

# Why are people sceptical about climate change?

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## Abstract

Surveys of public opinion show that a significant minority of the population are sceptical about climate change, and many suggest that doubt is increasing. The internet, in particular the blogosphere, provides a vast and relatively untapped resource of data on the thinking of climate sceptics. This paper focuses on one particular example where over 150 climate sceptics provide information on their background, opinion on climate change and reasons for their scepticism. Although this data cannot be regarded as representative of the general public, it provides a useful insight into the reasoning of those who publicly question climate science on the web. Points of note include the high level of educational background, the significant numbers who appear to have been converted from a position of climate concern to one of scepticism, and the influence of blogs on both sides of the climate debate.

## Introduction

The subject of public opinion on climate change, and in particular climate change scepticism, is becoming one of increasing interest in the social sciences (Engels, Hüther, Schäfer, & Held, 2013; Hobson & Niemeyer, 2013; Koteyko, Jaspal, & Nerlich, 2012; Painter & Ashe, 2012; Poortinga, Spence, Whitmarsh, Capstick, & Pidgeon, 2011). A useful summary of the subject is given by Pidgeon (2012), in an article introducing a volume of papers on the risks associated with climate change and public perception of these risks. Pidgeon notes that there has been a decline in public concern about climate change in recent years, and that this is a surprise to the academic community. The aim of this paper is to try to provide some answers to this puzzle, based on comments on climate sceptic blogs.

The decline in climate concern, and corresponding increase in climate scepticism, has been observed in many opinion polls in several countries. Brulle, Carmichael, and Jenkins (2012) observed that environmental issues are ranked low among issues of public concern in the USA, and that within this category, global warming was ranked lowest of nine topics in one poll. They constructed an index of climate concern, which after a peak in 2007 fell considerably. Increase in scepticism among the USA public from 2002 to 2010 was found by Smith and Leiserowitz (2012). Poortinga et al. (2011) report surveys showing

increasing scepticism in Europe and the USA, while Whitmarsh (2011) found a doubling in the proportion of the UK public who think climate change has been exaggerated between surveys in 2003 and 2008.

Several papers have looked at the different levels of climate scepticism in different countries, showing significant variation but not a consistent picture. Research has found greater news coverage of climate scepticism in the US and the UK than in other countries such as France (Painter & Ashe, 2012), lower prominence of scepticism in Germany compared with the UK and USA (Engels et al., 2013), more visibility of sceptical views in the US and France compared with the UK and Germany (Grundmann & Scott, 2012), and much higher levels of scepticism in The Netherlands, UK and USA than in Brazil and Mexico (Hagen, 2013).

The relatively large and increasing numbers of people expressing doubts about climate change has naturally prompted investigations into the causes of this phenomenon. An investigation into “What sceptics believe” (Hobson & Niemeyer, 2013) acknowledged the importance of this question, studied it using interviews with volunteers, attempting to categorise sceptics into 5 groups, and explored what impact deliberative forum discussions may have, with mixed results.

Factors that have been suggested as possible reasons for scepticism include the recent economic downturn, sceptical articles in the media, politics and worldviews, fatigue with repetition of the message, or a run of recent cold winters. It has been found that levels of education and science knowledge are not important factors (Kahan et al., 2012; Whitmarsh, 2011).

Brulle et al. (2012) considered several possible drivers for public concern, concluding that the weather and provision of scientific information were relatively minor factors, while the media and political issues are more significant. A study by Lahsen (2013) interviewed a number of climate sceptics with a physics or meteorology background, noting their concerns regarding climate models, observing an association with age and with conservative values. Both of these studies focus on the USA, where political aspects may be more prevalent than elsewhere.

A potential pitfall of such studies is that is easy to muddle cause and effect. If a climate sceptic associates with a conservative political group, does this indicate that his scepticism is politically motivated, or that the conservative group is the only one that allows him a platform to speak? If there are increasing numbers of sceptical articles in the media, is this an explanation for a change in public opinion, or is this media presence merely a reflection of the change in public opinion (Krosnick & MacInnis, 2010)? In such complex social issues it can be difficult to distinguish between correlation and causation.

One further factor that may have influenced public opinion is the 2009 “Climategate” incident in which many emails between climate scientists were released on the internet (Grundmann, 2013; Koteyko et al., 2012; Montford, 2012). This led to some criticisms of climate scientists regarding misleading presentation of data, bias in the process of literature review, and withholding of data. The debate about whether this had a major impact is ongoing.

What appears to be missing from the literature and from opinion polls is a detailed investigation of exactly what people are sceptical about and what are their reasons for being sceptical. The latter question in particular does not appear to be used in opinion surveys. A

survey of this type would be useful in firming up answers to the question of what motivates climate scepticism, which are currently not very clear.

The theme of this volume is the opportunities provided by the internet for research into climate change communication. Climate change is discussed very widely across the internet, via social media, newspaper articles that allow public and comments, and blogs. There is therefore a very substantial database of public opinion on climate change and on climate scepticism already available on the internet, that has not yet been extensively mined by researchers in the field. An example where this has been done is a study of comments made on the website of a UK newspaper before and after climategate (Koteyko et al., 2012). A detailed study of climate sceptic blogs was conducted by Sharman (2013), looking in particular at how they are linked together and which are the most central in the network.

The present paper tries to address reasons for scepticism by looking in detail at one particularly interesting blog post and comment thread in which readers were invited to discuss their background and views on climate science. Although these readers are not representative of the general public, it is hoped that the exercise may give some insight into the motivating factors for climate scepticism.

### **The Air Vent blog and its Reader Background thread**

The Air Vent blog (<http://noconsensus.wordpress.com>) was set up in August 2008 by Jeff Condon, an aeronautical engineer based in the USA. The Air Vent became one of the more active climate sceptic blogs, running over 30 posts in August 2009, one of which received 233 comments. The blog concentrates on the science of climate change, often considering some highly technical details. A particular focus of the blog was controversy over warming in Antarctica, which led to a publication with Condon as a co-author (O'Donnell, Lewis, McIntyre, & Condon, 2011). The blog received considerable publicity in November 2009, when it was one of only four blogs to receive the link to the climategate emails (<http://noconsensus.wordpress.com/2009/11/13/open-letter/#comment-11917>). Shortly after this incident, the identity of the blog owner (who had previously written anonymously as “Jeff Id”) became public. Since 2012 activity at the blog has declined. The Air Vent blog was not mentioned in the review of climate sceptic blogs carried out by Sharman (2013).

In April 2010, Condon launched a “Reader Background” post (<http://noconsensus.wordpress.com/2010/04/21/reader-background/>), at the suggestion of a reader. The post proposed to readers “a discussion of our various backgrounds and how we came to be interested in climate science.” The contents of this thread provides an interesting insight into the background, opinions and attitudes of those who actively participate in the climate sceptic blogosphere, and the responses given form the basis of the following sections. It is important to emphasise, however, that any analysis of such comment threads is unlikely to be able to address the question of the reasons for scepticism in the general public, since contributors to the thread are a small self-selected group.

At the time of writing (October 2013) the Reader Background thread contains 251 comments. Among these comments, 166 individuals can be identified as responding to the request (the remainder being commentary, responses to comments from others, or spam). Of these 166 responses, eight provide some background information about themselves but

do not give a clear view on climate change. A further four comments indicate support for the mainstream view of climate scientists that warming is caused predominantly by emission of greenhouse gases, so cannot be categorised as sceptics. This leaves 154 individuals who express some degree of scepticism regarding climate change. Here, scepticism is interpreted in a very broad sense, incorporating doubts about future warming, the opinion that past warming is mostly natural, criticism of climate science, or the view that warming will be beneficial. The vast majority of these 154 comments were posted in April 2010, but 13 were written later in 2010, two in 2011 and four in 2012.

### The spectrum of sceptical views

Attempts to categorise the views of climate sceptics are fraught with difficulties, since there are so many different views and attitudes associated with climate scepticism. Hobson and Niemeyer (2013) describe five overlapping categories, based on interviews with members of the public in Australia. Focusing more on the views of scientists, Lahsen (2013) distinguishes between “mainstream sceptics”, exhibiting moderate levels of scepticism, and “contrarians”, who are more categorical and typically are also sceptical of other environmental issues.

The following (flawed) loose categorisation of comments on the Reader Background thread attempts to give an overview of the range of opinions expressed.

**Lukewarmers.** The term “lukewarmer” is quite commonly used in the climate blogosphere, but does not appear to be used in the social science literature on climate scepticism. The term is used to describe themselves by 17 of the 154 individuals classified as sceptical. A further eight commenters express lukewarm sentiments, so that approximately one in six of the respondents can be described in this way. Typically, lukewarmers accept that human emissions of carbon dioxide have warmed the planet significantly and will continue to do so in the future. However, they believe that the level of warming will be lower than that predicted by many climate scientists, and that the global warming scare has been exaggerated. They also often express the view that such a moderate level of warming will be beneficial rather than damaging.

Based on this description, it could be argued that lukewarmers should not be regarded as sceptics. But it should be noted that they often express very critical views of climate science, for example by describing the behaviour of some scientists as being appalling, or saying that climate models are useless. One individual refers to himself (perhaps ironically) as a “lukewarm denialist”, and others describe themselves as sceptics and lukewarmers.

**Moderate sceptics.** The majority of sceptics commenting on the Reader Background thread fit into this broad category. This is characterised by views that warming of the climate is not a problem, that a large proportion of past warming is due to natural processes, that the threat posed by climate change has been greatly exaggerated, that much of the science of climate change is of poor quality, and that some climate scientists have behaved unprofessionally.

Scepticism may be expressed explicitly, for example the declaration that “I am a sceptic”, or through expression of views such as those listed above, or implicitly, for example by stating support for a sceptical blog.

**Strong sceptics.** The term “strong sceptics” is used here for those who express the opinion that climate activists or climate scientists are in some way dishonest or fraudulent.

This is a relatively small group within the sceptics on the Reader Background thread. The word “scam” is used by six people in relation to climate change, “lie” or “lies” appears four times, three individuals apply the word “fraud”, and “dishonest” only appears once. In total, only 13 contributors use such terminology, less the 10% of the total number of sceptics.

### **Real names or pseudonyms?**

An interesting question with regard to comments on climate blogs is whether contributors use their real names or comment anonymously using a pseudonym. One might suspect that use of real names leads to a more civil discussion, and research on newspaper comment sections supports this hypothesis (Santana, 2013).

Of the 154 identified sceptics, 53 use what appears to be a full real name either in the form of a first name and last name or (in four cases) initials and surname. Thus approximately 2/3 of the sceptic contributors write anonymously using a pseudonym. One commenter draws attention to the fact that a significant number have used their real name, and another remarks that those who are retired or self-employed may be more comfortable doing so. One gives university employment as a reason for using a pseudonym.

### **Education and background**

A particularly striking aspect of the comments on the Reader Background thread is the high level of educational background. Forty of the 154 sceptics state that they have a PhD degree. Of these, 12 are in chemistry, 8 in some form of engineering, 8 in physics, 4 in mathematics, 3 in biological sciences, and the remaining 5 in arts subjects, computer science, economics or unspecified. A further 11 contributors cite an MSc degree as their highest educational level, while three have an MBA. Of the remainder, 46 have a BSc and 14 a BA degree.

Among those who do not specify any educational details, technical backgrounds predominate, such as engineering, electronics and computer software.

Some comments on the thread refer to the number of academic qualifications, while others comment ironically on their own lack of qualifications. The blog owner expresses the hope that those without formal qualifications will not be intimidated.

### **Always sceptical or converted to scepticism?**

An interesting aspect of climate change scepticism is the question of whether those who hold sceptical views have always felt this way since they first heard of the subject, or have changed their opinion and become sceptical. A significant number of comments on the Reader Background thread give a clear indication on this point, although many do not.

There are 26 comments (17%) indicating a clear predisposition to scepticism regarding climate change. These individuals either simply state that they have always been sceptical, or that they have a natural tendency to be doubtful or contrarian, or that the idea just sounded wrong. In some cases this results from familiarity with previous scares; this point will be discussed further below.

On the other hand, 42 contributors (27%) indicate clearly that they were originally concerned about anthropogenic global warming (or in a few cases agnostic on the issue), but

became increasingly sceptical as they investigated the problem more deeply. Some sceptics indicate that they were originally totally convinced by the arguments for climate change, as a result of their own environmentalist views or, for example, as a result of seeing the film “An Inconvenient Truth”, before changing their views as a result of one of the factors that will be discussed in the following section.

This relatively high proportion of contributors who changed their opinion substantially on the issue of climate change does not provide support for the hypothesis that the views of individuals are largely determined by their worldview or cultural background (Kahan et al., 2012; Poortinga et al., 2011), and fits better with the view of Smith and Leiserowitz (2012) that worldview and political ideology are minor factors.

### Reasons given for scepticism

Most of the 154 identifiable sceptics on the Reader Background thread give some reasons for their scepticism. In some cases one factor dominates, in others there is a wide range of reasons given. Only eight of these individuals did not provide any clear reasons.

Any categorisation of these reasons is difficult and unavoidably subjective, but after reading through the comments the following main categories were identified.

**Hype, exaggeration and alarmism.** The concept that scepticism may be driven in part by the view that claims regarding climate change are exaggerated has been supported by the work of Whitmarsh (2011); this study found that media alarmism and exaggeration is a significant factor (among many others) and an increasingly important one.

A recent paper addressed in some detail the issue of “The ironic impact of activists” (Bashir, Lockwood, Chasteen, Nadolny, & Noyes, 2013), showing with a detailed sequence of studies that activists can be seen as militant or eccentric, in which case their actions can backfire.

In the Reader Background thread the word “hype” is mentioned by 5 individuals, while 9 use the word “exaggerated”. The term “alarmism” is used 9 times. Overall, 32 contributors to the thread indicate that this may have been a factor pushing them towards a sceptical view on climate change. The discussion of alarmism is generally directed towards the media with its sensationalist headlines or activists engaging in scare-mongering, although some individuals accuse climate scientists of being alarmist, for example by linking individual disasters such as hurricanes to global warming.

**Previous scares.** Somewhat related to the preceding issue of exaggeration is another factor that may lead to climate change scepticism: personal experience of earlier predictions of disaster that have turned out to be either groundless or exaggerated. This issue is likely to be more relevant to older individuals, and therefore may be a factor in the observed correlation between age and scepticism (Poortinga et al., 2011; Whitmarsh, 2011).

Fifteen of the 154 identified sceptics mention this issue as an influence on their views. In some cases there are general comments regarding decades of previous catastrophic predictions, while others mention specific events. Foremost among these is the ice-age scare or global cooling scare of the 1970s, mentioned explicitly by six contributors. The population scare associated with the work of Paul Ehrlich is mentioned twice.

The possible link between earlier environmental scares and climate scepticism does not seem to have been discussed in the social science literature. This is somewhat surprising, since this issue arises regularly on cli-

mate sceptic blogs (<http://stevengoddard.wordpress.com/1970s-ice-age-scare/>, <http://wattsupwiththat.com/2013/03/01/global-cooling-compilation/>).

**Politics.** The link between political opinions and concern about climate change has been well established (Hmielowski, Feldman, Myers, Leiserowitz, & Maibach, 2013; Krosnick & MacInnis, 2010; Poortinga et al., 2011), with those holding more conservative views less likely to be concerned about climate change than those with left-wing views. However, a study by Engels et al. (2013) shows a negative correlation between political participation and scepticism.

On the Reader Background thread, politics is mentioned regularly, but it can be difficult to distinguish between those who comment on political aspects and those for whom this was a significant factor in forming their sceptical views. Approximately 34 of the 154 sceptics appear to be in the latter category. Typically, these individuals complain that climate science has become politicised, or that some of those promoting action on climate change have a political agenda, or that some people are using concern over climate change as a means of spreading left-wing ideology, increasing centralised control or increasing taxes.

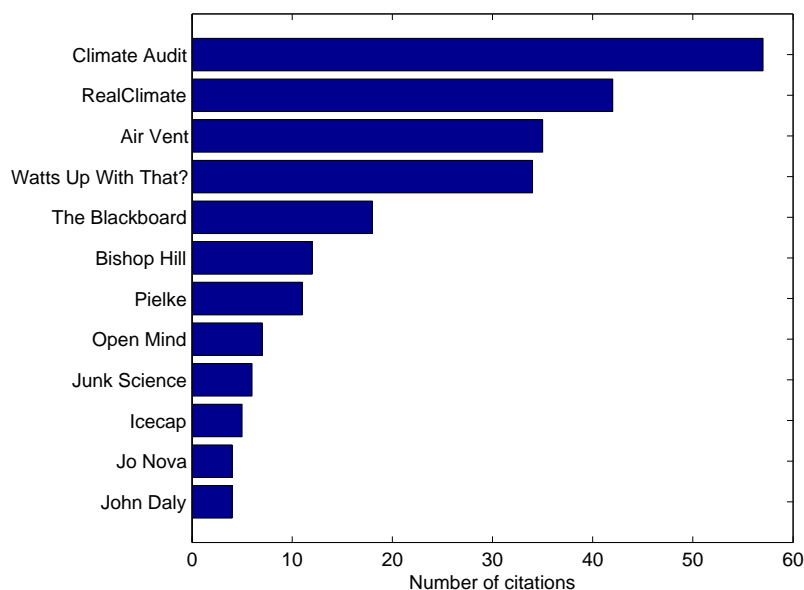
However, 10 of these 34 individuals refer to their own political views, implying either that their own views do not fit well with actions to address climate change, or that they like the political opinions expressed in sceptical blogs.

In the social science literature cited above, the political aspect of climate change views is generally portrayed as a left/right or liberal/conservative split. However, the terminology used in comments from climate sceptics on the Reader Background thread suggests that this may not be the most important aspect. The term “left” (in the political sense) only appears in four comments, three noting the association between left-wing views and climate change, and one referring to his own views. The word “right” only appears twice, and “conservative” four times. But the term “libertarian” is used on nine occasions, with seven individuals explicitly linking themselves with a libertarian political viewpoint. So libertarianism, with its emphasis on individual freedom and opposition to state control, may provide a better fit with climate scepticism than the conventional left/right view of politics. Note that libertarian views are not necessarily conservative (see for example <http://www.politicalcompass.org/>).

**Climategate.** The climategate incident, as noted earlier, was publicised via the Air Vent blog in November 2009, five months before the posting of the Reader Background thread. It is thus to be expected that the incident would be commented on extensively; in fact 30 of the 154 sceptical comments refer to climategate, perhaps fewer than one might have expected. Of these, 26 use the explicit term “climategate”, with the remaining four referring to “CRU emails”.

On reading these 30 comments carefully it appears that the climategate incident was a significant factor in creating scepticism for only 13 individuals. These people express some shock at the revelations in the emails, or say that it encouraged them to look into climate science in more detail.

For the remaining 17 commenters, the climategate issue is mentioned as an afterthought towards the end of the comment, after the main reasons for scepticism have already been given. Some individuals state that they were not surprised by climategate, or that it reinforced their existing views. Hence it seems that for most of the climate sceptics commenting on this thread, climategate was not a major factor in forming their sceptical views, since these views had been formed prior to the incident.



*Figure 1.* Frequency of blog citations in the Reader Background thread at the Air Vent blog.

**Poor science.** One of the main reasons given for scepticism is the opinion that some aspects of climate science are of poor quality, or unjustified or insufficiently rigorous. Approximately 60 of the 154 sceptics give this as a factor motivating their scepticism. In some cases this is simply a general statement, for example saying that they looked into the science and did not find it convincing, but most commenters provide more specific criticisms.

Foremost among these science issues, mentioned by 30 of the climate sceptics, is the “Hockey stick” picture, which shows apparently unprecedented warming in recent decades. This arises from reconstructions of past temperature from proxy data, and has been much criticised by climate sceptics, being the earliest issue on which sceptical bloggers achieved scientific publications (McIntyre & McKittrick, 2005). The hockey stick has become an iconic image for the scientific side of the climate debate; two books have been written on this controversy, from opposite perspectives (Mann, 2012; Montford, 2010).

Many other aspects of the science are criticised, including over-reliance on models, quality of data and data handling, statistical methodology and computer coding.

This emphasis on scientific details is to be expected given the scientific focus of this particular blog and the high level of scientific and technical background of the commenters, noted in the previous section. In this regard, the blog is typical: a survey of climate sceptic blogs found that the most prominent of these generally tend to concentrate on scientific aspects of the climate debate (Sharman, 2013).

**Influence of blogs.** Other blogs are mentioned frequently by climate sceptics on the Reader Background thread: 85 of the 154 sceptics refer to other blogs, in most cases naming specific blogs but in a few cases as a general remark.

Unfortunately, it is difficult, if not impossible, to distinguish between those for whom



reading sceptical blogs was a major factor in forming their scepticism, those whose doubts about climate change were strengthened by sceptical blogs, and those who turned to the sceptical blogs after forming their own sceptical opinions.

The number of citations of the different blogs is shown in figure 1. The most frequently cited blog is Climate Audit, mentioned 57 times, indicating its premier status among blogs questioning climate science. Among other sceptical blogs, the Air Vent blog hosting the thread is mentioned 35 times and the Watts Up With That? blog 34 times. John Daly, of interest since he was probably the first climate sceptic to set up a website, is referred to four times.

Blogs that can be regarded as in the “lukewarmer” camp include The Blackboard, with 18 citations, and the blogs run by Roger Pielke Sr. and Jr. (combined into one grouping here, since this was done by some commenters) with 11.

The second most cited blog, with 42 references, is RealClimate, a long-running blog promoting climate science run by a team of climate scientists. Comments from sceptics are critical of this blog, and many imply that reading it may have been a factor leading to scepticism. Some of these comments say that they were concerned by RealClimate’s arrogant or dismissive tone, or hostility towards those who disagreed with them. Others report that questions raised were not answered, or in some cases censored. Another blog promoting climate science, “Open Mind”, is mentioned seven times, with similar critical comments. Several individuals report that when they started looking into the climate change question, they started reading these blogs but were put off by their style and turned instead to the sceptical blogs.

**Other factors.** Many other factors leading to scepticism are mentioned in the Reader Background thread, occurring less frequently than those listed above. Nine individuals say that they read parts of the reports published by the Intergovernmental Panel on Climate Change (IPCC) and this led to scepticism (in some cases, this was the apparent endorsement of the “hockey stick” by the IPCC).

The issue of some climate scientists being reluctant to release raw data or details of their methodology is raised by six commenters.

Another general area of influence is the media, books and films. Three sceptics mention the influence of Sunday Telegraph reporter Christopher Booker, but newspapers do not appear to be a major factor. There are a few suggestions that exaggerated newspaper reports on global warming may have acted as a spark to ignite sceptical views, and a similarly small number of comments showing that news reports alerted readers to sceptical viewpoints. Books are mentioned eight times but no book appears more than once.

The film “An Inconvenient Truth” is referred to by eight commenters. Two of these appear to have found the film convincing, but the other six indicate that the film instigated or enhanced their scepticism by making exaggerated claims about the science of climate change. The sceptical film “The Great Global Warming Swindle” is mentioned three times as a factor leading to climate scepticism. A recent paper on the influence of films has found that sceptical films tend to have a greater influence on viewers’ opinions than films aimed at increasing climate concern (Greitemeyer, 2013).

## Discussion

The internet, in particular via blogs and social media, provides a vast data source for opinion on climate change, that has so far been relatively untapped by researchers studying climate communication. Investigation of such resources needs to be carried out carefully, and a “black box” approach, merely analysing frequency of words automatically, may give misleading results; for example a particular blog or film may have a very different effect on different individuals, increasing climate concern for some while decreasing it for others. Inevitably, this makes analysis of such sources a subjective process.

This paper has focused on one particularly informative comment thread on the Air Vent blog giving insight into the views of one community of climate sceptics. It is important to acknowledge that this is inevitably a biased sample, influenced by the style of the chosen blog. In this case, the main topics of the blog are technical, scientific aspects of the climate debate, but in this regard the blog is typical of most climate sceptic blogs (Sharman, 2013).

There are a number of possible problems with such an analysis. Foremost among these is the point made above that this is a self-selected sample of individuals, who are certainly not representative of the general public. Nevertheless, this process may shed some useful light on the thinking of sceptical voices in the blogosphere, and in particular, the key factors that may have led them to adopting a sceptical position. Other possible caveats are that it has been assumed that all comments are genuine and can be taken at face value; there is also the possibility that later comments have been influenced by earlier ones, so the comments may not be completely independent.

Bearing these potential concerns in mind, the following summary conclusions can be drawn regarding the 154 individuals on the Reader Background thread, representing a broad range of views and loosely characterised as climate sceptics.

- Academic and scientific qualifications are generally high, with 26% reporting a PhD and an additional 46% having a degree of some form. The actual percentages may be higher than this if some individuals did not explicitly mention their qualifications.
- A significant proportion (27%) indicate that they were converted to climate scepticism from a previous position of acceptance of climate change. Again, this figure may be an underestimate.
- An impression that claims regarding climate change are often overstated may be a trigger for scepticism. In some cases this is associated with personal experience of previous exaggerated scares.
- Politics is a significant factor, either through the political views of the individual (which typically lean more towards libertarianism than conservatism), or through the view that those who express concern over climate change may be politically motivated.
- The climategate incident was not a major opinion-forming factor for this group, perhaps because they had formed their opinions before this took place.
- The main concern of this group of sceptics is with the quality of the science, focusing on issues such as statistics, data handling and reliance on models, with the hockey stick picture acting as the icon for the dispute.

- Blogs that aim to promote climate science can backfire, as they can be seen as overconfident or lacking in objectivity, leading to a potential loss of trust.

Of course, it is very possible to take issue with some of these points. For example, if a scientist appears to make an arrogant statement regarding some aspect of science, it does not follow that the underlying science is wrong (this particular point was in fact discussed on the thread). However, the aim here is merely to observe and present the arguments given by sceptics, not to attempt to address them.

Two other blogs have carried out similar exercises. The Climate Etc blog (<http://judithcurry.com/>) run by Professor Judith Curry, a climate scientist at the Georgia Institute of Technology, launched a “Denizens” thread in November 2010, following the example set by the Air Vent blog seven months earlier. The responses on this thread illustrate similar themes, with a strong science background, concerns with overconfidence and exaggeration, and many comments saying that scepticism increased as the issue was studied further. The overall view of commenters on this blog is less sceptical than those at the Air Vent, leaning more towards the “lukewarmer” standpoint. There is, however, a significant overlap between commenters on the two threads. More recently, a July 2013 posting at the Watts Up With That? blog entitled “My personal path to Catastrophic AGW skepticism” (<http://wattsupwiththat.com/2013/07/25/my-personal-path-to-catastrophic-agw-skepticism/>) where one individual wrote a detailed essay on his own view, led to a large number of blog readers telling their own stories. On this thread, one commenter attempted to summarise the main themes, noting the strong science background, science focus and doubts about models; the back-firing effect of some prominent climate scientists and blogs; the personal experience of previous apocalyptic warnings; the (relatively rare) tendency for some individuals towards inherent scepticism; and the reluctance of those with right-wing or libertarian views to accept the degree of state control implied by mitigation measures. These points are very similar to those summarised in this paper.

An important question to be addressed by future research is whether these issues raised by those who comment on climate sceptic blogs translate to the opinions of the general public.

The ironic fact that those who try to promote concern about environmental issues may have the opposite effect on some individuals has been noted by Bashir et al. (2013). Similarly, work by Hobson and Niemeyer (2013) found that it is difficult to dispel climate scepticism by subjecting sceptical volunteers to “climate scenarios”, and that some became more dogmatic in their scepticism when treated in this way. This work is consistent with the comments studied here.

However, some of the features noted here are less consistent with existing literature. For example it is sometimes stated that climate change scepticism is rooted in individuals’ background culture or worldview (Kahan et al., 2012; Poortinga et al., 2011). Although there is some evidence to support this in the comments from sceptics, the large number of contributors who switched to scepticism suggests that either this is not a very significant factor, or that there is a difference between the general public and those who comment on blogs. Note that the “worldview hypothesis” was also questioned by Sharman (2013) in her study of sceptical blogs.

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