



Weathering the Waves

Climate Change, Politics, and Vulnerability in Tuvalu

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Dissertation Research

This poster presents dissertation research that examined perceptions of climate change impacts and related atmospheric hazards as well as the governance of vulnerability to those impacts in Tuvalu, a Pacific Island country. Tuvalu is on the front line of climate change impacts and will feel them antecedent to most places on the planet – as much for sociopolitical reasons as for biophysical ones.

At its core, the research has two goals. One goal is to convey local people's observations of environmental change in Tuvalu associated with climate variability and change. The other goal is to identify and analyze the governance of vulnerability to these changes at various scales – from household to international – given Tuvalu's particular historical development.

Ethnographic methods offered insight into the meaning of climate change as it is experienced in local everyday practices of livelihood production and the ways in which people come to understand and talk about climate change.

Tuvalu

The nine islands comprising the Tuvaluan archipelago arc across a stretch of the central Pacific Ocean between 5° and 10° south and 176° and 179° east. In terms of land area, Tuvalu is one of the world's smallest countries totaling just 25.9 sq. km across all nine islands. The atolls have extremely low elevations and lie generally less than three meters above sea level.



Small Island Developing States

The general picture of the future for small island states that is painted by the Inter governmental Panel on Climate Change is deeply troubling. The concerns are highest at the lowest elevations above sea level.

Temperature increases in the Pacific exceeded the global mean temperature rise of around 0.6°C over the 20th century. Upward trends in sea level, driven by thermal expansion and land-ice melt, stand out against a dynamic background of tectonic movement and regular climate variability over the same time period. Seasonality and decadal oscillations that determine variability in timing, distribution, and amount of precipitation are shifting. These climate signals indicate significant changes in the islands and herald corresponding changes in the ways in which people are accustomed to living on them.



Focus groups on Nanumea Atoll



Women's resource map, Nanumea

"Koa mafulifuli te tau o te aso..."
"The weather has changed..."
There are more strong winds now than before

The direction of prevailing winds at different times of the year has changed

Now it can rain at anytime, even in the dry season

There are more hot days now than before

Weather has become less predictable around here

The high tides come higher and the low tides stay lower

Erosion of the islands is getting worse

Short droughts are increasing



Children plan in king tide flood outside of the Tuvalu Meteorological Office



Coconut stores can help sustain people during droughts, Nanumea



Broken seawall and saltwater inundation, Nanumea



Dancing skirt made from local leaves, Nanumea



The Governor General, Nanumea

Island

Nanumea Atoll is the northernmost island of the Tuvaluan Archipelago.

Island concerns: Social changes, water scarcity, erosion

Island governance: The people of Nanumea are descended from their community founder Tefolaha who had supernatural powers. The *Pula Fenua* (island chief) and *Toku Fitu* (circle of elders) still trace their descent to his relatives. Current policies of political decentralization promise to reinvest power in these traditional structures, which are linked through legend and oral history to the environment. Local governance of vulnerability to environmental change can also prioritize local concerns and needs.

Nation

National concerns: Development, infrastructure, climate risk reduction

National governance: Tuvalu gained independence from Britain in 1978, becoming one of the smallest countries in the world. Tuvalu's geographically remote and dispersed islands and limited capacity to harness natural resources for an export market contribute to its vulnerability to climate change. However, Tuvalu has taken a strong national stance for a global agreement to reduce climate change to levels it feels will prevent "dangerous" climate change – that which will make the islands uninhabitable. National development and international relations are dominated by climate planning. The delegation from Tuvalu was especially vocal at the recent COP 15 meeting in Copenhagen.

Region

Regional concerns: Population mobility and migration, regional political alliance

Regional governance: The Pacific Island Region contains twenty-two separate island states and territories inhabited by over 8 million people. Two regional environmental organizations, the Pacific Regional Environment Programme and the South Pacific Applied Geoscience Commission, promote climate adaptations in the region. There is a high potential for Pacific governments to form a regional climate regime, perhaps together with New Zealand or Australia, to cope with climate related problems. Migration is expected to be a serious issue in the future as population mobility increases in response to environmental stresses raising questions about citizenship and sovereignty.