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## Introduction: Climate Change and Religion— A Review of Existing Research

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It has become increasingly clear over the last decade that if current trends continue, anthropogenic climate change will have severe, possibly catastrophic, impacts on both natural and human systems around the globe over the next one hundred years (Solomon et al. 2007). If runaway warming is to be avoided, something dramatically different will have to be done.

But what? And, by whom? National governments? The United Nations? Environmental and/or social justice NGOs? Grassroots activists and campaigners?

A small but growing chorus of voices has suggested that the world's religions may, individually and collectively, prove to be critical actors as the climate crisis unfolds (see, for example, Gardner 2003; Posas 2007; Gerten and Bergmann 2012; Tucker and Grim 2001). Religions affect societies at every level, from the individual to the transnational. What they say and do about climate change—whether they encourage concern or help their adherents recognize and cope with the challenge—could, therefore, make a decisive difference.

But will they?

Although we have a large body of work on 'religion and nature', much less has been written about the specific question of 'religion and climate change'. Moreover, to date much of that literature on religion and climate change is theological and prescriptive, laying out arguments for why it is legitimate for believers/adherents of one faith or another to be concerned about climate change. Comparatively little can be characterized as empirical or social scientific, examining what faiths and their adherents are actually saying or doing about climate change. To our knowledge, this special issue will therefore be the first devoted solely to beginning to answer these questions from a social-scientific perspective.

### *Climate Change*

Scientists have been investigating the possibility that human activity can alter the earth's climate since at least the 1930s (Weart 2003). By 2007, they had amassed enough evidence to state that '[w]arming of the climate system is unequivocal'.<sup>1</sup> In this pivotal report, the Intergovernmental Panel on Climate Change (IPCC), which is the leading international body devoted to coordinating climate change science and policymaking, also affirmed that the warming was the result of human activities, specifically those that lead to the release of greenhouse gases, rather than of some 'natural' (i.e. astronomical or volcanic or other non-human) process (Solomon et al. 2007). Scientists have further warned that the continued build-up of these greenhouse gases would result in dramatic changes at the global level, including sea level rise, coastal erosion, and increased frequency of droughts and floods.

Such changes are projected to harm millions of people all around the world. The poor are among the most vulnerable, as many of them live in low-lying or drought-prone areas.<sup>2</sup> If global temperatures were to rise even by only one to two additional degrees centigrade, for example, those living in already stressed regions would be unable to grow enough food to feed themselves adequately, leading to increases in the incidence of malnutrition, vulnerability to disease, conflict over resources, and pressure to migrate. In the developed world, economists have predicted that the economic impacts of climate change would also be substantial (Stern 2007). Further adding to the list of threats, the American military

1. [Http://www.ipcc.ch/publications\\_and\\_data/ar4/wg1/en/spmssp-direct-observations.html](http://www.ipcc.ch/publications_and_data/ar4/wg1/en/spmssp-direct-observations.html).

2. [Http://www.ipcc.ch/publications\\_and\\_data/ar4/wg2/en/spmssp-c-4-coastal-systems.html](http://www.ipcc.ch/publications_and_data/ar4/wg2/en/spmssp-c-4-coastal-systems.html).

and national security establishments have also warned that climate change would be a 'threat multiplier', triggering widespread social unrest, civil war, and ethnic conflict, causing weak states to fail, and unleashing mass migration (Szasz 2011).

The IPCC's projections are sobering enough, but the effects of climate change may even be more severe than it predicted in 2007. Indeed, the IPCC's consensus-based approach may lead it systematically to understate anticipated impacts (Oppenheimer et al. 2007). Research undertaken subsequent to the 2007 report has demonstrated that the pace of change has been faster and the impacts greater than the report predicted (Durack, Wijffels, and Matear 2012; Barnosky et al. 2012). Although the worst effects may not hit for another one hundred years, many of the changes are already observable and—as some of our papers describe—have been significant enough to have already begun to impact people's everyday lives.

*Religious Engagement with Climate Change:  
Assessing their Potential*

Although awareness of the magnitude of the problem of anthropogenic climate change has grown, the international community has been unable to mount an effective response. The Kyoto Protocol, a binding international treaty that established targets for the reduction of greenhouse gas emissions, came into force in 2005, yet its effectiveness was severely hindered by the refusal of the United States, which contributes about a quarter of the world's greenhouse gas emissions, to participate.<sup>3</sup> Climate change has continued to be a highly contentious and polarizing issue in the United States, fueled by the efforts of conservative think tanks to disseminate skeptical views and outspoken skepticism from high profile members of Congress (Lahsen 2008; McCright and Dunlap 2000; Brulle, Carmichael, and Jenkins 2012). In the international arena, conflicts and controversies—largely reflecting the divergent needs and interests of developing and industrialized countries—have continued to obstruct meaningful progress.

3. The United States signed but did not ratify the treaty. This did not stop the treaty from becoming binding, but it did cause Canada, Japan, and Russia later to retract their commitments. Canada signed and ratified the treaty in 2002, but repudiated its commitment in 2011 because, in the environment minister's words, '[t]he Kyoto protocol does not cover the world's largest two emitters, the United States and China, and therefore cannot work'. Japan and Russia also signed and ratified the treaty, but later said that they would not take on new commitments after the original ones expired for the same reasons ('Kyoto Protocol' 2011).

With scientists issuing increasingly dire warnings (Hansen 2012; Barnosky et al. 2012), these delays in the policy-making and governance realms make it all the more essential that non-governmental institutions and actors take action. A number of scholars have argued that the world's religions could play an important role in this regard for four main reasons (see especially Gardner 2002, 2003; Posas 2007; Reder 2012; Tucker and Grim 2001; Wolf and Gjerris 2009). First, compared to other sectors of society—such as business, education, healthcare, and the various levels of government—religions tend to see themselves as having an explicit responsibility to address moral issues. Many also have a history of doing so. It is reasonable to hypothesize, therefore, that they would be likely to take up the issue of climate change, which many argue is a paramount ethical issue of our time (e.g. Gardiner 2011). They are also potentially well positioned in that they reach a broad audience of believers, some of whom accept and respect their moral authority and leadership. Even among those who do not find the leadership within their tradition to be compelling, the tradition itself, other believers, or personal religious practices can inspire and motivate concern for social issues. The number of people who could be potentially motivated by either means is impressively large when one considers the global presence of religious groups: some estimate that up to 84% of the world population identify with one of the major world religions.<sup>4</sup> As pervasive and powerful forces in the lives of the majority of the world's people, religions are, at least in theory, well positioned to mobilize millions of people on the issue of climate change.

Scholars have also argued that religions may be able to encourage a response to climate change via their influence on believers' worldviews or cosmologies. Given the many anthropological studies demonstrating that religions shape adherents' perceptions and treatment of their natural environment (e.g. Rappaport 1967; Reichel-Dolmatoff 1976), the idea that the influence extends to climate change seems plausible—and indeed, the case studies included in this issue do provide evidence of such a relationship. Intriguingly, however, while the anthropological literature suggests that under the right circumstances, locally rooted indigenous religions are more effective than world religions at promoting ecologically sensitive behavior (e.g. Jacka 2010; Robbins 1995), the papers in this issue suggest that in the case of climate change this may not hold true. This is a key way in which the social-scientific studies

4. Here we mean to include a broad array of religious and religion-resembling phenomena. See Taylor 2010 and Saler 1993. The 84% estimate comes from [www.adherents.com](http://www.adherents.com).

presented here may complicate existing understandings about the relationship between religions and climate change.

Religions are also thought to be well positioned to play a key role in addressing climate change because they have significant economic, institutional, and political resources at their disposal. They are, collectively, the third largest category of investors in the world.<sup>5</sup> In some countries they also wield considerable political power. At the institutional level this influence enables them to reach a broad audience, not only through their own networks but also via interfaith groups such as the Parliament of the World's Religions, ecumenical groups such as the World Council of Churches, or faith-based relief and/or development organizations such as World Vision, Bread for the World, and the relief arms of a variety of specific denominations. Furthermore, institutions such as the Roman Catholic Church have enough wealth and power to exert significant independent influence when they so choose. Religious leaders' potential spheres of influence are not limited to the members of their faith, either, as the international recognition and respect that leaders such as the Dalai Lama and the Pope have gained can help draw attention to moral issues of their choosing.

Finally, religions are also thought to have potential because of their ability to provide social capital, that is, to foster relationships that enable communities to achieve collective goals (e.g. Smidt 2003; Swart 2006). Local faith communities are often among the first to respond in disaster situations, for example (Wisner 2010). Church affiliation is also one of the most common forms of association, in some countries (including the United States) reaching more people than political affiliation or voluntary associations (Smidt 2003). Worldwide, churches are hubs for the distribution of goods, services, and even emotional support to those who are at risk; this plays a role both locally and internationally via missionary and charity outreach activities (Clarke 2006). Through their ability to foster trust and strengthen social ties, religious associations are apparently well positioned to help local communities respond to climate change.

While there are good reasons to hypothesize that religions will play a key role in the global response to climate change, it is also important to recall that there are substantial obstacles to such action. Indeed, scholars may be overestimating their potential in various ways. Regarding religious leadership, for example, religious leaders may be reluctant to lead the way on climate change, fearing that their constituents would be

5. Alliance of Religions and Conservation, [http://www.arcworld.org/about\\_ARC.asp](http://www.arcworld.org/about_ARC.asp).

uninterested or that they would see it as straying from the faith's central mission. Other religious leaders may choose to promote positive visions of the environmental future rather than lose adherents by preaching doom. Still other leaders may prefer to direct attention toward other-worldly goals such as salvation rather than this-worldly ones such as the maintenance of the biosphere. Finally, increasing numbers of leaders could decide to advocate against concern about climate change, as has already happened among some evangelical groups in the United States (Kearns 2007). Regarding religions' potential to influence worldviews, it may be that the inspirational power of religious discourse and sentiment will not actually be sufficient to counter the habits of inattention and apathy that are well entrenched in many developed nations (e.g. Norgaard 2011); this inspirational power may also be inadequate to overcome the skepticism and resistance that climate skeptics have encouraged (Lahsen 2008; McCright and Dunlap 2000; Brulle, Carmichael, and Jenkins 2012); or religious worldviews simply may not function to encourage concern about climate change (e.g. Mortreux and Barnett 2009; Donner 2011). Regarding religions' institutional, economic, and political resources, these may prove inadequate to overcome those with a vested interest in maintaining the current carbon-based economy. And when it comes to social capital, religious communities may, for various reasons (some of which we have just listed), decide not to expend this capital addressing the issue of climate change. Finally, religions could also be obstructive in indirect ways, such as by sparking conflicts that reduce their adherents' ability to adapt to climate change.

In short, one can imagine many ways in which religions (in general) could fail to fulfill scholars' expectations, as well as why specific religions, leaders, denominations, or churches might fail. As social scientists, we recognize the potential for both outcomes, and as new research continues to be published, we urge scholars to weigh the evidence with a critical eye. In either case, whether religions fulfill scholars' expectations, and why some religions and some contexts may be more conducive to promoting activism than others, are key unresolved questions that will help scholars better understand the evolving global response to climate change, whether it is absent, anemic, or strong.

*Religious Engagement with Climate Change:  
Examining the Reality*

No detailed review of global religious responses to climate change yet exists, and to produce one is beyond the scope of this introduction. It will nevertheless be useful to mention some highlights of religious

engagement so far, in order to contextualize the articles in this issue (see also Haluza-DeLay, forthcoming; Hulme 2009; Kearns 2012; Smith and Pulver 2009). The general observations we offer should be regarded as tentative, given the dearth of published research. It will also quickly become apparent that this overview is skewed toward the North American context, due again to a lack of literature. It is our hope that this special issue and a related edited volume currently in development will spur others to fill in both of these missing pieces (Veldman, Szasz, and Haluza-DeLay, work in progress).

### *Denominations*

Many Christian denominations in the United States have issued unequivocal, powerful messages which declare climate change to be an urgent moral matter. Such statements generally argue that God wants people to care for and be good stewards of Creation; in some cases, the statements have also contended that because climate change is likely to hurt the world's poor first and hardest, addressing it is an issue of social justice. In the Roman Catholic Church, for example, both Pope John Paul II and Benedict XVI have advocated for 'climate justice'; Benedict has done so repeatedly in recent years and with increasing passion. All the 'mainline' Protestant denominations in the United States have issued statements and developed educational programs targeting climate change. As one might expect, similar positions have been articulated by Christian denominations that have been traditionally politically and/or theologically liberal, including the Unitarian Universalists and the United Church of Christ. More surprisingly, in 1995 the Seventh-day Adventist Church issued a statement urging governments to 'take steps necessary to avert the danger' of climate change, including joining the Kyoto Protocol and reducing their carbon emissions.<sup>6</sup> Under the leadership of Ecumenical Patriarch Bartholomew, the Eastern Orthodox Church has also been quite active. Sometimes dubbed the 'green patriarch', Patriarch Bartholomew has long been an outspoken advocate for tackling all forms of environmental degradation, including climate change (Leichman 2009; Makrides 2008).

In terms of more concrete actions, some denominations have been more active than others. In 2009, for example, Methodist Bishops asked all Methodist pastors to discuss climate change in their churches and to reduce the carbon footprints of their episcopal and denominational offices. The Unitarian Universalists have a Green Sanctuary program that encourages each church to make its church buildings and grounds

6. [Http://adventist.org/beliefs/statements/main-stat8.html](http://adventist.org/beliefs/statements/main-stat8.html).



more energy efficient. Both Catholic and Lutheran aid agencies have shifted their disaster relief programs to help vulnerable communities cope with and adapt to extreme weather associated with climate change. Additionally, via organizations such as the Catholic Fund for Overseas Development (CAFOD, the aid agency of the Catholic Church for England and Wales) and Caritas International (a confederation of 165 Catholic relief, development, and social service organizations), Catholics have also actively lobbied the governments of developed countries to encourage them to join international efforts to cut carbon emissions (for further examples of concrete actions, see McDuff 2012).<sup>7</sup> Lutheran World Relief has also integrated adaptation and mitigation into their sustainable development programming.<sup>8</sup>

On the other hand, other denominations have headed in the opposite direction, working to discourage concern over climate change and obstruct activists' efforts. Among American Evangelicals, who claim membership of around 30 million, a proposal to have the National Association of Evangelicals adopt the Evangelical Climate Initiative's declaration on climate change was met with fierce—and successful—opposition from influential, politically conservative evangelical leaders. Similarly, at their 2007 Convention the Southern Baptists passed a resolution on climate change that uncritically repeated arguments made by secular climate deniers. Other groups, such as the Jehovah's Witnesses, interpret climate change as the fulfillment of biblical prophecies about the end times rather than speaking of it as a problem to be remedied.<sup>9</sup> Still other denominations have remained silent on the issue entirely, preferring to focus their energies elsewhere.

While a full evaluation of such efforts and counter-efforts is beyond the scope of this introduction, a few summary observations can be made: despite enthusiasm in some quarters, denominational efforts are very uneven; they do not yet appear to have galvanized mass support at the grassroots level; and it does not appear that denominations have made much headway in terms of getting their congregants in developed countries to make dramatic personal lifestyle changes or to engage in more aggressive tactics such as lobbying or protesting (Szasz 2012). It could be said, indeed, that religions are so far failing to live up to the more optimistic assessments of their potential, yet it is too early to come

7. <http://lwr.org/site/c.dmJXKiOYJgI6G/b.6319083/k.C41F/Climate.htm>;  
<http://www.cafod.org.uk/news/campaigns-news/climate-change>;

[http://www.caritas.org/activities/climate\\_change/its\\_the\\_climate\\_stupid.html](http://www.caritas.org/activities/climate_change/its_the_climate_stupid.html).

8. <http://lwr.org/site/c.dmJXKiOYJgI6G/b.6319083/k.C41F/Climate.htm>.

9. [http://www.watchtower.org/e/200808/article\\_03.htm](http://www.watchtower.org/e/200808/article_03.htm).



to such a pessimistic conclusion. At present we can say that all these declarations that the faithful should be concerned and should engage with climate change have not produced the kind of responses they had hoped to inspire, but the situation remains open and fluid. More research is clearly needed to evaluate the impacts, strengths, and weaknesses of existing efforts and to evaluate better how realistic the hope is that they will catalyze large-scale change.

### *Coalitions and Alliances*

Religions that individually endorse action on climate change have also tackled the problem by forming coalitions and alliances. Within national organizations, advocacy, education, and behavior change seem to be the most common foci; international organizations include many of the same foci, while also often developing and promoting adaptation and mitigation strategies (especially among the poor in developing countries). International coalitions working on climate change include the World Parliament of Religions, the World Council of Churches (WCC), the Alliance of Religions and Conservation (ARC), and the ACT Alliance. National groups (within the United States) include the National Religious Partnership for the Environment (NRPE), the National Council of Churches, the Coalition on Environment and Jewish Life (COEJL), the Evangelical Environmental Network (EEN), the Catholic Climate Covenant, and Interfaith Power and Light (IPL).

In terms of what international groups have been doing, the WCC has increasingly focused on climate change as a paramount issue (Reuter 2011), sending representatives to all United Nations climate change conferences since 1992.<sup>10</sup> It has also coordinated with other religious groups, from Caritas International to the Asian Muslim Action Network, at the UN's yearly meetings (the 'Conference of Parties'), which assess progress in responding to climate change (Kerber 2011). The WCC also joined with nearly one hundred other religious and secular groups from around the world to sign the 'Interfaith Declaration on Climate Change', a document encouraging action on climate change that WCC representatives presented at several climate conventions, including the 2011 meeting in Durban.<sup>11</sup> For its part, ARC has partnered with the United Nations Development Program (UNDP) to help religious leaders of eleven major faiths develop seven-year plans of action to address climate change. In 2000, ARC also developed a 'Climate Change Partnership

10. [Http://www.oikoumene.org/en/programmes/justice-diakonia-and-responsibility-for-creation/eco-justice/climate-change.html](http://www.oikoumene.org/en/programmes/justice-diakonia-and-responsibility-for-creation/eco-justice/climate-change.html).

11. [Http://www.interfaithdeclaration.org/](http://www.interfaithdeclaration.org/).

Initiative' that resulted in fifteen countries agreeing to make it official policy to work with religions on climate change.<sup>12</sup> In addition, non-denominational faith-based organizations, such as Christian Aid and Tearfund (both UK-based Christian relief and development organizations), have incorporated climate change adaptation, mitigation, and/or advocacy into their programming.<sup>13</sup>

US-based coalitions and alliances have also been working steadily, though in some cases hindered by the heated debates over the reality of climate change. IPL, which focuses on promoting energy conservation, energy efficiency, and renewable energy at churches and temples, reports that it has helped hundreds of congregations reduce their energy consumption.<sup>14</sup> Groups such as the COEJL, the Catholic Climate Covenant, and the EEN have embarked upon numerous campaigns to mobilize members of their respective faiths. For its part, the National Council of Churches and its members among the 'mainline' Protestant faiths lobbied in favor of Waxman-Markey, the Clean Energy Bill.

### *Beyond Christian Faiths*

Websites that list official religious statements on climate change (such as the Yale Forum on Religion and Ecology), web searches, and searches for books from popular presses suggest that Christian faiths have been more active vis-à-vis the climate crisis than have other religious traditions.<sup>15</sup> Beyond Christianity, representatives of many of the world's major religions—including Buddhism, Hinduism, indigenous religions, Islam, and Judaism—have issued statements advocating for a proactive global response to climate change.<sup>16</sup> It is less clear at this point what further steps, if any, these groups have taken, but a few examples can be found.

12. [Http://www.arcworld.org/projects.asp?projectID=137](http://www.arcworld.org/projects.asp?projectID=137).

13. [Http://www.christianaid.org.uk/whatwedo/issues/climate\\_change.aspx](http://www.christianaid.org.uk/whatwedo/issues/climate_change.aspx); and [http://www.tearfund.org/en/get\\_involved/campaign/climatechange/](http://www.tearfund.org/en/get_involved/campaign/climatechange/).

14. [Http://interfaithpowerandlight.org/](http://interfaithpowerandlight.org/).

15. We are aware that this may be an artifact of English language dominance in the academic sphere, or the geographical limits of our networks, which is precisely why more research into the interface of religion and climate change is needed. Anecdotal accounts from activists do, however, seem to substantiate the prevalence of Christian action compared to action from within other faith traditions. Rather than suggesting Christianity as superior, our observation should be construed as noting both the early momentum within Christianity and the considerable potential for other faith traditions to make similar headway.

16. It is not always clear how 'representative' these representatives are. The Buddhist Declaration on Climate Change, for example, appears to derive from the US context rather than to represent the Buddhist community worldwide. When examining such statements, it is therefore critical to investigate who is representing or

Within Islam, the Islamic Foundation for Ecology and Environmental Sciences (IFEES) in Britain has distributed materials about how Muslims can reduce their contribution to climate change, and the South Woodford Islamic center 'claims to be the first "carbon-neutral" place of Islamic worship in Britain' (Gilliat-Ray and Bryant 2011: 298). The faith-based relief and development organizations Islamic Relief Worldwide and Muslim Aid have also incorporated climate change into their programming.<sup>17</sup> Also within Islam, as part of the ARC-UNDP partnership mentioned above, the Grand Mufti of Egypt, an influential Islamic leader, pledged to a seven-year action plan that included constructing green mosques and greening pilgrimage cities. At the same meeting, American and Israeli Jews pledged to reduce their carbon footprint by limiting meat consumption, and Shintos in Japan and Daoists in China also pledged to convert thousands of temples to green energy ('World Religious Leaders Promise Climate Action' 2009). Finally, in the UK, the non-profit Hindu Sevika Samiti reportedly participated in a campaign initiated in 2012 known as 'Climate Week' by promoting lifestyle changes that would reduce one's carbon footprint, as well as by holding talks about Hindu Dharma and the environment.<sup>18</sup>

When considering the apparent lack of participation on the part of non-Christian religions, it is worth noting that in countries such as the UK and the US, Christian organizations have received a disproportionate share of support from donor agencies, allowing them to become

interpreting the tradition. Secondly, the question of what counts as a world religion is complex and contested (Smith 2004). Our list of religions that have made statements about climate change includes only those religions that are ranked within the top 15 by number of adherents (see [www.adherents.com/Religions\\_By\\_Adherents.html](http://www.adherents.com/Religions_By_Adherents.html)), as well as indigenous religions, which are sometimes classified as world religions. Many of these statements can be accessed at the Forum on Religion and Ecology's webpage on climate change, <http://fore.research.yale.edu/climate-change/statements-from-world-religions/>. Ohio Interfaith Power and Light also keeps a list, which was more up to date as this issue went to press: <http://www.ohipl.org/resources/faith-based-earthkeeping/climate-change-resources/climatestatements/>. Regarding Buddhism, the statement 'The Time to Act is Now: A Buddhist Declaration on Climate Change', which has been endorsed by the Dalai Lama, can be found here: <http://www.ecobuddhism.org/>. Millais (2006) also contains statements about climate change from 16 religious groups that are active in Australia.

17. <http://www.islamic-relief.com/InDepth/2-12-environment.aspx>; <http://www.muslimaid.org/index.php/media-centre/763-muslim-aid-calls-for-a-radical-change-in-lifestyle-to-combat-climate-change>.

18. <http://www.hssuk.org/samiti/>. Climate Week is billed as 'Britain's biggest climate change campaign' according to the group's website, <http://www.climateweek.com/>.

more influential relative to other faiths in the international development scene; that many Christian organizations are headquartered in developed countries, where they may have more wealthy, educated constituents who are informed and concerned about issues like climate change; and that Christian denominations may be more effective because they are more hierarchically organized than some other religious traditions, such as Hinduism and Islam, which do not have one centralized authority that represents the faith globally (Clarke 2006). Further research is needed to establish whether the examples given above are indicative of a growing trend or of relatively thin engagement on the part of world religions.

### *Existing Research*

As we have argued throughout this review, there are many significant gaps in the literature on religion and climate change. Thus far the bulk of scholarship has focused on linking the theologies and ethics found in religious traditions (especially Christianity) to the climate crisis or on reconceptualizing the divine in light of global environmental change (e.g. McFague 2008; Northcott 2007; Primavesi 2009; Skrimshire 2010; Xia and Schönfeld 2011). A second and somewhat overlapping body of scholarship asserts on a more general level that religious participation will be key in the fight to mobilize the world to combat climate change (Gardner 2003; Posas 2007; Schipper 2010; Tucker and Grim 2001; Wolf and Gjerris 2009). A third (and quite substantial) body of literature is directed toward motivating popular audiences within a particular faith. This group includes numerous works directed toward a Christian audience, such as Hayhoe and Farley (2009), Merritt (2010), and Atkinson (2008), as well as a smattering of works directed toward those of other faiths, such as Stanley, Loy, and Dorje (2009). Fourth, a number of polls and surveys relating religious beliefs and climate change attitudes have been published, many of which focus on the attitudes of American evangelicals (e.g. Barna Group 2007, 2008; Maibach, Roser-Renouf, and Leiserowitz 2009; Pew 2006, 2009; Public Religion Research Institute 2011).

Finally, a fifth body of literature, which is just beginning to emerge and to which this volume aims to contribute, involves social-scientific investigations. Gerten and Bergmann (2012) have included some of this literature in their edited volume (see the review in this issue), and other social-scientific research is beginning to find its way into print (e.g. Crate and Nuttall 2009; Leduc 2010, see the review in this issue; Wilkinson 2012).

*Introducing the Papers in This Issue*

We were surprised and pleased to receive nearly one hundred submissions to an initial call for proposals exploring the theme presented in this issue, including studies of numerous religious traditions around the world. Broadly reflecting the existing literature, and perhaps the editors' scholarly networks, North America was the most popular region of focus (34 proposals) and Christianity the most popular religious tradition (46 proposals), although many of the world's regions and major religious traditions were covered by at least one submission. Comparing the number of proposals we received to what little has been published on this topic so far suggests that in the next few years there may be a surge in such social-scientific studies. Given the time that in-depth field research takes, it is not surprising that we are only just beginning to see such research appear in print.

The five articles we have included here are just a small slice of research that is currently underway or near completion, but they nevertheless cover an impressive swath of territory; the issue ranges from the Canadian Arctic to the American South, India, and both East and West Africa. This research also explores a variety of religious traditions—indigenous religions (Inuit, Gabra, Boran, and Diola), Christianity, Hinduism, and Islam—as well as interactions among them. Methodologically, they demonstrate how in-depth qualitative research can contribute to what we hope will be a growing, empirically informed conversation about the ways the world's religions are (and are not) responding to climate change.

Starting in North America (and, incidentally, with the most frequently studied religious tradition when it comes to climate change), Carr and his colleagues used interviews to understand better the high levels of climate skepticism that surveys often report among theologically conservative Christians. While acknowledging that religious beliefs are not the only factors influencing attitudes toward climate change, they identify a number of religious beliefs that appear to encourage skepticism, suggesting that religion is an important factor influencing climate change attitudes within this group. Carr and his colleagues' study is by no means the first on this topic (see especially Kearns 2007, 2012; McCammack 2007; Nagle 2008; Prelli and Winters 2009; Simmons 2009; Wilkinson 2010, 2012). With the exception of Wilkinson, however, these have focused on movement leaders, whereas Carr and his colleagues examine whether the alleged greening of evangelicalism has reached laypeople in the pews. Their in-depth interview methodology illustrates how interactions between religious, political, cultural, and scientific beliefs and the

social context of particular churches converge to shape views about climate change. Their work also adds important depth to the existing studies that have analyzed evangelicals' worldviews and discourse via textual accounts, ably demonstrating the usefulness of methodological expansion.

When one expands one's focus beyond the United States to consider the relationship between religion and climate change globally, that relationship proves to be even more complex. As Davidson and Watson and Kochore have found, some local faith communities simply do not engage with climate change even though it is already having significant impacts on their lives (Parry et al. 2007). In other cases, as Drew, Johnson, and Watson and Kochore have found, leaders or members of local faith communities acknowledge the manifestations of climate change, yet the kinds of explanations they give for those manifestations—explanations that are consistent with their faith's beliefs—may not help the community to understand accurately what is happening to it, and may not help believers' ability to cope successfully with the impacts of climate change. In still other cases, as Davidson shows, climate change has indirectly caused conflict between competing faiths.

Like Carr and his colleagues' piece, Noor Johnson's article also looks at evangelical Christianity, but in this case among the Inuit in the Canadian Arctic. She documents how 'Healing the Land', an evangelical movement originating in Fiji, has gained a foothold among the Inuit, in large part because it is able to re-frame the environmental changes they are witnessing as positive signs of God's grace, while also suggesting certain religious remedies which they claim will ensure that the land will continue to heal. While Healing the Land's rituals of repentance do not encourage the kinds of behaviors that climate scientists would deem efficacious, Johnson argues that climate researchers should take note of its appeal, which she attributes to its correspondence with certain traditional beliefs and its ability to furnish locals with a sense of agency regarding their predicament. By contrast, the recommendations of climate researchers typically arise from and cater to non-indigenous international interests, reproducing historical colonial relations and epistemologies.

Moving to Africa, Watson and Kochore argue that in the past, the indigenous religious belief system encoded and embodied environmental practices that were well adapted to local conditions. Such practices could be of great value in an increasingly variable climate, but Christian groups working in the region have implemented relief and development programs that have eroded these beliefs and practices. These programs (some of which are ostensibly designed to help locals

adapt to climate change) have encouraged locals to move away from their traditional pastoral livelihoods and to become increasingly reliant on food aid and education—changes that Watson and Kochore contend may make them even more vulnerable to changing weather patterns.

In the Himalayas, the Ganges (or Ganga) River is, in part, fed by the Gangotri-Gaumukh glacier. Climate change is now causing the glacier to retreat, making the river's flow more variable and unpredictable. As Drew describes, the women who come to the river see it changing, but many explain it by saying the Goddess of the river is upset because people have faltered in their enactments of care for the river. Others are reassured by the Hindu belief that the river will continue to exist perpetually 'in the heavens and in the ground', in some other realms of reality, unseen, even if it ceases to flow as an actual, physical river.

Though the papers by Carr and his colleagues, Watson and Kochore, Johnson, and Drew describe different societies and different religions, one can discern a common theme: in each case, faith-informed belief systems offer explanations of the observed impacts of climate change that are fundamentally different from the explanations offered by climate science, with potentially adverse consequences for local people's ability to cope with those impacts. Davidson's work in Guinea-Bissau describes quite a different relationship between religion and climate change. To Diola men in Guinea-Bissau, rice cultivation is not just a way to make a living; it is central to status and to male identity. But climate change has already so altered conditions that no matter how hard they work, the men cannot even grow enough rice to meet their basic subsistence requirements, much less the amount of surplus crops that would traditionally be necessary to prove their worth as men and earn others' respect. Having lost one of the major supports for constructing, maintaining, and displaying male identity, status, and pride, the traditional male initiation rites have become increasingly important, even to the point that those families that had converted to Catholicism felt impelled to disobey their priest's explicit condemnation of the practice. Here, by an indirect and circuitous route, climate change unleashes a chain of events that appear, finally, as social conflict between Diola who are fully practicing Catholics and neighbors who retain at least some traditional religious/cultural rituals.

As a cautionary note, although the majority of our authors found, perhaps surprisingly, that the religions they studied have not been helping adherents to develop good coping responses to climate change, it is important to remember that we do not yet know whether this finding is the result of a small and possibly unrepresentative sample, or if it truly indicates a broad tendency or trend. Other religions, in other



places, may well be fostering a more positive set of responses to climate change. As more research is published, it will become increasingly important to theorize the conditions under which religions facilitate or hinder efforts to address climate change.

### *Directions for Future Research*

These case studies demonstrate the complex and nuanced ways in which climate change is affecting people around the world and some of the roles that religions—as faith, values, practices, and institutions—are playing in this interaction. We believe that these studies powerfully demonstrate what social-scientific research on religion and climate change has to offer and look forward to more such research in the near future.

While religion and climate change is a topic whose many dimensions scholars have only begun to explore, we would like to point out a few areas that we think are particularly in need of further research. Geographically, we received few submissions discussing events in East Asia, South America, Russia, and Europe. As for religious traditions, more work on Islam (particularly in the Middle East), Hinduism, and Buddhism vis-à-vis climate change would be beneficial. Topically, little has been written from a social-scientific perspective about transnational and interfaith groups that have worked on climate change, about the participation of religious individuals and groups in climate justice movements, about religion among climate refugees, or about how faith-based relief and development organizations are responding to climate change. In addition, the religious dimensions of climate activism—outside of or at the margins of existing religious traditions—are quite unexplored. How ‘dark green’ religions can (or must) become in order to catalyze a powerful response to climate change, for example, is an important question (Taylor 2010). Work that considers how people choose between religious and secular frames when interpreting climatic changes would also greatly enrich our current understanding of the role of religion. The importance of place and context—e.g. why a denomination in the United States might address climate change, but its African counterpart might not, or vice versa—is also a key question in need of further research.

Thinking more broadly, much work remains to be done examining how social processes like modernization and secularization affect religions and religious responses to climate change; what role, if any, conflicts between religion and science are playing globally; and the significance of apocalyptic eschatologies (both those that are explicitly religious and

those that are embedded within environmental discourses) (Curry-Roper 1990; Swyngedouw 2010). How religious valuations compete with economic and other valuations in climate change policy circles is another important avenue of research. Finally, more rigorous theoretical frameworks that help us to understand whether, and if so under what circumstances, religions will respond successfully to climate change are needed. We therefore strongly urge researchers to apply social theory to their work.

In short, much remains to be done.

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