

# Climate Change Adaptation Research Grants Program

## - Settlements and Infrastructure Projects

### **Project title:**

What would a climate-adapted Australian settlement look like?

**Principal investigators:** Professor David Griggs

**Lead organisation:** Monash University

### **Objectives:**

To understand what a climate-adapted Australian settlement could look like from the perspective of future climate-adapted coastal small-town communities in 2030?

### **Project design and methods:**

Background: This project will be undertaken in two small coastal settlements in Gippsland, Victoria, Sandy Point in the South Gippsland Shire and Inverloch in the Bass Coast Shire. These localities will be used as a comparative case-study with a view to generalising the findings for a national approach. They were chosen as they were able to represent different characteristics to enable researchers to understand the relative importance of local variations to the form of the settlement in 2030 and the extent of broad principles which can be elicited regardless of varying local attributes. Sandy Point is located 40km south of Leongatha. The estimated population is 227, being primarily a holiday destination. Inverloch is a seaside village located on the Bass Highway 143 kilometres southeast of Melbourne. It has a population of 4,149, and is a low income area with an economic base in the service, education and construction industries. This project will rely heavily on open and easy communication. Particular attention will be given to this issue and an interactive web-site will be established to facilitate this process. .

Although small, Sandy Point was chosen with a number of specific purposes in mind. Firstly, the population for both Sandy Point and Inverloch substantially increases over the peak tourist season. Sandy Point expands to many thousands over summer - there being about 500 buildings in the township, plus camping type accommodation. The differences between these towns will enable exploration of the base size of a town needed to enable successful adaptation, as well as understanding the different adaptation challenges. Sandy Point is likely to represent many such small towns around Australia. The order of magnitude would be around 800 in Australia with a permanent population between 200 and 500. These small communities will face many challenges arising from climate-change - often as an extra complication imposed on existing difficulties associated with rural decline, isolation and an aging population - particularly if they are favoured as retirement destinations. Many of these small towns also have an important role in servicing local farming concerns. An important part of this project will be to seek an understanding about the viability of these small towns and how change will impact upon the tourist support services for coastal holidays. This will also have relevance to towns near other tourist centres such as National Parks.

Like many similar small townships, the appeal of Sandy Point is also in its proximity to a natural environment. The projected higher temperatures will place such small towns at increased risk of wildfire. The biodiversity value of such areas is also high. The choices between fire protection measures and the desire to maintain as much of the bush environment as possible will impact on the appearance of these towns by 2030. Another interesting question to explore is whether these small townships should be planned as small urban hubs to take population pressure from the major urban cities. A comparison of these two towns of different sizes should provide valuable information about their viability for such an approach.

**Research Question (i)** what is the present economic, social, environmental and governance arrangements in each of the settlements and what are the capacity restraints external to climate

change? This will also take into account planning that is presently being undertaken by local and state government and achieve an understanding of the major issues of concern to the community.

Research Question (ii) what climate changes will be present in each of these settlements in 2030 and what trends will be in place for 2050?

Research Question (iii) what are the likely outcomes and choices which have to be made by 2030?

Research Question (iv) Given present trends and trajectories and the climate changes, and the likely shape of the settlements in 2030 with 'business as usual', what sort of settlement does the community want and how can wellbeing be maximised for all residents, especially those with greater vulnerabilities? And Research question (v) how can this preferred settlement type be achieved? What has to be done and by whom to reach this preferred option by 2030? What precautions need to be taken to ensure movement towards a preferred option does not create additional/new social, environmental or economic concerns?

Research question (vi) Are the challenges the same between the two settlements or are there differences between the sites which will need to be addressed differently? And Research question (vii) What are the major principles which can be generalised from this exercise to other Australian small urban settlements and where are there likely to be unique characteristics which will need to be addressed differently?