

Engaging with communities on coastal adaptation to climate change: The Whitianga experience



The Whitianga community

The community of Whitianga, Coromandel Peninsula, North Island, New Zealand was selected for this research. It is the main settlement of Mercury Bay, and is an attractive township with a deep-water harbour. Mercury Bay is the area of water that encompasses a spectacular coast flanked by islands. Whitianga has been continuously occupied for more than a thousand years since Māori explorer Kupe's tribe settled there after his visit in about 950 A.D.

Whitianga's usual resident population is projected to increase from 3,765 in 2006 to about 6,000 by 2040. In summer the town experiences a large influx of holidaymakers. Whitianga lies in the Waikato region and is governed by Waikato Regional Council (WRC) and Thames- Coromandel District Council (TCDC) Thames- Coromandel District Council (TCDC).



Figure 1: Location of Whitianga

Designing a process

The team developed an inter-disciplinary method to engage with the Whitianga community around potential changes to their coastline under climate change, and how they might adapt to those changes.

The following topics were identified to be explored:

- Getting the right people to the table;
- Achieving consensus and representative decision making;
- Personalising the impacts of climate change (local verses national focus); and
- Appropriate and meaningful inclusion of scientific information.

A participatory discussion process, based around the use of GIS maps, was selected to discuss these topics. The final method involved a two stage process – an Open Day and a Workshop. In the Whitianga case study, both events were structured around large aerial photos of the Whitianga area that illustrated three key projected impacts of climate change: coastal inundation and drainage issues, coastal erosion, and habitat change.

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A participatory process was required in order for this research to be consistent with the participatory ideology expressed in the IPCC with regards to community adaptation to climate change. A participatory process has been broadly defined as one which shares power between those participating and traditional decisions makers. In this case, members of the local community and scientists and staff from regulatory authorities (Regional and District Council) were all involved in this process. The aim of the work was to explore together, using combined knowledge, the factors the community valued which would be affected by climate change, and to begin considering how the community could adapt.

The Whitianga community has experienced a number of coastal hazards, primarily flooding from coastal inundation and coastal erosion, associated with storm events which will be exacerbated by climate change, and tsunami hazards. These hazards experiences give the community a good understanding of current issues at the coast. Both WRC and TCDC have undertaken research, monitoring and management work looking at these coastal issues. As a result, there is a wealth of information available and importantly, the Whitianga community has an active interest in coastal issues

For instance, when considering the map of inundation and drainage there was a need to illustrate the additional effects of wave overtopping. As these projections would have been both difficult to calculate and map and also highly uncertain, the potential risk was demonstrated by simply using large coloured arrows on the maps to indicate where overtopping might happen (which locations might be affected. (Fig. 2).

The debate on climate change was minimized by using sea-level rise as the sole driver of projections and using widely accepted predictions from the recent MfE guidance document (for New Zealand) and the 4th IPCC report.



Figure 2: Coastal inundation and drainage. Map was produced by NIWA for the sole purpose of informing discussion at the public Open Day

The Open Day

The purpose of the Open Day was to engage with as many locals as possible over what the impacts of climate change on Whitianga will be, and how the changes will affect what they value about the community. For local residents, this Open Day presented an opportunity to question and learn from those involved in coastal climate change research.



Outcomes of the Open Day

The Open Day was considered a success by both the research team and the participants. Feedback that we sought from the participants proved to be unanimously positive with most finding the day extremely informative. In particular, participants reported that they appreciated the opportunity to ask the scientists questions about coastal hazards, habitat in the harbour and climate change. Over the course of the four hour period, between 70 and 100 people attended the Open Day.

The Workshop

The purpose of the workshop was to engage with the community around how climate change may affect their community and how they can begin to adapt to these impacts, and in particular, how to begin to act to protect the community's values as they were identified at the Open Day.

Outcomes of the Workshop

The broad aim of the Workshop (held three weeks after the Open Day) was to focus group discussion around possible alternative strategies to adapt to the projected impacts of climate change in a way which protected the things that the community valued. This required participants to not only think about the things that the community valued (based on their own ideas), but how these could be protected into the future, and what the likely trade-offs and debates might be. The opening presentations at the Workshop set the scene for discussions, giving the participants plenty of information to consider and setting a very pragmatic tone for the day.

In reflecting on what was learnt from the participatory process, the following points were identified:

- The right team - Establish an interdisciplinary team who are able to provide the necessary expertise in terms of science and small group management techniques.
- The right data – Access to both scientific data and knowledge of the community is very important.
- The right support - The commitment of the local councils to the process is a key element to success.
- The right resources – It is important there are adequate resources, in terms of staff time and financial resources to commit to a time intensive engagement process of this nature.

Conclusions

The research team found that the inter-disciplinary method they used to engage with the Whitianga community around potential changes to their coastline under climate change, and how they might adapt to those changes was an appropriate method for this type of study. In particular, this participatory approach mitigated most of the barriers to participating in the debate which are often experienced in this type of community consultation.

Further information

The full technical report - *Engaging with communities on coastal adaptation to climate change: Whitianga experience. An internal report as part of the CACC project. September 2011* can be downloaded at www.climatecloud.co.nz/CloudLibrary/cacc_whitianga_report_final_nov2011.pdf

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