Preparing the Tourism Sector for Climate Change

FRST project 2009 – 2012

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Climate models predict increasing temperatures, changing frequency, intensity and distribution of rainfall events, decreased snow cover and sea level rise. Such changes will impact on key tourism drivers such as destination attractiveness, product content, business profitability, infrastructure planning and investment. This research will identify adaptation strategies capable of increasing ability to cope with changed futures and capitalise on opportunities.
Tourism and Climate/Weather
Research questions

• How sensitive and exposed are tourism businesses and destinations to climate variability and change? How do tourists perceive weather and climate in New Zealand? How vulnerable is tourism to these influences, taking into account adaptive capacities as well as the importance of tourism to local communities?

• Can key indicators be produced which are capable of simply measuring, assessing and tracking vulnerability to climate change?

• What adaptation measures are most appropriate for tourism and have the best risk-benefit ratios under the assumption of specified climate change scenarios?

• How can the awareness of climate change and the need for proactive adaptation amongst tourism stakeholders be enhanced and the uptake of tools increased?
Outcome of this research

• As a result of this research, the tourism sector through its public and private sector institutions and individual businesses, will have implemented adaptation measures that specifically address their vulnerability to climate change and increase resilience to climatic events and other drivers of change in the future by 2015.

This will be achieved
• through a better understanding of most sensitive sub-systems, and the sector’s increased ability to use climate data for tourism-specific vulnerability assessments and tested techniques for evaluating adaptation strategies and measures.
• by communication and implementation of tools for vulnerability assessment and evaluation of adaptation strategies and measures.
Key Stakeholders

• Individual tourism businesses,
• Regional Tourism Organisations (RTOs),
• Ministry of Tourism,
• Tourism New Zealand,
• Tourism Industry Association (TIANZ)
• Others, e.g. DoC, MfE
The Research Team

• Susanne Becken (Leader), Lincoln University
• Ken Hughey, Lincoln University
• Jude Wilson, Lincoln University
• Andy Reisinger, Victoria University
• Jordy Hendrikx, NIWA
• Geoff Butcher
• Johnny Edmonds
• Daniel Scott, Waterloo University
Obj 1: Vulnerability and Opportunity Assessments (Jordy Hendrikx)

• Current status of the NZ tourism sector’s vulnerability to current climate variability and future climatic change determined, and the opportunities these changes may offer the sector identified.
Regional Climate Models (NIWA)
Milestones in Obj 1

- A desktop analysis of historic data considering weather event (e.g. tourism activity data and a specific storm event) and seasonal influences (e.g. tourism activity data and a notably cool or wet summer season) on tourism will be completed;
- Tourist survey carried out to understand tourists’ sensitivity to climatic conditions/perceptions and the implications of these for tourist destinations;
- Two expert screening workshops undertaken and potential case studies identified with the input of stakeholders and based on criteria such as ability to diversify activities and socio-economic dependence of businesses and communities on specific activities);
- Summary report on national-level assessment disseminated. The assessment will include the use of indicators to identify potential hotspots of vulnerability.

- NIWA’s (C01X0804) snow model results successfully incorporated into this project;
- Comparison between New Zealand and Australian snow models undertaken and relative impacts on ski fields examined, including interannual variability, reliability of snow cover, and exceedance of snow depth thresholds for ski field viability;
- Future climatic conditions for snow making assessed;
- Adaptive capacity of ski fields and dependent destinations in New Zealand understood, including socio-economic resilience of affected community.

- Exposure to climatic change (based on NIWA 2040 scenarios), sensitivity and adaptive capacity assessed for one case study;
- Indicators developed capable of measuring, assessing and tracking vulnerability to climate change and, if compatible, integrated with the Tourism Indicators Framework developed by the Ministry of Tourism;
- Generic framework and tools for vulnerability assessment (see MS 2.2.) tested by means of a third case study (selected with input from stakeholders) of a vulnerable tourism sub-system.
Obj 2: Adaptation Strategies and Measures, Tool Development and Communication (Ken Hughey)

- Adaptation strategies and concrete measures to improve resilience to climate change identified and evaluated and resulting generic framework and tools made available for deployment by tourism businesses and destinations.
Milestones in Obj 2

- Adaptation strategies and measures identified for the case studies and enhanced by adaptation measures proposed and implemented internationally;
- Adaptation measures assessed with respects to their economic costs, socio-economic, and environmental impacts; methods will include cost-benefit analysis, regional input-output models, and application of a national General Computable Equilibrium Model;
- Constraints such as insurance, access to credit, and safety and health issues assessed and communicated to the wider tourism industry;
- Relevance of international drivers for climate change adaptation understood and communicated (in collaboration with researchers undertaking work on tourism scenarios and aviation);
- Summary report on adaptation strategies measures for tourism completed and communicated.

- Literature review of existing adaptation implementation tools undertaken (e.g. incorporating recommendations by Ministry for the Environment, 2008);
- Iterative process of tool testing and concurrent stakeholder evaluation completed and documented;
- Generic Framework and Tools specific to tourism developed, tested, and communicated (e.g. by means of publications and an internet based tool);
- Two key stakeholder workshops undertaken: one for Central
First Year - Activities

PostDoc 50% position:
Develop a framework for the multiple dimensions that relate to climate risks, e.g. investment, community wealth, future business opportunities; => come up with a framework which we can then populate at the workshops.

Survey Summary on research related to ski areas, in a tourism friendly format

Survey design - perceptions - before - info sources - plans vs activities

Develop concept for workshops

Screening Workshops

- 15 people each
- Professional facilitated

(Queenstown (i)
Northland (ii)
Wellington (iii) – HQ
People

National level assessment report
- includes hypothesis testing (Peer reviewed paper)
Including mapping

Mapping climate with tourism hot spots to identify overlaps etc.

SAANZ AGM NIWA
Unseasonable weather having an impact

Dec 20, 2004 10:59 AM

The National Institute of Water and Atmospheric research says December could be a record cold month.

A southerly blast over the weekend brought hail and snow to some areas of the country, as well as strong winds and rain.

Weekend temperatures in the North Island were five or six degrees below average for the North Island at this time of year.

But the South Island was worse with Dunedin and Invercargill recording temperatures six and eight degrees below average.

NIWA says average temperatures in the South Island are four degrees below normal, which could put this month on track to be a record cold December.

Crops impacted

The bad weather is having a big impact nationwide and not just on people being unable to head to the beach to top up their tan.

Fruit growers say the recent bad weather will mean less of the traditional summer fruit like cherries and strawberries for Christmas Day.

A number of orchards in the main fruit boulevard say the fruit will be available but it will be a smaller crop than normal.

Buy online now and go in the draw to win one of 5 $200 Liquorland Gift Cards.
Discussion

• Any particular questions, feedback, etc.?
• Integration with other projects
• Support from stakeholders (e.g. data)
• Use of results?