

Climate Change Adaptation Research Grants Program

- Marine Biodiversity and Resources Projects

Project title:

Beach and Surf Tourism and Recreation in Australia: Vulnerability and Adaptation

Principal investigators:

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Lead organisation:

Bond University

Objectives:

1. LGA/site scale identification and assessment of the vulnerability to climate change of assets that are key drivers of marine and coastal tourism and recreation.
2. Valuation of existing income streams due to beach-related tourism and recreation in case study locations
3. Application of valuation tool (developed in previous stage) in identified seachange localities to test transferability of results
4. Identify social and behavioural responses to climate change impacts on vulnerable tourism and recreation assets.
5. Report on the net vulnerability of regional locations to climate change

Methods:

Methodology is included as an attachment, along with a Project GANTT chart detailing the timing of each project stage. This section details only the methodology component.

The project is comprised of 4 phases, each of which is in turn composed of a number of stages.

PHASE 1 - STAGE 1 is a project establishment phase covering standard items such as contract establishment and preparation of partnership agreements.

PHASE 1 - STAGE 2

Development of classification system for Beach and Surf Tourism and Recreation Assets

Key activities:

1. Compilation of existing information relating to coastal hazards and vulnerability in identified Sydney and Gold Coast coastal zones (desktop analysis, not generation of new estimates)
2. Mapping using a GIS format the information compiled in the previous step on the likely extent of recession and inundation (desktop digitisation and compilation).
3. Estimate the value of natural and built assets within the zones, through transfer of spatial estimates of the value of natural resources (e.g. \$/ha), and analysis of the unimproved land and asset values.
4. Identify and cost adaptation options
5. Construct classification system based on physical and socio-economic data (exposure, sensitivity, value to built and natural infrastructure and applicability/practicality of options) inputs
6. Undertake scenario planning workshops with key stakeholder groups in Sydney and Gold Coast (inclusion of visualisation software) to present findings and review practicality of classification System

PHASE 1 STAGE 3:

Identification and selection of case studies. Key activities:

1. Compile and review nominations and data requests
2. Initiate experts panel
3. Confirmation of case studies
4. Conversion of case study material into usable format
5. Prepare and finalise project communications plan.

PHASE 2 STAGE 1:

Test and validate classification system for Beach and Surf Tourism and Recreation Assets. Key activities:

1. Using physical process data inputs (exposure and sensitivity), develop list of vulnerable assets for case study locations (a case study location may be an LGA, a stretch of coastline within an LGA containing multiple assets, or a single asset such as a beach)
2. Conduct literature review, data triangulation, document analysis, expert interview to develop picture of local/regional scale assets based on social criteria (use and importance)
 - a. Undertake data search and analysis on case study asset value
 - b. Interview key users and experts
 - c. Convert social criteria into GIS format
3. Collation and analysis of combined data sets with classification system
4. Present case study site classification system to case study partners and key stakeholders for discussion
5. Validation of classification system

PHASE 2 STAGE 2

First pass assessment of economic importance of Beach and Surf Tourism and Recreation Assets to case study locations

Key activities:

1. Conduct literature review, data triangulation, document analysis, expert interview to develop picture of local/regional scale assets based on economic impact and value of case study assets
 - a. Undertake data search and analysis on case study asset value
 - b. Interview key users and experts
2. Collation and economic information with physical and social data to form first pass assessment
3. Analysis of data collection methods and utility / transferability of generalised benefit transfer and point estimates to case studies
4. Present case study site classification system to case study partners and key stakeholders for Discussion

PHASE 2 STAGE 3

Second pass assessment of economic importance of Beach and Surf Tourism and Recreation Assets to case study locations. Key activities:

1. Development of a Travel Cost survey instrument for deployment online and face-to face.
2. Programming of the online survey, and a version suitable for Mobile Computer Assisted
3. Personal Interviewing if this is the preferred method
4. deployment of surveys
5. sourcing of land value information either from Council or the Department of Lands (or state equivalent).
6. collation and analysis of data
7. summary of results from both processes

PHASE 3

Social and behavioural responses to changes in condition of Beach and Surf Tourism and Recreation Assets within case study locations

Key activities:

1. Development of scenarios for workshops, including visualisation software as appropriate
2. Preparation and planning of workshops with key stakeholders/in case study locations to examine preferences for coastal adaptation options.
3. Analysis of workshop results
4. Preparation of project reports
5. Preparation of communications material

6. Commence preparation of journal paper/s

PHASE 4: Post project communication activities

Key activities:

1. Finalise all project reports
2. Finalise all communication material
3. Finalise and submit journal article/s for peer review
4. Close project