a sense of Earth as sacred and of human life as belonging to it, then, by implication, some religious formations cannot have a future.

In his *Facing Gaia: Eight Lectures on the New Climatic Regime*, Bruno Latour (161) has recently made the case for the political necessity and cultural unavoidability of a kind of “geopolitical theology” for the Anthropocene. Not to be seen as a separate deity, Latour’s Gaia refers to a superorganismic collective facing humans as the cumulative actions of all creatures, revealed paradigmatically in climate change. Facing Gaia well, he argues, requires seeing and indeed fostering a new kind of religious conflict, between two cosmological memberships: “The *Humans* living in the epoch of the *Holocene* are in conflict with the *Earthbound* of the *Anthropocene*” (161, p. 248). There is no possibility of avoiding religion here, but neither then does religion look much like the usual institutions and memberships. “Religious” for Latour brings into view the time and territory of a collective shaped by its fundamental care. The opposite of “religious” in this sense is not secularism or atheism but “negligence”—not taking care, including not taking care to specify for what one cares. This kind of view deepens rather than alleviates religious conflict; indeed, the differences may be apocalyptic (134).

However, recognizing religious dimensions to climate-related cultural flows does not necessarily require a strong view of conflict between worldviews. Jenkins interprets contemporary formations such as permaculture or food movements as implicit responses to the cultural pressures of climate change (145). Without making “climate” an explicit thematic, he argues, these movements sometimes negotiate Anthropocene challenges with a religion-like depth, and thereby indicate how climate change drives “subtle and fundamental shifts as it exerts a kind of tectonic stress across multiple cultural domains” (145, p. 71). So “religious” engagements with “climate change” may happen without either term appearing, and with the consequent cultural practices running through many different communities of identity.

The spiritual and cosmological movements forming in response to climate change provide further evidence for the premise (of Section 4) that anthropogenic changes in human-natural systems have a reciprocal impact on human cultural systems. Some cultural forces that bear heavily on climate are in flux, renegotiating the meaning of human life in the cosmos as they interpret the meaning of environmental change. The cosmological diversity of climate movements and the depth of cultural ferment they represent help warrant the idea that climate change may be understood as itself a religious phenomenon.

The point here is that cultural reckonings with climate change may raise fundamental questions of meaning—including questions about human purpose, about the goods and destinies of Earth, about the possibilities and limits of human agencies in relation to other forms of life, divinities, and natural forces. Interpretations of how this moment fits into a greater story need not be housed exclusively or even predominantly within the historic “world religions.” Anthropocene thinkers such as Latour and Szerszynski suggest that radically new religious formations and imaginations may be under development in the many cultural spaces of climate change. Precisely how one assesses the religiosity of climate change may then depend on whether it is seen to pose an unprecedented crisis in human evolution or is seen as more continuous with other social and political problems (9, 97, 139). Insofar as the view that climate change is unprecedented commits one to cultural transformation at a religion-like depth (cosmological or axial), the latter view—that climate change is continuous with previous social changes—may be required to keep climate change “secular” by fending off the religious interpretation. However, that, too, is an interpretive judgment with far-reaching entailments.

### SUMMARY POINTS

1. Understanding the cultural dimensions of climate change requires understanding its religious aspects.
2. Religious identity correlates with political attitudes about climate change, but in complex ways that are not yet fully understood across traditions and contexts.
3. Public debates about climate change involve religious actors and draw on religious terms, both explicitly and implicitly.
4. Religious interpretations of climate change arise from many traditions and include formal statements from authorities and institutions, confessional scholarship that explains how climate change matters (or should) within a particular community or tradition, and public interpretations of climate change that draw on religious terms.
5. Interpretations of climate change by indigenous peoples challenge the categories of religion and of climate change in ways that illuminate reflexive stresses between the two concepts.
6. Research on historical connections of religion and climate suggest that contemporary climate change may stimulate major changes within the historic religious traditions.
7. Contemporary climate change may factor in the emergence of new religious formations, including ecological spiritualities within secular domains.
8. Arguments over how to interpret climate change sometimes raise fundamental questions about human self-understanding, Earth's destiny, and cosmology.

### FUTURE ISSUES

1. Social scientific research on relationships between religious affiliation and climate attitudes needs more data from beyond the Global North.
2. There is need for more comparative scholarship that allows analysis, quantitative and qualitative, across traditions, societies, and environments.
3. Given the diverse ways that religion matters in political life in different contexts, better data are needed to understand whether and how religion impacts the politics of climate change.
4. Research should track how interpretations of climate change shape arguments within and between religious traditions.
5. Research should extend analyses of how scientific and popular interpretations of climate change are shaped by religious imaginations, affects, practices, and vocabularies.
6. Research should track how interpretations of climate change matter for arguments about what religion is and how it relates to categories of science, the secular, and indigeneity.
7. How climate change factors in the emergence of new religious formations, as well as religion-resembling practices in secular domains, will be an ongoing challenge to investigation.

8. Because of its entanglement with questions of meaning and imagination, climate change presents an opportunity for integrations of science, humanities, and arts—including new engagements of religion and science.

## DISCLOSURE STATEMENT

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## LITERATURE CITED

1. Zoloth L. 2016. AAR Presidential address: interrupting your life: an ethics for the coming storm. *J. Am. Acad. Relig.* 84(1):3–24
2. Veldman RG, Szasz A, Haluza-Delay R, eds. 2013. *How the World's Religions Are Responding to Climate Change: Social-Scientific Investigations*. New York: Routledge
3. Haluza-DeLay R. 2014. Religion and climate change: varieties in viewpoints and practices. *WIREs: Clim. Change* 5(2):261–79
4. Gerten D, Bergmann S. 2013. Facing the human faces of climate change. See Ref. 162, pp. 3–15
5. Levasseur T. 2015. “The Earth is *sui generis*,” destabilizing the climate of our field. *J. Am. Acad. Religion* 83.2:300–19
6. Hulme M. 2009. *Why We Disagree About Climate Change: Understanding Controversy, Inaction and Opportunity*. Cambridge, UK: Cambridge Univ. Press
7. Hulme M. 2017. Climate change: varieties of religious engagement. See Ref. 163, pp. 239–48
8. Taylor B. 2015. Religion to the rescue (?) in an age of climate disruption. *J. Study Relig. Nat. Cult.* 9:7–18
9. Clingerman F, O'Brien KJ. 2017. Is climate change a new kind of problem? The role of theology and imagination in climate ethics. *WIREs: Clim. Change* 8(5):1–10
10. Sherkat DE, Ellison CG. 2007. Structuring the religion–environment connection: identifying religious influences on environmental concern and activism. *J. Sci. Study Relig.* 46(1):71–86
11. Smith N, Leiserowitz A. 2013. American evangelicals and global warming. *Glob. Environ. Change* 23:1009–17
12. Jones RP, Cox D, Navarro-Rivera J. 2014. *Believers, Sympathizers, and Skeptics: Why Americans are Conflicted about Climate Change, Environmental Policy, and Science*. Washington, DC: Public Relig. Res. Inst.
13. Carr WA, Patterson M, Yung L, Spencer D. 2012. The faithful skeptics: evangelical religious beliefs and perceptions of climate change. *J. Study Relig. Nat. Cult.* 6(3):276–99
14. Barker D, Bearce D. 2013. End-times theology, the shadow of the future, and public resistance to addressing global climate change. *Political Res. Q.* 66(2):267–79
15. Schwadel P, Johnson E. 2017. The religious and political origins of evangelical Protestants' opposition to environmental spending. *J. Sci. Study Relig.* 56:179–98
16. Chaudoin S, Smith DT, Urpelainen J. 2014. American evangelicals and domestic versus international climate policy. *Rev. Int. Org.* 9(4):441–69
17. Ecklund EH, Scheitle CP, Peifer J, Bolger D. 2017. Examining links between religion, evolution views, and climate change skepticism. *Environ. Behav.* 49(9):1–22
18. Arbuckle MB, Konisky DM. 2015. The role of religion in environmental attitudes. *Soc. Sci. Q.* 96(5):1244–63
19. Arbuckle MB. 2017. The interaction of religion, political ideology, and concern about climate change in the United States. *Soc. Nat. Res.* 30(2):177–94
20. Peifer JL, Khalsa S, Ecklund EH. 2016. Political conservatism, religion, and environmental consumption in the United States. *Environ. Politics* 25(4):661–89
21. Newman B, Guth JL, Cole W, Doran C, Larson EJ. 2015. Religion and environmental politics in the US House of Representatives. *Environ. Politics* 25(2):298–314

22. Myers TA, Roser-Renouf C, Maibach E, Leiserowitz A. 2017. Exposure to the Pope's climate change message activated convinced Americans to take certain activism actions. *Glob. Chall.* 1(4):1600019
23. Li N, Hilgard J, Scheufele DA, Winneg KM, Jamieson KH. 2016. Cross-pressuring conservative Catholics? Effects of Pope Francis' encyclical on the U.S. public opinion on climate change. *Clim. Change* 139(3–4):367–80
24. Landrum A, Lull RB, Akin H, Hasell A, Jamieson KH. 2017. Processing the papal encyclical through perceptual filters: Pope Francis, identity-protective cognition, and climate change concern. *Cognition* 166:1–12
25. Murphy C, Tembo M, Phiri A, Yerokun O, Grummell B. 2016. Adapting to climate change in shifting landscapes of belief. *Clim. Change* 134(1–2):101–14
26. Nunn PD, Mulgrew K, Scott-Parker B, Hine DW, Marks ADG, et al. 2016. Spirituality and attitudes towards nature in the Pacific Islands: insights for enabling climate-change adaptation. *Clim. Change* 136:477–93
27. Glaab K. 2017. A climate for justice? Faith-based advocacy on climate change at the United Nations. *Globalizations* 14(7):1110–24
28. Priest S. 2016. Talking climate: understanding and engaging publics. In *Communicating Climate Change. Palgrave Studies in Media and Environmental Communication*. London: Palgrave Macmillan
29. Brugnach M, Craps M, Dewulf A. 2017. Including indigenous peoples in climate change mitigation: addressing issues of scale, knowledge and power. *Clim. Change* 140(19):19–32
30. Kronik J, Verner D. 2010. *Indigenous Peoples and Climate Change in Latin America and the Caribbean*. Washington, DC: World Bank
31. Crate S, Federov A. 2013. A methodological model for exchanging local and scientific climate change knowledge in Northeastern Siberia. *Arctic* 66(3):338–50
32. Cruikshank J. 2001. Glaciers and climate change: perspectives from oral tradition. *Arctic* 54:377–93
33. Leduc T. 2010. *Climate, Culture, Change: Inuit and Western Dialogues with a Warming North*. Ottawa, Can.: Univ. Ottawa
34. Barnett J, Adger WN. 2003. Climate dangers and Atoll countries. *Clim. Change* 61(3):321–37
35. Rudiak-Gould P. 2012. Promiscuous corroboration and climate change translation: a case study from the Marshall Islands. *Glob. Environ. Chang.* 22:46–54
36. Alexander C, Bynum N, Johnson E, King U, Mustonen T, et al. 2011. Linking indigenous and scientific knowledge of climate change. *BioScience* 61(6):477–84
37. Kempf W. 2012. Climate change, migration, and Christianity in Oceania. In *Climate Change and Human Mobility: Challenges to the Social Sciences*, ed. K Hastrup, K Fog Olwig, pp. 235–57. Cambridge, UK: Cambridge Univ. Press
38. Kempf W. 2017. Climate change, Christian religion and songs: revisiting the Noah story in the Central Pacific. In *Environmental Transformations and Cultural Responses*, ed. E Dürr, A Pascht, pp. 19–48. New York: Palgrave Macmillan
39. Gagné K, Rasmussen MB, Orlove B. 2014. Glaciers and society: attributions, perceptions, and valuations. *WIREs: Clim. Change* 5:793–808
40. Orlove B. 2008. The place of glaciers in natural and cultural landscapes. In *Darkening Peaks: Glacier Retreat, Science, and Society*, ed. BS Orlove, E Wiegandt, BH Luckman, pp. 3–19. Oakland: Univ. Calif. Press
41. Carey M. 2010. *In the Shadow of Melting Glaciers: Climate Change and Andean Society*. Oxford: Oxford Univ. Press
42. Jurt C, Burga MD, Vicuña L, Huggel C, Orlove B. 2015. Local perceptions in climate change debates: insights from case studies in the Alps and the Andes. *Clim. Change* 133(3):511–23
43. Salick J, Byg A, Bauer K. 2012. Contemporary Tibetan cosmology of climate change. *J. Study Relig. Nat. Cult.* 6(4):447–60
44. Allison EA. 2015. The spiritual significance of glaciers in an age of climate change. *WIREs: Clim. Change* 6:493–508
45. Drew G. 2017. *River Dialogues: Hindu Faith and the Political Ecology of Dams on the Sacred Ganga*. Tucson: Univ. Arizona

46. Crate S, Nuttall M, eds. 2009. *Anthropology and Climate Change: From Encounters to Action*. Walnut Creek: Left Coast
47. Wolf J, Moser S. 2011. Individual understandings, perceptions, and engagement with climate change. *WIREs: Clim. Change* 2(4):547–69
48. Adger WN, Barnett J, Chapin FS 3rd, Ellemor H. 2011. This must be the place: under representation of identity and meaning in climate change decision-making. *Glob. Environ. Politics* 11(2):1–25
49. Adger WN, Barnett J, Brown K, Marshall N, O'Brien K. 2013. Cultural dimensions of climate change impacts and adaptation. *Nat. Clim. Change* 3:112–17
50. Francis I. 2015. *Laudato Si—On Care for Our Common Home*. Vatican City: Vatican Publ.
51. Looking Horse CA, Billie BC, Spotted Eagle F, Grass L. 2016. Appendix: Indigenous Elders and Medicine Peoples Council Statement, United Nations Convention on Climate Change COP 21 Paris, France, 30 November 2015 - 11 December 2015. *J. Study Rel. Nat. Cult.* 10(2):255–59
52. Northcott MS. 2013. *A Political Theology of Climate Change*. Grand Rapids, MI: Eerdmans
53. Miller J. 2017. *China's Green Religion: Daoism and the Quest for a Sustainable Future*. New York: Columbia Univ.
54. Lal V. 2015. Climate change: insights from Hinduism. *J. Am. Acad. Relig.* 83(2):388–406
55. Nugteren A. 2014. Cosmos, commodity, and care: three layers in Hindu environmental awareness. See Ref. 164, pp. 27–42
56. Drew G. 2012. A retreating goddess? Conflicting perceptions of ecological change near the Gangotri-Gaumukh glacier. *J. Study Relig. Nat. Cult.* 6(3):344–62
57. Chapple CK, Tucker ME, eds. 2000. *Hinduism and Ecology: The Intersection of Earth, Sky, and Water*. Cambridge, MA: Cent. Study World Relig.
58. Alley KD. 1998. Idioms of degeneracy: assessing Ganga's purity and pollution. In *Purifying the Earthly Body of God: Religion and Ecology in India*, ed. LE Nelson, pp. 297–330. Albany: SUNY
59. Xia C, Schonfeld M. 2011. A Daoist response to climate change. *J. Glob. Ethics* 7(2):195–203
60. Kuo S. 2011. Climate change and the ecological intelligence of Confucius. *J. Glob. Ethics* 7(2):185–94
61. Miller J, ed. 2017. *Religion and Ecological Sustainability in China*. New York: Routledge
62. Miller J. 2017. China. See Ref. 163, pp. 181–89
63. Kaza S. 2006. The greening of Buddhism. In *The Oxford Handbook of Religion and Ecology*, ed. RS Gottlieb, pp. 184–206. New York: Oxford
64. Ives C. 2017. Buddhism. See Ref. 163, pp. 43–51
65. Stanley J, Loy DR, Dorje G, eds. 2009. *A Buddhist Response to the Climate Emergency*. Boston: Wisdom Publ.
66. Salick J, Byg A, Bauer K. 2012. Contemporary Tibetan cosmology of climate change. *J. Study Relig. Nat. Cult.* 6(4):447–76
67. Branch M. 2013. Climate change projects in the land of gross national happiness: Does religion play a role in environmental policy in Bhutan? See Ref. 2, pp. 47–61
68. Butcher A. 2013. Keeping the faith: divine protection and flood prevention in modern Buddhist Ladakh. *Worldviews: Glob. Relig. Cult. Ecol.* 17(2):103–14
69. Manandhgar S, Schmidt-Vogt D, Pandey VP, Kazama F. 2013. Religion, indigenous knowledge and climate change in a mountain region: a case study of Thini village, Mustang, Nepal. See Ref. 2, pp. 37–46
70. Mangunjaya FM, Tobing ISL, Binawan A, Pua E, Nurbawa M. 2015. Faiths from the Archipelago. *Worldviews: Glob. Relig. Cult. Ecol.* 19(2):103–22
71. Lee C, Han L. 2015. Recycling bodhisattva: the Tzu-Chi movement's response to global climate change. *Soc. Compass* 62(3):311–25
72. Zoloth L. 2015. Risky hospitality: ordinal ethics and the duties of abundance. *J. Am. Acad. Relig.* 83(2):373–87
73. Belser JW. 2014. Privilege and disaster: toward a Jewish feminist ethics of climate silence and environmental unknowing. *J. Stud. Christ. Ethics* 34:83–101
74. Foltz RC, Denny FM, Baharuddin A, eds. 2003. *Islam and Ecology: A Bestowed Trust*. Cambridge, MA: Cent. Study World Relig.

75. Bagir ZE, Martiam N. 2017. Islam. See Ref. 163, pp. 79–87
76. Brockopp J. 2012. Introduction to special issue. *Worldviews: Glob. Relig. Cult. Ecol.* 16(3):213–17
77. Ali SH. 2016. Reconciling Islamic ethics, fossil fuel dependence, and climate change in the Middle East. *Rev. Mid. East Stud.* 50(2):172–78
78. Watson EE, Kochore H. 2012. Religion and climate change in northern Kenya: new moral frameworks for new environmental challenges? *J. Study Relig. Nat. Cult.* 6(3):319–43
79. Golo BWK, Yaro AJ. 2013. Reclaiming stewardship in Ghana: religion and climate change. *Nat. Cult.* 8(3):282–300
80. Arnez M. 2014. Shifting notions of nature and environmentalism in Indonesian Islam. See Ref. 164, pp. 75–101
81. Bell D. 2014. Understanding a “broken world”: Islam, ritual, and climate change in Mali, West Africa. *J. Study Relig. Nat. Cult.* 8(3):287–306
82. Miller RW, ed. 2010. *God, Creation, and Climate Change: A Catholic Response to the Environmental Crisis.* Maryknoll, NY: Orbis
83. Schaefer J, ed. 2011. *Confronting the Climate Crisis: Catholic Theological Perspectives.* Milwaukee: Marquette Univ.
84. Bloomquist KL, ed. 2009. *God, Creation and Climate Change: Spiritual and Ethical Perspectives.* Minneapolis: Lutheran Univ.
85. Delgado S. 2017. *Love in a Time of Climate Change: Honoring Creation, Establishing Justice.* Minneapolis: Fortress
86. Boorse D. 2011. *Love the Least of These: Addressing a Changing Environment.* Washington, DC: Nat. Assoc. Evang.
87. Rubow C, Bird C. 2016. Eco-theological responses to climate change in Oceania. *Worldviews: Glob. Relig. Cult. Ecol.* 20(2):150–68
88. Swoboda AJ, ed. 2014. *Blood Cries Out: Pentecostals, Ecology, and the Groans of Creation.* Eugene, OR: Pickwick
89. Chitando E, Conradie E, ed. 2017. Praying for rain? African perspectives on religion and climate change. *Ecum. Rev.* 69(3):311–435
90. Holden W, Nadeau K, Porio E. 2017. *Ecological Liberation Theology: Faith-Based Approaches to Poverty and Climate Change in the Philippines.* New York: Springer
91. Kim GJS, Koster HP, eds. 2017. *Planetary Solidarity: Global Women’s Voices on Christian Doctrine and Climate Justice.* Minneapolis: Fortress
92. Harris M. 2017. *Ecowomanism: African American Women and Earth-Honoring Faiths.* Maryknoll, NY: Orbis
93. Martins A. 2018. *Laudato Si’: Integral Ecology and Preferential Option for the Poor.* *J. Relig. Ethics.* In press
94. Conradie E. 2017. Christianity. See Ref. 163, pp. 70–78
95. McFague S. 2008. *A New Climate for Theology: God, the World, and Global Warming.* Minneapolis: Fortress
96. Northcott MS. 2007. *A Moral Climate: The Ethics of Global Warming.* Maryknoll, NY: Orbis
97. Jenkins W. 2013. *The Future of Ethics: Sustainability, Social Justice, and Religious Creativity.* Washington, DC: Georget. Univ.
98. Rasmussen LL. 2015. *Earth-Honoring Faith: Religious Ethics in a New Key.* New York: Oxford Univ. Press
99. Primavesi A. 2009. *Gaia and Climate Change: A Theology of Gift Events.* London: Routledge
100. Northcott MS, Scott PM, eds. 2014. *Systematic Theology and Climate Change: Ecumenical Perspectives.* London: Routledge
101. Wanliss J. 2011. *Resisting the Green Dragon: Dominion, Not Death.* Burke, VA: Cornwall Alliance
102. Sheldon MP, Oreskes N. 2017. The religious politics of scientific doubt: evangelical Christians and environmentalism in the United States. See Ref. 165, pp. 248–68
103. Dawson C, Pope M. 2014. *A Climate of Hope: Church and Mission in a Warming World.* Bangkok, Thai.: Urban Neighb. Hope
104. Douglas P, Hescox M. 2016. *Caring for Creation: The Evangelical’s Guide to Climate Change and a Healthy Environment.* Minneapolis: Bethany House

105. Roberts M. 2013. Evangelicals and climate change. See Ref. 162, pp. 107–31
106. Hayhoe K, Farley A. 2011. *A Climate for Change: Global Warming Facts for Faith-Based Decisions*. New York: FaithWords
107. Wilkinson KK. 2012. *Between God & Green: How Evangelicals Are Cultivating a Middle Ground on Climate Change*. New York: Oxford Univ.
108. Boudinot FG, LeVasseur T. 2016. “Grow the scorched ground green”: values and ethics in the Transition movement. *J. Study Relig. Nat. Cult.* 10(3):379–404
109. Dalai Lama. 1999. *Ethics for a New Millenium*. New York: Riverhead
110. Clingerman F, O’Brien KJ, eds. 2016. *Theological and Ethical Perspectives on Climate Engineering: Calming the Storm*. Lanham, MD: Lexington
111. Hartman L. 2017. Climate engineering and the playing God critique. *Ethics Int. Aff.* 31(3):313–33
112. Robb CS. 2010. *Wind, Sun, Soil, Spirit: Biblical Ethics and Climate Change*. Minneapolis: Fortress
113. Muers R. 2008. *Living for the Future: Theological Ethics for Coming Generations*. London: T&T Clark
114. Folke C, Jansson Å, Rockström J, Olsson P, Carpenter SR, et al. 2011. Reconnecting to the biosphere. *AMBIO* 40(7):719–38
115. Chapin FS, Power ME, Pickett STA, Freitag A, Reynolds JA, et al. 2011. Earth stewardship: science for action to sustain the human-earth system. *Ecosphere* 2(8):1–20
116. Attfield R. 2015. *The Ethics of the Global Environment*. Edinburgh, UK: Edinburgh Univ.
117. Primavesi A. 1991. *From Apocalypse to Genesis: Ecology, Feminism and Christianity*. Minneapolis: Fortress
118. Lovelock J. 2006. The fallible concept of stewardship of the earth. In *Environmental Stewardship*, ed. RJ Berry, pp. 106–11. London: T&T Clark
119. Goldtooth TBK. 2017. Respect for Mother Earth: original instructions and indigenous traditional knowledge. See Ref. 165, pp. 460–70
120. Holgren M, Ogren S, Whyte K. 2015. Renewing relatives: one tribe’s efforts to bring back an ancient fish. *Earth Isl. J.* 30(3). [http://www.earthisland.org/journal/index.php/eij/article/renewing\\_relatives/](http://www.earthisland.org/journal/index.php/eij/article/renewing_relatives/)
121. Weaver J. 2015. Misfit messengers: indigenous religious traditions and climate change. *J. Am. Acad. Relig.* 83(2):320–35
122. Nelson MK. 2017. Indigenous cosmovisions—North America. See Ref. 163, pp. 138–47
123. Moe-Lobeda CD. 2013. *Resisting Structural Evil: Love as Ecological-Economic Vocation*. Minneapolis: Fortress
124. Moe-Lobeda CD. 2017. From climate debt to climate justice: God’s love embodied in garden earth. See Ref. 165, pp. 203–19
125. Ronan M. 2017. American Evangelicalism, apocalypticism, and the anthropocene. See Ref. 154, pp. 218–31
126. Rossing B. 2010. God laments with us: climate change, apocalypse and the urgent kairos moment. *Ecum. Rev.* 62:119–30
127. Scott P. 2010. Are we there yet? Coming to the end of the line—a postnatural enquiry. See Ref. 166, pp. 260–79
128. Skrimshire S. 2010. Eternal return of apocalypse. See Ref. 166, pp. 219–41
129. Skrimshire S. 2014. Climate change and apocalyptic faith. *WIREs: Clim. Change* 5(2):233–46
130. Moo J. 2015. Climate change and the apocalyptic imagination: science, faith, and ecological responsibility. *Zygon: J. Relig. Sci.* 50(4):937–48
131. Doran C. 2017. *Hope in the Age of Climate Change: Creation Care This Side of the Resurrection*. Eugene, OR: Cascade
132. Floyd RA. 2015. *Down to Earth: Christian Hope and Climate Change*. Eugene, OR: Cascade
133. Whyte K. 2017. Our ancestors’ dystopia now: indigenous conservation in the Anthropocene. In *Routledge Companion to the Environmental Humanities*, ed. UK Heise, J Christensen, M Niemann, pp. 206–15. London: Routledge
134. Danowski D, Viveiros des Castros E. 2016. *The Ends of the World*, Transl. RG Nunes. Malden, MA: Polity
135. Green A. 2016. Climate change and religious history. *Rel. Stud. Rev.* 42.2:87–91
136. Sonnabend H. 2013. Environment, climate and religion in ancient European history. See Ref. 162, pp. 261–66

137. Behringer W. 2009. *A Cultural History of Climate*. Cambridge, UK: Polity
138. Barnett L. 2015. The theology of climate change: sin as agency in the Enlightenment's Anthropocene. *Environ. Hist.* 20(2):217–37
139. Halperin E. 2017. Winds of change: religion and climate in the Western Himalayas. *J. Am. Acad. Relig.* 85(1):64–111
140. Duara P. 2014. *The Crisis of Global Modernity: Asian Traditions and a Sustainable Future*. Cambridge, UK: Cambridge Univ.
141. Szafranski B. 2017. Gods of the Anthropocene: geo-spiritual formations in the earth's new epoch. *Theory Cult. Soc.* 34(2–3):253–75
142. Szafranski B. 2017. From the Anthropocene epoch to a new Axial Age: using theory fictions to explore geo-spiritual futures. See Ref. 154, pp. 35–52
143. Bergmann S. 2010. Dangerous environmental change and religion. In *Religion and Dangerous Environmental Change: Transdisciplinary Perspectives on the Ethics of Climate and Sustainability*, ed. S Bergmann, DD Gerten, pp. 13–38. Berlin: LIT Verlag
144. Grim J, Tucker ME. 2014. *Ecology and Religion*. Washington, DC: Island Press
145. Jenkins W. 2017. Feasts of the Anthropocene: beyond climate change as special object in the study of religion. *South Atl. Q.* 116(1):69–81
146. Berkes F, Jolly D. 2001. Adapting to climate change: social-ecological resilience in a Canadian Western Arctic community. *Conserv. Ecol.* 5(2):18
147. Berkes F. 2017. *Sacred Ecology*. New York: Routledge
148. Crate S. 2013. Climate and cosmology: exploring Sakha belief and the local effects of unprecedented change in North-Eastern Siberia, Russia. See Ref. 162, pp. 175–99
149. Howe N. 2016. *Landscapes of the Secular: Law, Religion, and American Sacred Space*. Chicago: Univ. Chicago Press
150. Tsotie R. 2013. Climate change and indigenous peoples: comparative models of sovereignty. *Tulane Environ. Law Rev.* 26(2):239–58
151. Dove MR. 2006. Indigenous people and environmental politics. *Annu. Rev. Anthropol.* 35(1):191–208
152. Whyte K, Brewer J, Johnson JT. 2016. Weaving indigenous science, protocols, and sustainability science. *Sustain. Sci.* 11(1):25–32
153. Steffen W, Grinevald J, Crutzen P, McNeil J. 2011. The Anthropocene: conceptual and historical perspectives. *Philos. Trans. R. Soc.* 369:842–67
154. Deane-Drummond C, Bergmann S, Vogt M, eds. 2017. *Religion in the Anthropocene*. Eugene: Cascade
155. Chakrabarty D. 2009. The climate of history: four theses. *Crit. Inq.* 35(2):197–222
156. Crist E. 2013. On the poverty of our nomenclature. *Environ. Hum.* 3(1):129–47
157. Sideris LH. 2017. *Consecrating Science: Wonder, Knowledge, and the Natural World*. Berkeley: Univ. California
158. Clingerman F. 2015. Theologians as interpreters—not prophets—in a changing climate. *J. Am. Acad. Relig.* 83(2):336–55
159. Taylor B. 2009. *Dark Green Religion: Nature Spirituality and the Planetary Future*. Berkeley: Univ. California
160. Fredericks S. 2014. Online confessions of eco-guilt. *J. Study Relig. Nat. Cult.* 8.1:64–84
161. Latour B. 2017. *Facing Gaia: Eight Lectures on the New Climatic Regime*. Cambridge, UK: Polity
162. Gerten D, Bergmann S, eds. 2013. *Religion in Environmental and Climate Change: Suffering, Values, Lifestyles*. London: Continuum
163. Jenkins W, Tucker ME, Grim J, eds. 2017. *Routledge Handbook of Religion and Ecology*. New York: Routledge
164. Schuler B, ed. 2014. *Environmental and Climate Change in South and Southeast Asia: How are Local Cultures Coping?* Leiden, Neth.: Brill
165. Hart J, ed. 2017. *The Wiley Blackwell Companion to Religion and Ecology*. Hoboken, NJ: Wiley
166. Skrimshire S, ed. 2010. *Future Ethics: Climate Change and Apocalyptic Imagination*. London: Continuum