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## **Varieties of Religious Engagement with Climate Change**

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### **Abstract**

In exploring the relationship between religion and climate change this essay argues three things. First, it makes the case that religious thought and practice -- cosmologies, beliefs and perceptions, ethics and ways of life -- is important for understanding how the idea of climate change is given meaning in the contemporary world. Second, the meanings attached to climate change by different religious traditions will be diverse and at times contradictory. Third, more informed engagement with the world's religions – on the part of scholars, advocates and politicians - is essential to shape the unfolding story of climate change and humanity.

## **Introduction**

On the 27<sup>th</sup> April 2015, several weeks before the Vatican issued Pope Francis’ encyclical *On Care For Our Common Home* (Pope Francis, 2015), the Cornwall Alliance, an American Christian evangelical coalition, issued an open letter on climate change addressed to the Pope. Whilst commending him for his care for the Earth and for God’s children, the letter raised concerns about the quality of some aspects of climate science and about the worldviews underpinning some climate policy advocacy. Interpreting the Bible as mandating a preference for the poor, the authors of the letter concluded that “... it is both unwise and unjust to adopt policies requiring reduced use of fossil fuels for energy”<sup>i</sup>.

Three years earlier on 22<sup>nd</sup> February 2012, Operation Noah, another Christian evangelical coalition but one based in the UK, had also issued a public statement on climate change, the so-called Ash Wednesday Declaration<sup>ii</sup>. It challenged the church that care for God’s creation – and therefore concern about climate change – was foundational to the Christian gospel. Consciously echoing the 1934 Barmen Declaration which gave coherence and visibility to the emergent Confessing Church during the Nazi regime, Operation Noah claimed climate change to be just such another ‘confessional issue’. Taking inspiration from the same Scriptures as the Cornwall Alliance, they declared “For our generation, reducing our dependence on fossil fuels has become essential to Christian discipleship.”

These two examples spotlight the complex relationship between religion – in this case the Protestant Christian faith – and climate change. On the one hand they clearly show that the questions raised by the idea of human-caused climate change<sup>iii</sup> have increasingly come to occupy Christian institutions, theologians and faith-holders (and indeed, as we shall see, those of other faith traditions). But these vignettes also capture something of the diversity of religious engagements with the issue. Though appealing to the same revealed divine authority in the Bible, the Cornwall Alliance and Operation Noah reach radically different conclusions about what constitutes an appropriate response to climate change. The arguments, controversies and calls to diverse actions (and inactions) which have characterized the public (and mostly secular) discourse surrounding climate change, are also to be found powerfully at work within religious communities.

In exploring the relationship between religion and climate change this essay argues three things. First, it makes the case that religious thought and practice is important for understanding how the idea of climate change is given meaning in the contemporary world. There are many ways in which ‘climate change comes to matter’ (in the words of Candis Callison’s eponymous book; Callison, 2014) and to do full justice to understanding these processes one needs to study religions. Second, it emphasizes the empirical observation that the meanings attached to climate change, both between and within different religious traditions, will be diverse and at times contradictory (Veldman

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et al., 2013). The idea that religion could somehow act as a unifying platform to offer a ‘planetary opportunity and driving force to stay within planetary boundaries’ – as a recent conference has suggested<sup>iv</sup> – misreads both religion and ecology (see Chapter 5 in Hulme, 2009). The essay illustrates these two initial arguments by identifying a number of the more salient contact points between religious thought and practice and climate change: cosmologies, beliefs and perceptions, ethics and practices.

Thirdly, the essay concludes by suggesting a number of areas where these tensions in the relationship between religion and climate change seem most acute. And yet I also suggest that deeper, broader and more informed engagement with the world’s religions – on the part of scholars, advocates and politicians - is essential to shape the unfolding story of climate change and humanity; to understand how people in all their diversity and fractiousness will come to navigate the physical and cultural forcefield of climate change.

### **When did religions discover climate change?**

The rhythms of the sky have long been triggers and companions of human thought and ritual. From the frigid north to the torrid tropics they have induced wonder and fear, whilst also offering comfort and assurance. Alongside the experience of intense yet predictable diurnal and seasonal weather cycles, sits the unreliable performance of climate from year-to-year and from generation-to-generation. No two years are the same; the climate of old age seems unlike the climate of youth. While a drought is to be feared; a mere dry season is not. A winter is not an ice age; neither are all storms hurricanes. It is little wonder that human anxieties, hopes and the search for explanation – and hence many of our spiritual longings and theologies – have been bound up with the skies. Religions have found many ways to make sense of these cruel fates, acknowledging our dependence on powers beyond our control and giving thanks for mercies and blessings received. Climate and religion have a long history of interdependence.

We can see evidence of this in historical accounts of climate declensionism, most notably in the efforts of early Enlightenment thinkers to make sense of the causes and consequences of the Biblical Flood. As Barnett (2015) has shown, for philosophers such as the Italian Antonio Vallisneri (1661-1730) this ancient climatic deterioration was attributed to human sin. The mark of the deluge was left on human bodies – through degrading the reproductive capacities of human beings - as much as it was left on the face of the earth. As Barnett concludes, “Religion thus played a crucial role in fostering the ideas that humanity and Nature could reciprocally transform each other” (p.232). We can also see (at least suggestive) evidence of this interdependence through bioclimatic analyses of the distribution of societies who believe in moralizing high gods (Botero et al., 2014). Such religious beliefs would appear to be more prevalent among societies that

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inhabit resource-poor environments and are more prone to ecological duress than among those with more stable and humid climates. Social, cultural, and climatic influences combine in complex ways to allow for the emergence of different religious beliefs and practices.

And so it is somewhat surprising that there has been such a notable exclusion of religions, and the religious, in the forging of late-modernist accounts of climate change and its multiple causes. For example the United Nations expert body on climate change -- the Intergovernmental Panel on Climate Change (IPCC) formed in 1988 -- has managed successfully to prise the idea of climate and its capricious behaviour away from its deep historical and cultural anchors. In the IPCC, and pre-dominantly in most public discourse, climate is framed as a physical phenomenon, to be studied using the theories of physics and the tools of numerical simulation models.

In recent years this ‘purification’ (cf. Latour, 1993) of climate has begun to change. As the scientized account of climate change and human agency has spread around the world it has run up against deeper narratives and stronger resistance than many scientists -- and many politicians and campaigners -- might have thought. Climate change turns out to be not just one thing, a thing defined and simulated inside Earth System models. As a hybrid physical-cultural phenomenon, climate change needs to be studied not just by meteorologists, ecologists and economists – the dominant disciplines assessed by the IPCC (Bjurström & Polk, 2011) -- but by sociologists, anthropologists, philosophers and, importantly, by theologians and religious scholars. The meanings of climate change are multiple and the ways in which people express, represent, engage and resist climate change are too numerous to be controlled by a single dominating perspective, namely science. And many of these diverse reactions have their roots in ancient religious cosmologies, doctrines, traditions and practices.

The academic community, dominated as it is by the secularized cultures of Western Europe and most Anglophone countries, has been slow to awaken to this reality. A search of the publication database Scopus reveals this. Searching for the combination of ‘climate change’ and ‘religi\*’ in titles, keywords and abstracts of peer-reviewed journal articles reveals 456 such publications<sup>v</sup>. Of these, 50% have been published after 2010 and 75% after 2007. Formal academic scholarship on climate change and religion is therefore a phenomenon largely of the last decade, even though human-caused climate change has been studied scientifically since the 1970s and has been a public policy issue since the late 1980s.

In contrast to such slowly emerging scholarship, the engagement of religious faiths with climate change has a longer history<sup>vi</sup>. For example, as far back as 1988, before the IPCC was constituted, the World Council of Churches launched its Climate Change Program ‘to promote the transformation of socioeconomic structures and personal lifestyle choices

that contribute to global warming’. The Church of Scotland issued its first assessment of climate change in 1989 – ‘*With Scorching Heat and Drought*’ (Pullinger, 1989), the Dalai Lama made his first speech on climate change in 1990, during the Kalachakra Initiation at Sarnath, India, and in 2000 the Coalition on the Environment and Jewish Life (COEJL) issued a report ‘*Global Warming: A Jewish Response*’. Among the growing number of fora where climate change was debated by religious leaders and scientists, the Oxford Forum on Global Climate Change in July 2002 was particularly significant (Wilkinson, 2012). The resulting Oxford Declaration signed by more than 70 leading climate scientists, policy-makers and American Christian leaders recognized that ‘the Christian community has a special obligation to provide moral leadership and an example of caring service to people and to all God’s creation’<sup>vii</sup>.

### **Why religions matter for climate change**

As noted above, researchers, policy makers, and leading scientists have recently recognized the importance of religion for understanding how people make sense of climate change and also for identifying meaningful responses to the challenges that are raised. These channels of influence are several and are briefly explored in the subsections that follow. Conversely, climate change also matters for religions, as has been succinctly argued by Anglican Bishop David Atkinson: “... the questions posed by climate change reach to the heart of faith: our relationship to God’s earth and to each other; the place of technology; questions about sin and selfishness, altruism and neighbour love; what to do with our fears and vulnerabilities; how to work for justice especially for the most disadvantaged parts of the world and for future generations”<sup>viii</sup>.

Religious traditions influence the cosmologies of believers and, less directly, unbelievers, which in turn give shape to how people make sense of unsettling changes in their local climatic environments. Major religious faiths possess substantial institutional and economic resources, as well as possessing significant political power (Grim & Tucker 2014). Arresting climate change is not just beyond the capacities of science; it is also beyond the capacities of the state. As with other non-state actors such as businesses, cities and NGOs, religious movements and institutions have the mobilizing power to enlist and de-list multitudes of citizens in influential causes. Religious actors are key contributors to political discourses at local, national, and international levels and prominent climate activists regularly cite the importance of religious participation in international climate negotiations. Influential climate scientists have publicly called for enhanced collaboration among religious institutions, policy makers, and the scientific community (e.g. Dasgupta & Ramanathan 2014).

Finally, religions give substance and power to social and ethical norms, enhance social capital and valorize certain lifestyles. Many commentators have remarked that climate policies need to tap into intrinsic, deeply held values and motives if cultural innovation and change are to be lasting and effective. As the Alliance of Religions and Conservation observed in 2007: “The emphasis on consumption, economics and policy usually fails to engage people at any deep level because it does not address the narrative, the mythological, the metaphorical or the existence of memories of past disasters and the way out. The faiths are the holders of these areas and without them, policies will have very few real roots”<sup>ix</sup>. Religious practices can not only ameliorate hardships affecting communal life, but also animate calls for alternative value systems and lifestyles.

### *Cosmologies*

The theologian Lynn White junior, in his influential 1967 essay ‘The historical roots of our ecological crisis’, observed that “What people do about their ecology depends on what they think about themselves in relation to things around them. (It) is deeply conditioned by our beliefs about nature and destiny ... that is by religion” (White, 1967: 1205). How people understand the ordering of the natural world, the animate and inanimate agencies at work and the appropriate duties and responsibilities of humans, i.e., their cosmologies, significantly affects how people interpret climate change and make it meaningful. For most people in the world, scientific claims that through their aggregate acts of material transformation and consumption humans are largely responsible for changes in the world’s climates are at best partial. Such claims do not engage with or make sense of the spiritual and moral lifeworlds of many people. For others, such scientific claims may conflict more fundamentally with traditional beliefs about agency and causation in the sky (Donner, 2007); weather phenomena are believed to be explicitly controlled by the gods.

In his study of climate change beliefs amongst Marshall Islanders in the Western Pacific, the anthropologist Peter Rudiak-Gould shows how the blending of local and Christian cosmologies offer different accounts of blame and agency than would easily be understood in Western settings (Rudiak-Gould, 2012). For others, knowledge about the weather and its effects on local ecology and physical landforms (e.g. glaciers; Allison, 2015) are infused with spiritual worldviews. Although not easily fitting the category of ‘religious beliefs’ (Leduc, 2010), such worldviews nevertheless challenge modernist and materialist accounts of agency. For some Hindus, belief in the epoch *Kaliyuga* allows the divinity of the sacred Ganges River to offer reassurance in times of climatic disturbance. Reasonings of blame for climatic misdemeanours and deviations come in many different guises (e.g. Rudiak-Gould, 2015) which can blur the lines of rationality assumed to distinguish between early modern and late modern cultures. As we saw earlier, Barnett (2015) shows how the Biblical Flood was deemed ‘anthropogenic’ by early modern scholars in the sense that it was divine punishment induced by human sin. This is not so

far from the belief expressed by the eco-theologian Michael Northcott when he proclaims “Global warming is the Earth’s judgement on the global market Empire and the heedless consumption it fosters” (Northcott, 2007: 7). The moral failures of humanity are in each case the cause of global climatic change, whether mediated by God or by ‘the Earth’.

Without understanding the religious and spiritual dimensions of peoples’ lifeworlds, climate change communication, advocacy campaigns and policy development and implementation will be deficient. Unravelling and giving salience and credibility to these different accounts of climatic agency and blame is a task of religious studies scholars.

### *Beliefs and Perceptions*

The study of climate change is informed by numerous public opinion surveys which seek to capture the extent of popular belief in anthropogenic climate change and about what should be done to tackle it and by whom (Capstick et al., 2015). Popular discourse about religion, publics and politics often reduces the political agency of religious actors to fixed theological positions. Such a view of politics and religion has bifurcated public opinion about the role of religion in addressing climate change. Especially in the United States and in the UK, religious actors are frequently criticized as climate obstructionists.

However, if American religious conservatives tend to be climate ‘skeptics’ for example, recent scholarship suggests that theological motives are not the primary motive for such a position (Jones et al., 2014). Hispanic Catholics, Black Protestants and non-Christian/Jewish religious Americans all tend to be more concerned about climate change than the average American; it is only ‘white’ Protestant and Catholic Americans who are less likely to be concerned. And with respect to attributing the severity of recent climatic disasters to different causes it is only ‘white’ evangelical Protestants who are substantially more likely to attribute them to a Biblical ‘end times’ belief than to (human-caused) climate change. The theologies of ‘white’ Catholics and ‘white’ mainline Protestants do not lend themselves to such interpretative beliefs (Jones et al., 2014).

Many commentators concerned about climate change praise the work of religious advocacy networks, citing the historical role of religion in activating social change with respect to racial justice, poverty alleviation, and human rights. Nevertheless, religious attitudes about the scientific consensus on climate change and about what constitutes an appropriate response are decidedly mixed (Taylor 2015). These divergent claims about religion and climate change indicate the need for public discourse that is better informed by the diverse ways religious actors are engaging climate politics (Hulme 2009). Experts in this field are currently charting the myriad responses of religious communities to environmental crises and describing how various religious systems of thought confront the challenge of climate change on different terms (Gerten & Bergmann 2012; Veldman et al 2013).

### *Ethics*

Beyond cosmology and doctrine, any attempt to understand how religions engage with the idea of climate change must appreciate how different religion faiths reason ethically. In relation to climate change there are three places to start such an inquiry, whether religious or not: what is our responsibility to the non-human world? what is our responsibility to the human other? how should we care for the future? From a Christian theological perspective these inquiries might be framed as questions about ‘creation care’, ‘neighbor care’ and eschatology (Wilkinson, 2010). Different religion faiths might frame these questions differently and within any single faith tradition there will be different interpretative positions. Nevertheless, religious thought can contribute to global cultural dialogue about such generic questions, without requiring adherence or identity. I don’t have to be a Buddhist to be interested in how Buddhists use their tradition to answer these questions.

We have already seen how within evangelical Christianity ethical responsibility for the poor is constructed in radically different ways by the Cornwall Alliance and Operation Noah. Religious responses to the fossil fuel divestment campaign orchestrated by the social movement ‘350.org’ are another site where differences in ethical reasoning can be studied. For example, the Church of England has about \$16 billion of invested capital and in 2014 the Ethical Investment Advisory Group (EIAG) of the Church was charged by the governing Synod to revise its ethical investment policy. This was in light of the divestment movement’s challenge to prominent public bodies to withdraw all investments in oil, coal and gas companies. Their response, approved by Synod in July 2015, drew upon a variety of theological traditions and Biblical hermeneutics and recommended selected rather than full-scale divestment. It could be seen as offering a middle way between the more extreme positions of the Cornwall Alliance and Operation Noah. Nevertheless, the paper concluded “... climate change is an urgent ethical issue and ... calls for an urgent response from all parts of society, including investors.”<sup>x</sup>

Another example where religious ethics have an important role to play is with regard to the question of climate engineering. The questions raised by these putative technologies of deliberate climate modification relate to the drawing of boundaries between human and non-human entities (for a general treatment of this question see Albertson & King, 2010). If climate engineering is thought of as a form of climatic enhancement then there is a parallel to be drawn with how religious ethics engage the idea of human enhancement (Hulme, 2015). Ethical questions about ‘manipulating nature’ and ‘playing God’ come to the fore, questions which different religions traditions approach differently. Clingerman (2015) suggests that one role for theologians in this debate is their ability to offer hermeneutical tools to engage different narratives of climate engineering in constructive ways. Religious thought and belief, according to Clingerman, are to be offered as a resource, “to help us to understand the machinations of actual domination of the



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atmosphere” (Clingerman, 2015: 16). This is not dissimilar to the call to think carefully about what metaphors of agency are adopted for environmental action (Jenkins, 2005). Religions can again be seen as a cultural resource, helpfully widening the ways in which we think about responses to climate change.

### *Practices*

Religion is relevant for understanding responses to climate change not simply in terms of cosmologies, the shaping of abstract beliefs through formal doctrines or through ethical principles. To think thus would be to succumb to a discredited Enlightenment prejudice about the pre-eminence of abstract reason over embodied action. Perhaps more important for understanding climate change in relation to religion is the way in which religious institutions, communities and practices shape cultural imaginaries and individual behaviours.

There is a considerable literature from sociology and social psychology about how beliefs, values and attitudes work to shape pro- or anti-environmental behaviours (e.g. Gifford et al., 2011). There is also growing interest in how institutions, communities and individuals engage in, or are prevented from engaging in, adaptation actions to reduce vulnerabilities to extreme weather (Adger et al., 2009). Yet not much of this literature, and even then only recently, has examined the specific role of religious networks, practices and rituals in this context. For example, Kuruppu (2009) drew attention to the importance of religion for adaptation of community water resources in Kiribati, particularly in contexts where religion is central to peoples’ lives. From a different part of the world, Hesed and Paolisso (2015) showed how amongst African American communities in Chesapeake Bay, faith-based knowledge and religiously shaped social networks work to mediate the adaptive capacity of these coastal communities in the face of storm-risk. Other social scientific investigations into how religious practices -- from within Buddhism, several variants of Christianity, Hinduism, Islam and traditional indigenous beliefs -- are shaping responses to climate change are collected in Veldman et al. (2013).

A focus on religious practices and climate change can also lead to reflections on the idea of virtue (Hulme, 2014). Religious responses to climate change involve the community of believers and since one of the abiding goals of most religious communities is the pursuit of holiness, one can ask how is virtue to be acquired and exercised? Or as Protestant theologian Tom Wright puts it, “How can we acquire that complex ‘second nature’ which will enable us to grow up as genuine human beings?” (Wright, 2010: 220). Wright offers a virtuous circle in which five elements work together to cultivate character: community, stories, scripture, practices, examples. One can recognise in this schema elements that are not unique to Christian tradition. They can be developed in many different religious and secular settings by paying attention to the wisdom of the

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past, human life stories, rituals which reinforce connectivity and community cohesion which reaffirms individuals' self-worth. For example, the appeal of such a virtuous circle can be found in the writings of the philosopher Alain de Botton and his 'Manifesto for Atheists: ten virtues for the modern age' (de Botton, 2013).

## Conclusion

Different regions and diverse groups of stakeholders understand the threat of climate change according to particular and often distinct religious frames of reference. These religious narratives and rituals shape the nature and credibility of different knowledge claims about climate -- what is happening to it and why -- as well as shaping individual and communal ethical and social behaviours. Religious faith communities therefore offer 'thick' accounts of moral reasoning for acting in the world, in response to climate change as much as in response to other social and ecological challenges. Such an approach sits in contrast to secular calls for mitigation and adaptation which rely upon 'thin' global values: widely shared, but culturally non-specific, moral criteria (Wolf & Moser, 2011).

But while I would argue that religious engagement with climate change is both necessary and inevitable, it is hardly a panacea for resolving the many deep divisions and dilemmas in our world which climate change reveals. Whilst the Interfaith Statement on Climate Change from the World Council of Churches in September 2014<sup>xi</sup>, or Pope Francis' Encyclical *On Care For Our Common Home*, hold out hopeful visions for common action on climate change, there remain many sources of tension within and between different religious traditions for this hope to be easily realised. As this essay has shown, these tensions emerge from different:

- understandings of agency in the world;
- theologies of creation;
- eschatologies;
- attitudes towards technology;
- attitudes towards human fertility;
- ethical systems.

Far from inspiring a replicable or universal response, the world's religions are engaging the idea of climate change for a diversity of reasons and in a diversity of ways (Veldman et al., 2013). Where local groups are affected by climate change, communities necessarily respond in vernacular terms consistent with their own religious and cultural self-understanding. 'Thin' global values do not fully capture the full range of concerns and commitments expressed by affected communities, for example claims about sacred landscapes, divine causality, ethical responsibility or social solidarity.

*Unanswered questions*

There is much yet to discover about how religious beliefs, institutions and practices around the world interact with the idea of climate change, and with what effect. A crucial first step towards forging more culturally grounded policy responses is improving public understanding of the religious heterogeneity through which climate change is experienced and politicized. Better knowledge about the overlaps and differences among religious traditions can inform climate policy and generate more effective coalition-building across diverse interests. I close by offering a number of research questions with which religious scholars and their companions might engage:

- Most scholarship on Christianity and climate change has been focused on North America and Europe. Yet the most significant concentrations of Christian believers, and where growth is strongest, are in Africa, Latin America and parts of Asia. How then do African Christians, for example, bring theological reasoning to bear on the questions of poverty, ecology and technology that lie at the heart of climate change?
- How do individual religious believers interpret doctrinal, ethical and behavioural statements on climate change issuing from faith leaders and what range of such lay interpretations can be -- and are -- accommodated within religious traditions and communities? For example, empirical research should be conducted on lay readings and uses of the Pope's 2015 Encyclical.
- Given that Islam with nearly 25% of the world's population is the second largest religion in terms of adherents, it is a deficiency that very little attention has been paid to how Muslims – in faith and in practice – either engage with or potentially engage with climate change. A declaration from the Islamic Foundation for Ecology and Environmental Sciences in August 2015, as with the Pope's Encyclical, is worthy of following through the eyes of ordinary Muslims.
- What are effective and ineffective means of communicating the risks of climate change, as articulated by science, with people of various faiths? A recent report from the Climate Outreach and Information Network (COIN, 2015) in the UK – *'Messages to mobilise people of faith'* – is of interest in this regard.
- Finally, to what extent can religious framings of the causes, effects and ethics of climate change be more effective in reconciling disputed positions on climate policy than can other authoritative cultural framings?

Science is never enough to resolve problems which are cultural in origin. Neither through its promise of solid and reliable knowledge, nor through its efforts to animate social movements, can science chart of course of action in the world which will resolve political contestation. The former Chairman of the IPCC, R K Pachauri, was therefore

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profoundly wrong when he claimed in November 2014 at the launch of the Synthesis Report of the IPCC's 5th Assessment that, "All we need is the will to change, which we trust will be motivated by ... an understanding of the science of climate change"<sup>xii</sup>. Simply understanding climate science will not provide the 'will to change'. On the other hand, reading climate change and accounts of human agency through the eyes of the world's religions offers fresh insights and different inspirations about what it means to be human in an age of climate change.

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### References

- Adger, W.N., Dessai, S., Goulden, M., Hulme, M., Lorenzoni, I., Nelson, D., Otto-Naess, L., Wolf, J. and Wreford, A. (2009) Are there social limits to adaptation to climate change? *Climatic Change* 93, 335-354
- Albertson, D. and King, C. (eds.) (2010) *Without nature? A new condition for theology* Fordham University Press, NY, 469pp.
- Allison, E. (2015, early view) The spiritual significance of glaciers in an age of climate change *WIREs Climate Change*
- Barnett, L. (2015) The theology of climate change: sin as agency in the Enlightenment's Anthropocene *Environmental History* 20, 217-237
- Bjurström, A. and Polk, M. (2011) Physical and economic bias in climate change research: a scientometric study of IPCC Third Assessment Report *Climatic Change* 108(1-2), 1-22
- Botero, C.A., Gardner, B., Kirby, K.R., Bulbulia, J., Gavin, M.C. and Gray, R.D. (2014) The ecology of religious beliefs *Proceedings of the National Academy of Sciences* 111, 16784-16796
- Callison, C. (2014) *How climate change comes to matter: the communal life of facts* Duke University Press, Padstow, Cornwall, 316pp.

Submitted draft – pre-publication, August 2015

- Capstick,S., Whitmarsh,L., Poortinga,W., Pidgeon,N. and Upham,P. (2015) International trends in public perceptions of climate change over the past quarter century *WIREs Climate Change* 6(1), 35–61
- Clingerman,F. (2015, early view) Roundtable on climate destabilisation and the study of religion: Theologians as interpreters – not prophets – in a changing climate *Journal of the American Academy of Religion*
- COIN (2015) *Starting a New Conversation on Climate Change with the European Centre-Right* Climate Outreach and Information Network, Oxford, 40pp.  
<http://www.climateoutreach.org.uk/a-new-european-conversation/>
- Dasgupta,P. and Ramanathan,V. (2014) Pursuit of the common good *Science* 345, 1457-1458
- de Botton.A. (2013) *Religion for Atheists: A Non-Believers Guide to the Uses of Religion* Vantage, London
- Donner,S.E. (2007) Domain of the Gods: an editorial essay *Climatic Change* 85, 231-236
- Gerten,D. and Bergmann,S. (eds.) (2012) *Religion in environmental and climate change: suffering, values, lifestyles* Continuum Press, New York/London, 269pp.
- Gifford,R., Kormos,C. and McIntyre,A. (2015) Behavioral dimensions of climate change: drivers, responses, barriers, and interventions *WIREs Climate Change* 2(6), 801-827
- Grim,J. and Tucker,M.E. (2014) *Ecology and religion* Island Press, Washington DC
- Hesed,C.D.M. and Paolisso,M. (2015) Cultural knowledge and local vulnerability in African American communities *Nature Climate Change* 5(7), 683-687
- Hulme,M. (2009) *Why we disagree about climate change: understanding controversy, inaction and opportunity* Cambridge University Press, Cambridge, 393pp.
- Hulme,M. (2014) Climate change and virtue: an apologetic *Humanities* 3(3), 299-312
- Hulme,M. (2015) Better weather? The cultivation of the sky *Cultural Anthropology* 30(2), 236-244
- Jenkins,W. (2005) Assessing metaphors of agency: intervention, perfection and care as models of environmental practice *Environmental Ethics* 27(summer), 135-154
- Jones,R.P., Cox,D. and Navarro-Rivera,J. (2014) *Believers, sympathizers and skeptics: why Americans are conflicted about climate change, environmental policy and science* Public Religion Research Institute (PRRI), Washington DC, 45pp.
- Kuruppu,N. (2009) Adapting water resources to climate change in Kiribati: the importance of cultural values and meanings *Environmental Science and Policy* 12(7), 799-809
- Latour,B. (1993) *We have never been modern* (translation by C Porter) Harvester/Wheatsheaf, New York, 157pp.

Submitted draft – pre-publication, August 2015

- Leduc, T. (2010) *Climate, Culture, Change: Inuit and Western Dialogues with a Warming North* University of Ottawa Press, Quebec, Canada
- Northcott, M.S. (2007) *Moral climate: the ethics of global warming* Dartman, Longman and Todd Ltd/Orbis., London, 336pp.
- Pope Francis (2015) *Encyclical letter Laudato Si' of the Holy Father Francis – On care for our common future* Vatican Press, Rome, 184pp.
- Pullinger, D.J. (ed.) (1989) *With scorching heat and drought: a report on the greenhouse effect* St. Andrew Press, Edinburgh, UK, 74pp.
- Rudiak-Gould, P. (2012) Promiscuous corroboration and climate change translation: a case study from the Marshall Islands *Global Environmental Change* 22(1), 46-54
- Rudiak-Gould, P. (2015, early view) The social life of blame in the Anthropocene *Environment and Society: Advances in Research*
- Taylor, B. (2015) Religion to the rescue (?) in an age of climate disruption *Journal for the Study of Religion, Nature and Culture* 9(1), 7-18
- Veldman, R.G., Szasz, A. and Haluza-Delay, R. (eds.) (2013) *How the world's religions are responding to climate change: social scientific investigations* Routledge, Abingdon/New York, 327pp.
- White Jr., L. (1967) The historical roots of our ecologic crisis *Science* 155, 1203-1207
- Wilkinson, K.K. (2012) *Between God and green: how evangelicals are cultivating a middle ground on climate change* Oxford University Press, New York, 256pp.
- Wilkinson, K.R. (2010) Climate's salvation: why and how American evangelicals are engaging with climate change *Environment* March/April Issue, 47-57
- Wolf, J. and Moser, S.C. (2011) Individual understandings, perceptions and engagement with climate change: insights from in-depth studies across the world *WIREs Climate Change* 2(4), 547-569
- Wright, N.T. (2010) *Virtue reborn* SPCK, London

#### Books specifically on Climate Change, Religion and Theology

Comment [MH1]: Not sure if this list is needed/helpful

- Bergmann, S. and Gerten, D. (eds.) (2010) *Religion and dangerous environmental change: transdisciplinary perspectives on the ethics of climate and sustainability* Studies in Religion and Environment, Vol.2, LIT-Verlag, Münster/Berlin/Zürich/Wien/London, 256pp.
- Elvey, A.F. and Gormley-O'Brien, D. (eds.) (2013) *Climate change - cultural change: religious responses and responsibilities* Wipf & Stock Publishers, Eugene OR, 220pp.
- Gerten, D. and Bergmann, S. (eds.) (2012) *Religion in environmental and climate change: suffering, values, lifestyles* Continuum Press, New York/London, 269pp.

Submitted draft – pre-publication, August 2015

- Hayhoe, K. and Farley, A. (2009) *A climate for change: global warming facts for faith-based decisions* Faithwords, New York, 224pp.
- Kruger, F. (2014) *Religion and global climate change: A handbook for faith leaders and climate activists* CreateSpace Independent Publishing Platform, 198pp.
- McFague, S. (2008) *A new climate for theology: God, the world and global warming* Fortress Press, Minneapolis MN, 176pp.
- Northcott, M.S. (2007) *Moral climate: the ethics of global warming* Dartman, Longman and Todd Ltd/Orbis., London, 336pp.
- Northcott, M. (2014) *A political theology of climate change* SPCK, London, 344pp.
- Northcott, M. and Scott, P.M. (eds.) (2014) *Systematic theology and climate change: ecumenical perspectives* Routledge, London, 190pp.
- Primavesi, A. (2009) *Gaia and climate change: a theology of gift events* Routledge, London, UK, 168pp.
- Veldman, R.G., Szasz, A. and Haluza-Delay, R. (eds.) (2013) *How the world's religions are responding to climate change: social scientific investigations* Routledge, Abingdon/New York, 327pp.
- Wilkinson, K.K. (2012) *Between God and green: how evangelicals are cultivating a middle ground on climate change* Oxford University Press, New York, 256pp.

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<sup>i</sup> <http://www.cornwallalliance.org/anopenlettertopopefrancisonclimatechange/> [accessed 17 July 2015]

<sup>ii</sup> <http://operationnoah.org/what-we-do/ash-wednesday-declaration/> [accessed 17 July 2015]

<sup>iii</sup> 'Climate change' is a complex idea and refers to both physical and cultural realities. Physical changes to climate are understood by science to have both human and non-human causes. But climate change is also an idea with a wide range of cultural meanings and attachments, where causation is more complex than reductionist science would recognise. I explain the broad contours of the idea of climate change in:

Hulme, M. (2016, accepted) Climate change (concept of) Entry in: *The International Encyclopedia of Geography: People, the Earth, Environment, and Technology* (eds.) Richardson, D., Castree, N., Goodchild, M.F., Kobayashi, A.L., Liu, W. and Marston, R., John Wiley & Sons, Malden, Oxford.

<sup>iv</sup> European Forum for the Study of Religion and the Environment (EFSRE) Conference, May 2015

[http://www.en.kompetenzzentrumethik.uni-muenchen.de/veranstaltungen/religion\\_anthropocene/index.html](http://www.en.kompetenzzentrumethik.uni-muenchen.de/veranstaltungen/religion_anthropocene/index.html) [accessed 17 July 2015]

<sup>v</sup> Search conducted 17 July 2015. The Scopus database captures scholarly articles published since the 1980s.

<sup>vi</sup> Many other examples of formal religious engagements with climate are catalogued on the Yale Forum for Religion and Ecology web-site: <http://fore.yale.edu/climate-change/statements-from-world-religions/> [accessed 21 July 2015]

<sup>vii</sup> Oxford Declaration <http://www.jri.org.uk/news/statement.htm> [accessed 21 July 2015]

<sup>viii</sup> Operation Noah: 'Why climate change is a confessional question': <http://www.operationnoah.org/confessional-question> [accessed 21 July 2015]

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<sup>ix</sup> Alliance of Religions and Conservation (December 7, 2007): ‘UN and ARC launch programme with faiths on climate change’. Available at <http://www.arcworld.org/news.asp?pageID=207> [accessed 21 July 2015]

<sup>x</sup> *Climate change: The policy of the National Investing Bodies of the Church of England Synod and the Advisory Paper of the Ethical Investment Advisory Group of the Church of England*, 30 April 2015. Available at <https://www.churchofengland.org/media/2223994/climate.change.policy.30.04.15.pdf> [accessed 5 August 2015]

<sup>xi</sup> World Council of Churches statement, 21 September 2014, available at: <http://interfaithclimate.org/the-statement> [accessed 17 July 2015]

<sup>xii</sup> See IPCC press release at <http://www.un.org/climatechange/blog/2014/11/climate-change-threatens-irreversible-dangerous-impacts-options-exist-limit-effects/> [accessed 23 April 2015]