

The Social Phenomenon of Climate Change Contextual: Vulnerability, Risk Perception and Adaptation in the Ski Industry of Queenstown, New Zealand

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Abstract

Climate change has evolved from its natural science origins to become simultaneously a physical and a social phenomenon (Hulme, 2009). While climate change can be measured, quantified and modelled, it can also be perceived through social lenses mediated by individual and collective realities. Similarly, vulnerability to climate change can be understood through different and often contrasting frames (Kelly and Adger, 2000, Füssel and Klein, 2006, Füssel, 2007b, O'Brien et al., 2007). In terms of climate change research, these frames can influence the questions asked and therefore knowledge produced (O'Brien et al., 2007).

Increased dependence on weather and climate for economic systems has contributed to greater vulnerability to climatic changes. The tourism industry is both weather sensitive and climate dependent. Yet it has been identified as one of the least prepared economic sectors for climate change (Scott et al., 2012b). The ski industry is one of the most climate dependent tourism subsectors (Dawson and Scott, 2013). Consequently, the ski industry has received academic attention, with a primary focus on climate modelling methods to assess climate change impacts for specific geographical locations. Where ski industry stakeholders *have* been engaged in empirical research, it has been limited to supply-side ski field operators and demand-side tourists (König, 1998, Bicknell and McManus, 2006, Wolfsegger et al., 2008, Pickering et al., 2010) with little consideration of the broader range of stakeholders reliant on seasonal snow and the ski industry for livelihoods and lifestyles.

This thesis presents an empirical study of the ski industry in Queenstown, New Zealand, a popular international, bi-modal tourism destination. It employs a *contextual vulnerability* frame (O'Brien et al., 2007), whereby vulnerability is not the outcome of climate change alone but an on-going fluctuating state resulting from highly context specific factors. A social constructionist research paradigm was adopted, which aligns with a qualitative methodology. Semi-structured interviews were conducted with 55 ski industry stakeholders who represented five categorisations; industry, local community, tourists, government, and scientists. The aim of this thesis was to examine the social perceptions of climate change by ski industry stakeholders in Queenstown, New Zealand, in order to develop an empirically informed conceptualisation of the social phenomenon of climate change. This aim was supported by three interrelated research objectives concerned with; non-scientific construction of knowledge about climate change, risk perceptions and adaptation strategies.

Findings of this research identify multiple social realities through which scientific and non-scientific communities perceive climate change, consequently there are many conflicting perceptions of risk. Non-scientific communities learn about climate change from sources of information which are

interpreted through a lens of localised personal experiences. Adaptation to climate change includes both exploiting the opportunities arising from changes, and moderating the risks resulting from the negative impacts of climate change. Spatial scale and the perceived opportunities related to relative vulnerability are central to this thesis. Relative vulnerability is applied to the Australasian context through an examination of the interplay between the ski industries of Australia and New Zealand. Additionally, the long-term sustainability of snowmaking as a climate change adaptation is explored in the context of a wide breadth of stakeholder perceptions.

This thesis addresses a number of gaps in the current literature; it challenges the dominant conceptualisations of climate change which focus on its physicality and in turn develops knowledge of the social phenomenon of climate change. This thesis examines climate change vulnerability in terms of spatial scales and contextual factors, thereby moving away from the traditional framing of vulnerability as the *outcome* of climate change alone. To date, there has been a significant gap in the use of qualitative research to consider the multiple realities and perspectives of a wide range of ski industry stakeholders about climate change. Finally, the New Zealand context has received little academic attention and therefore the present thesis addresses this research gap through an empirical study of Queenstown's ski industry. The empirical findings presented in the thesis inform two models; the social phenomenon of climate change conceptualisation, and the contextual vulnerability framework. These contributions have implications beyond the ski industry and the tourism industry, with application to a range of scenarios where researchers are seeking greater understandings of social perceptions and constructions of climate change.