Adaptive Capacity

By Ryan Jopp

The ability or potential of a tourism system to respond successfully to climate variability and change is termed ‘adaptive capacity’; this includes adjustment to both behaviour, and resource and technology use (Simpson et al., 2008). The adaptive capacity of a region can influence its ability to reduce overall vulnerability to climate change impacts; however this will be dependent on the weight of this relative importance at the destination, and the potential for alternative forms of tourism. For example, a ski resort’s ability to adapt to warmer temperatures and reducing snowfalls will be dependent on their level of innovation and the financial resources available. Tourism as a whole has shown great propensity for adaptation; this has been evident by its ability to cope with a variety of recent pressures such as terrorism, SARS, tsunamis, etc. However the adaptive capacity of different tourism sub-sectors may vary greatly, as is shown in Figure 8.

Figure 8: The relative adaptive capacity of tourism stakeholders

<table>
<thead>
<tr>
<th></th>
<th>Tourists</th>
<th>Tour Operators, Transport Providers (railways, airlines), Travel Agents</th>
<th>Hotels/Resorts, Attraction Operators, Communities Destinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH</td>
<td></td>
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<td>LOW</td>
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(Source: (Amelung et al., 2005)

Destinations, such as the Surf Coast, are somewhat limited in their ability to adapt, as unlike tour operators or tourists themselves, they do not have the ability to relocate. Whilst individual adaptation will be dependent on personal knowledge and values, a destination’s adaptation approach is more complex, simply due to the number of stakeholders involved. A destination’s ability to be proactive, and make well-informed, long-term, decisions is needed in the development and implementation of appropriate adaptation strategies.

The capacity to adapt varies considerably among regions, countries, and socioeconomic groups and will vary over time. The most vulnerable regions are those that are highly exposed to hazardous climate change impacts and have limited adaptive capacity. Table 1 presents a summary of the key determinant of adaptive capacity derived from chapter 18 of the IPCC Working Group II, Third Assessment Report (IPCC, 2001). These criteria are reiterated by research done by the World Health Organisation (WHO, 2009) who listed economic wealth, technology and
innovation, information and skills, infrastructure, institutions, and public and political will as the main determinants of adaptive capacity.

Table 1: Determinants of Adaptive Capacity

<table>
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<th>Determinant</th>
<th>Explanation</th>
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| Economic Resources| • Greater economic wealth and resources increases a region's adaptive capacity  
                    • Increasing the ability to bear the costs of adaptation  
                    • A lack of financial resources limits adaptation options  
                    • Less wealthy regions are generally considered more vulnerable |
| Technology        | • Regions who have access to and utilise technology will have enhanced adaptive capacity  
                    • Adaptive capacity is likely to vary, depending on availability and access to technology at various levels  
                    • Lack of technology limits the range of possible adaptation options  
                    • Many adaptive strategies incorporate technology (e.g. Protective structures, flood control measures, early warning systems) |
| Information & Skills | • Successful adaptation requires recognition of the need to adapt, and the ability to analyse, evaluate and implement appropriate strategies.  
                      • Lack of trained and skilled personnel can limit a region’s ability to implement appropriate adaptation options  
                      • Greater sharing of, and access to, information can increase the likelihood of appropriate adaptation |
| Infrastructure    | • Greater variety of infrastructure can enhance adaptive capacity, as it provides more options  
                      • The type, location and relative flexibility of infrastructure can also effect adaptive capacity |
| Institutions      | • Well developed social institutions generally increase adaptive capacity  
                    • Inadequate institutional support often cited as hindrance to adaptation (IPCC 2001)  
                    • Policies and regulations can constrain or enhance adaptive capacity  
                    • Generally accepted that established institutions in the developed world facilitate management of climate change risks |
| Equity            | • Equitable distribution of resources increases overall adaptive capacity  
                    • Fair and equal access to relevant resources is important |

(Source: IPCC 2001)
Adaptive capacity incorporates diverse elements including the capacity to limit exposure to risks associated with climate change, absorb and recover from losses stemming from climate impacts, and capitalise upon opportunities that arise through the process of adaptation. Although a comprehensive guide to the adaptive capacity of the Surf Coast cannot be provided at this stage, an understanding of its current position is necessary in deciding upon appropriate adaptation options. The following points are designed to summarise key elements of adaptive capacity for the Surf Coast Tourism System.

- High level of economic development
- Relatively high level of dependence on tourism for income and employment
- Highly climate dependent tourism resources (i.e. beaches)
- High degree of seasonality
- High level of access to technology and resources
- Committed and knowledgeable local and regional tourism departments
- Comprehensive tourism research and marketing programs in place
- Physical adaptation of Great Ocean Road somewhat restricted by natural landscape (Ocean on one side, Cliffs on the other)
- Strong relationships with other local and regional tourism regions, enabling the sharing of information and knowledge
- Moderate degree of flexibility in terms of available tourism product

Due to the dynamic and complex nature of tourism systems these elements cannot be quantified, and represent only a qualitative overview of the many components that can influence a destination's ability to adapt. Indeed the uncertainties in adaptive capacity are profound (Adger and Vincent, 2005), and the relative importance of each of the described factors is dependent on the climate change hazard, and the point of view of the individual, organisation, or government making the decision.

Adaptive strategies are intended to prepare and protect tourism destinations from the inevitable impacts of climate change, and building capacity is an essential step. Adapting to climate change at the Surf Coast will require a comprehensive response to regional vulnerability incorporating all the determinants of adaptive capacity.
References
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