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BOOK REVIEW

Tourism, Recreation and Climate Change

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It is encouraging to see a scholarly contribution concerning climate change and tourism especially at a time when too many in the tourism industry and academic community appear either skeptical or indifferent to the world about them. There is no doubt climate change characterised by extreme and unexpected events, may appear inconsistent with a common idea of gradual global warming, but great changes are taking place (Steffen et al.2004). Between the preparation of this book and this review, many unpredictable events have taken place which for the science community itself has been startling and calls for major revision of former scientific approaches towards warming and sea level increases (Kerr. 2006) Already ominous, is an earlier warning that irreversible thresholds are likely to be crossed within human lifetimes, causing transformations so fast that inhabitants of affected areas are unlikely to be capable of adapting (Steffen et al. 2004: 10).

Linear ice-melt models where increased temperature predicts disappearance of existing ice sheets within millennia, non-linear behaviour suggests they may be gone in a century or two. Temperature increase so far is enough to have glaciers in Greenland and Antarctica galloping towards the sea as existing warming and melting removes the resistance of the glacial seaward face and lubricates its undersides. The marine displacement of huge dislodged ice chunks are "dramatically driving up sea levels...And if [scientists] don't understand what a little warming is doing to the ice sheets today they reason, what can they say about ice's fate and rising seas of the greenhouse world of the next century or two?" (Kerr 2006: 1698; Rignot & Kanagaratnam 2006).

The editors are to be congratulated for assembling a wide range of tourism topics in which climate plays a part, written by some of the most competent contributors in the field. This is an area that has sadly lacked an enlightened treatment bringing tourism study potentially in contact with new knowledge emerging from innovative global change science and

related endeavours. This is a valuable early step. Conditions are changing so rapidly that in the future, it is likely that this work will be followed in considerably modified and revised forms, by others who will play a crucial part in bringing tourism closer in touch with modern research of global biospheric transformations all of which may have bearing on tourism and its futures.

The book is divided into three parts: *Context*, *The effects of climate change on tourism flows and recreation patterns*, and *Adaptation and response*. Authors are drawn from eleven countries, five of which are those where English is not the primary language. This allows readers a valuable glimpse of different viewpoints and in some cases topics and treatments they might otherwise not meet. Unlike much tourism research that has a narrow disciplinary orientation, two-thirds of the authors appear to be from academic departments or organisations where interdisciplinary research may be commonplace allowing tourism and climate to be integrated with greater ease than usual. This is something that will be seen later, to be increasingly necessary for tourism researchers pursuing climate change and other transformations, likely to occur more frequently than at present, with greater intensity, and with wider ramifications.

References are in the main well selected and include in the first chapter, useful newspaper resources shown diagrammatically, chronologically tracking news on climate change as well as relevant internet sites especially those referencing the Intergovernmental Panel on Climate Change (IPCC). There is little or no emphasis on the work of the International Geosphere-Biosphere Programme (IGBP 2006) and the International Human Dimensions of Global Environmental Change Programme (IHDP 2006). I will return to both later. Perhaps at the present, the most prolific publisher of up-to-date authenticated material on climate change is through the highly regarded journal *Science* although for tourism community readers, science writer interpretations found in good leading newspapers and magazines could be more effective.

The book is well illustrated and includes an intriguing diagram of 'the tourism system and climate change' that must pose a myriad questions to every observer and indicates the range of transformations set in train by climatic variation. A wide spectrum of interests forms the bulk of the book sandwiched between three valuable introductory and concluding chapters highlighting the complexities of climate-tourism relations and the difficulties inherent in making tourism sustainable under conditions some anticipated, while others are a complete surprise. It has to be understood that in the light of new knowledge and recent glacial behaviour revelations (Kerr 2006), authors are looking into the future and

traversing maybe dangerous slopes without well tested models, guidance from their own disciplines, or knowing whether the science or methods in use are adequate.

The text notes that studies in tourism and climate are only two decades old and this reviewer realises only too well that few of us are qualified to pass judgment in this area. Consequently with great hesitation I make only suggestions some authors might wish to consider before doing follow up studies, which I hope they will.

In 1986 the IGBP embarked on studies of the mounting critical changes to the Earth System that had increased considerably during the past two centuries. Joint ventures were developed with the World Climate Research Programme (WCRP), and the International Programme on Biodiversity (DIVERSITAS). By 1988 IGBP realised that natural systems were so reciprocally related to human activity through coevolution and adaptation that it was essential to partner physical and biological scientists with social scientists in order to understand the reality of both change, and the earth surface as it existed.

Conventional disciplinary training was a distinct handicap to researchers' understanding of governing processes and transformations. Consequently the IHDP (human dimensions) was initiated. As the groups coordinated and cooperated along with the IPCC it became apparent that workers were dealing with merged systems of humans and nature and that it was obvious to the IGBP that both the Earth System and its subsystems were actual realities (IGBP. 20001). They were not as expected, but nonlinear complex adaptive systems about which their disciplinary upbringing of the separation of man and nature had overlooked. Likewise their long-held views of linear deterministic, cause and effect science and related analytical tools were shown to have limited utility. They were now dealing with largely unpredictable systems with emergent properties, self-organisation, ecosystem thermodynamics and their own life cycles. A new set of behaviours and attributes such as ecological resilience, system hierarchy and the identification of driving variables had to be learned. This new knowledge now had to be skillfully added to the store that already existed. From this mix, global change science, new biology, revised ecology, and ecological economics have emerged and added much to our understanding of how the world works. *This is the context in which climate change most profitably should be viewed, especially in its effect on tourism.*

There are models to help navigate this new environment. but not specifically only about climate change. Several articles have been published recently in tourism but we lag far behind other areas (Farrell

and Twining-Ward 2004; Miller and Twining -Ward 2005). Outside tourism I suggest the excellent works of Moran (2006) and the cross disciplinary enterprise of Moran and Ostrom (2005) involving twenty-three researchers from a variety of existing disciplines who incorporate the principles outlined above focusing not on climate but on land cover/use change.. Assuming that the disastrous weather and related events in the Gulf Coast of the US, August 2005, were exacerbated by warmer marine surface temperatures brought about by climate change, no better case study exists than New Orleans, where world renowned tourism was obliterated in hours followed by an unimaginable cascade of unexpected events. These have continued for months and perhaps will for years to come. Local and national newspaper, television and radio internet archives provide a wealth of material on this possible, perhaps likely, precursor of coastal tourism's futures during the next two centuries. *Tourism was centred on New Orleans, the place, all of it in its urban complexity, and not what tourism researchers choose to focus upon. What happens afterwards is happening to tourism, even with much of it gone.*

Despite suggesting directions new work might take the work in hand now exists and is one that should be a must-have on the reading list of every tourism course as well as in every department and institutional library.

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