



## Research Note

## Climate change and tourism: Time for environmental skepticism

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## ABSTRACT

Tourism scholars tend to endorse the most pessimistic assessments regarding climate change, despite the fact that it is a highly controversial scientific topic. This research note provides the balance that is missing from the overly alarmist studies on climate change and tourism. Notwithstanding the common notion in the academic tourism literature, recent research provides evidence that the mainstream reports on anthropogenic global warming are vastly exaggerated, and that human-induced greenhouse gas concentrations do not play a substantial role in climate change. In any case, whatever small degree of global warming is likely to occur, its net effects will most likely be positive for humans, plants and wildlife. Consequently, the recommendation to tourism scholars and policymakers is to exercise extra caution in the face of the fashionable belief of dangerous man-made climate change. In light of the current scientific literature, advocating and implementing radical environmental policies are likely to be ineffective, ill-timed and harmful to the tourism industry.

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*Before facing major surgery, wouldn't you want a second opinion?*

Idso & Singer, 2009, p. 3

## 1. Introduction

Is climate change an ongoing cataclysm that requires society to take pressing and radical steps, even at the expense of social and economic progress? Is the global tourism industry a significant contributor to destructive climate change and does it therefore have a moral obligation to considerably diminish its greenhouse gas footprint and educate tourists to alter their travel behavior? Does human-induced climate change pose a threat to the attractiveness and sustainability of tourism destinations? Reviewing the academic tourism literature on climate change and tourism, the answer to these questions is unequivocal 'yes.' Tourism scholars and researchers are virtually all on board regarding the established climate change narrative. Nevertheless, such references ignore the critical debate on the accurateness and implications of the theory of anthropogenic global warming (AGW), which in actual fact is far

from being conclusive. This commentary critically evaluates the relevant literature on the subject matter, while calling for a more scientifically-based, skeptical and cautious approach in studies on climate change and tourism.

## 2. Mainstream assessments of climate change and tourism

For the past 25 years, the theory of AGW and its consequences have dominated the ecological discourse. The theory has also been actively endorsed by the United Nations and most Western countries as a clear and urgent threat to the planet and its inhabitants. The theory, which for the most part relies on the reports of the U.N.'s Intergovernmental Panel on Climate Change (IPCC), is based on three arguments: (1) The planet is warming at an unprecedented and destructive rate; (2) Human activity is the primary cause for global warming, through the emission of greenhouse gases (mostly carbon dioxide), and (3) this process is reversible through a fundamental change of human values and lifestyle, such as the adoption of sustainability as guiding principle for human development. In a recent statement issued by US Secretary of State John Kerry, following the recent IPCC report (September 27, 2013), the warning was unequivocal: "Climate change is real, it's happening now, human beings are the cause of this transformation, and only action by human beings can save the world from its worst impacts" (Gibson, 2013; para. 4).

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The climate change hype has not bypassed the tourism industry, due to its heavily reliance on natural resources, which are claimed to be adversely impacted by AGW (Horng, Hu, Teng, & Lin, 2012). Tourism is also considered to be one of the significant contributors to the emission of greenhouse gases, mainly due to the aviation sector which is said to be globally accounting for 40% of the tourism industry's contribution to CO<sub>2</sub> (Gössling, 2009). As a result, the industry has been targeted by the environmental movement that advocates considerably reducing in tourism activities and embracing measures to reduce greenhouse gases emissions, with some environmentalists going as far as urging tourists to forsake long-haul traveling due to its discretionary nature and alleged impacts on climate change (McKercher, Prideaux, Cheung, & Law, 2010).

Tourism scholars and researchers did not delay to jump on the climate change bandwagon, while enthusiastically endorsing the theory of AGW (Buzinde, Manuel-Navarrete, Kerstetter, & Redclift, 2010; Reddy & Wilkes, 2012). Tourism studies stress the view of tourism as “both a significant contributor to climate change and global warming and a potential victim” (McKercher et al., 2010, p. 298). Studies focus on various aspects of climate change and tourism, including, among other things: forecasting impacts of climate change on tourism patterns (Müller & Weber, 2008); examining future tourist behavior under climate change conditions (Førland et al., 2013), assessing frameworks for mitigating tourism's contribution to global warming (Howitt, Revol, Smith, & Rodger, 2010), developing adaptation strategies for tourism destinations that are likely to be severely affected by climate change (Elsasser & Bürki, 2002), and studying the awareness of tourists and tourism students to climate change issues and their willingness to alter their travel behavior (McKercher & Prideaux, 2011).

The aforementioned studies are often concluded with far-reaching implications and recommendations for tourists, tourism practitioners and tourism destinations as a whole. Simpson, Gössling, Scott, Hall, and Gladin (2008), for example, encourage tourists to employ drastic steps to reduce their personal CO<sub>2</sub> footprint, such as traveling less and staying longer at the destination, preference for terrestrial transport over air travel, choosing destinations that are closer to home, and purchasing goods and services from eco-certified providers. McKercher et al. (2010) also suggested considering government-imposed programs such as carbon taxes to reduce travel demand and provide incentives for manufacturers to build lower-polluting airplanes and compelling airlines to buy them. It was also recommended that tourism destinations take mitigation strategies such as promoting public transportation, applying alternative energy sources to fossil fuel (Müller & Weber, 2008), and diversifying tourism offerings to better adapt to the changing climate conditions (Gössling, 2009).

### 3. Skepticism over human-induced climate change

Despite the impression conveyed by the academic tourism literature, the theory of AGW is, in fact, under intense scientific dispute, to which tourism scholars pay virtually no attention. To begin with, most apocalyptic predictions regarding AGW are based on simulations of the IPCC's computer climate models, which so far have not demonstrated a high level of accuracy. Thus, while actual global temperatures have remained fairly stable over the past 17 years, the IPCC's models predicted a significant rise in temperature. In fact, simulations of the atmospheric temperature trends over the past 35 years showed more warming than what was in fact observed (Christy et al., 2010; Douglass & Christy, 2013). The IPCC itself acknowledges the failure of historical simulations to reproduce the recent warming hiatus and attributes it to volatile climate fluctuations and possible errors in calculating how much warming

a given greenhouse gas will produce (Bailey, 2013). It seems far too hasty and irresponsible to recommend that the tourism industry take drastic and expensive courses of action that are based on climate forecasting models that have demonstrated very limited success.

According to the theory of AGW, the planet is in the midst of an unprecedented rise in temperatures. Yet, recent studies reveal that there have been eras in which the earth's average temperature was higher than at present, even during recorded history (Marcott, Shakun, Clark, & Mix, 2013). Esper, Büntgen, Timonen, and Frank (2012), for example, provides evidence “for substantial warmth during Roman and Medieval times, larger in extent and longer in duration than 20th century warmth” (p. 1). In another study, it was found that temperatures in the Antarctic Peninsula began rising naturally 600 years ago, long before any possible man-made impact on the climate, which helps explain the recent collapses of vast ice shelves and the accelerating glacier mass loss (Mulvaney et al., 2012). Further studies also confirm that major temperature fluctuations occurred before man-made CO<sub>2</sub>. If the IPCC's assessments are accurate and natural factors scarcely play any role in today's climate, we would expect a rather flat and uninteresting climate history, which is certainly not the case (Vahrenholt, 2012).

As noted earlier, an important element in the popular climate change narrative is the prominent role of humans in causing global warming through carbon dioxide emissions. Regardless, even if we accept the theory that the planet is warming, no definitive evidence exists to verify that climate is driven by the concentration of CO<sub>2</sub> in the earth's atmosphere (Idso & Singer, 2009). First and foremost, geologic analyses reveal ancient periods with thousands PPM (parts per million) of CO<sub>2</sub> concentration, in comparison to 400 PPM at present (Petit et al., 1999). Furthermore, the dynamics of CO<sub>2</sub> concentration did not correlate well with the expected temperature fluctuation. For example, Illarionov (2009) noted that in 1944–1976, CO<sub>2</sub> concentration increased by 24 PPM, but global temperatures fell by 0.1 °C; while in 1998–2009, CO<sub>2</sub> concentration increased by 21 PPM, but global temperature remained relatively flat. Recent studies also refute the idea that increasing human-induced greenhouse gas concentrations significantly contributes to extreme weather events such as the 2010 Russian heat wave, the harsh winter of 2009–2010 as well as other natural disasters (Bouwer, 2011; Dole et al., 2011; Jung, Vitart, Ferranti, & Morcrette, 2011).

While there are shaky scientific foundations to the hypothesis that CO<sub>2</sub> concentration in the earth's atmosphere accounts for significant temperature fluctuations, empirical evidence indicates that the sun activity is a more plausible cause for climate variation (Bond et al., 2001; Neff et al., 2001). A series of studies discovered a notable correlation on various time scales between climate variations and natural factors, prominently diverse solar activity and changes in the galactic environment (Shaviv, 2003; Vahrenholt, 2012). A recent study provides evidence to suggest that El Niño activity has a major role in the warming observed since the 1970s, and thus the climate system is much less sensitive to increasing CO<sub>2</sub> than commonly believed (Spencer & Braswell, in press). Another plausible explanation for the current warming ‘pause’ was provided by Wyatt and Curry (in press), who attributed the hiatus to the natural “stadium wave” signal that propagates across the Northern Hemisphere. These and other discoveries offer alternative explanations for a large extent of the climate variability witnessed over the past century and millennium, as well as for why global warming has paused in recent years.

Despite the urgent tone reflected in the IPCC's reports (and papers on climate change and tourism), Tol (2013) reviewed 14 different studies on the effects of future climate trends and discovered a scientific consensus that the benefits of global warming outweigh the costs, and its positive effects are likely to

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