Combining Traditional Knowledge and Meteorological Forecasts in the Pacific to Increase Community Resilience to Extreme Climatic Events

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The rapid disappearance of traditional knowledge (TK) on weather and climate in the Pacific is a concern. The loss of weather and climate traditional knowledge could also lead to the loss of traditional predictions, coping strategies, mechanisms and practices that have helped enable many Pacific island communities to cope. This would contribute to the reduction of community resilience to extreme weather events.

To address these concerns, the Secretariat of the Pacific Regional Environment Program (SPREP) in partnership with the Australian Bureau of Meteorology (BoM), national meteorological services (NMS) and communities from Niue, Samoa, Solomon Islands and Vanuatu are collaborating on a Climate Traditional Knowledge (CTK) project;
• To preserve and combine TK with contemporary meteorological forecasts;
• To encourage local communities to use National Meteorological Services (NMS) forecasts as well as traditional forecasts to increase community resilience to extreme events; and
• To increase the recognition of the value of TK for resilience to extreme events.

Currently, Pacific communities can access information provided by the NMS’s but they sometimes;
• have difficulty understanding the information provided
• have delayed access to weather and climate information
• have access but mistrust the accuracy of the information by NMS’s
• have no access to any information provided by NMS’s due to remoteness or isolation of communities.

When this occurs communities tend to refer to the TK and practices they know and trust. For instance, the 'Tera', a coastal tree that rarely flowers, however, when it does flower in April or the end of May, 'a long dry season is certainly coming' (collected from elder on Panema, Vanuatu).

While however, they find that TK is still relevant, the timing of when the climate indicators such as animal behavior, fruiting and flowering of trees responding to seasonal changes and climate variability is now changing.

To increase community resilience, SPREP and the Bureau of Meteorology (BoM) have been working closely with NMS’s from the four Pacific countries to:

i. identify local communities that uses TK for environmental forecast applications,
ii. collect, document, monitor and store the different traditional indicators used by the selected communities (e.g. TK surveys, monitoring forms and databases have been deployed)
iii. assess the reliability of the traditional systems and spatial extent of their accuracy
iv. work with NMS’s to:

a. determine best methods for integrating the traditional and modern seasonal forecast systems
b. disseminate the integrated forecast back to the community.

Since July 2016, SPREP is working with BoM to transition the management of the CTK Project to the region. SPREP plans to assist Pacific Island countries with the ongoing collection, storage and integration of TK and contemporary forecasts, where lessons learnt will be shared across the wider Pacific community to aid climate resilience.