

REGIONAL INITIATIVE TEMPLATE

Please complete each section below.

1. Contact Details

Please provide the following contact details:

<i>Name of individual or group submitting initiative</i>	PACIFIC ISLANDS RAINFOREST FOUNDATION (intended partners include Fiji National University, USP, FSPI and its Network partners across the Pacific).
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2. Name of Initiative

A Critical Qualitative and Quantitative Study of the Impacts of Climate change on Small Island Nations in the Pacific.

3. Background and Rationale

You may consider: What is the issue being addressed by this initiative? What are the causes of this issue? Are there relevant studies that have been carried out to support the issue? Are there links to national, regional or international goals/policies?

Please limit your response to no more than 750 words.

It's time to get real and accurate data for the whole of the Pacific without which all other aid programs for climate change are just short term solutions (band aids); we need to know and plan on the basis of the best possible information, not speculation or wishful thinking. We need to stop micro managing the issues and take to the world a report that quantifies the effects of a projected 1 metre rise in sea level and its real costs.

Without this research and its outcomes, and its recommended approach, Pacific Island Nations have no definitive basis for planning a sustainable future and donors can keep delaying effective responses.

This proposed work-study will for the first time provide comprehensive real data to allow properly planned mitigation, adaptation and disaster management plans. Realistic time lines and plausible not conjectural planning outcomes at both a micro and macro level will establish a sound policy and analytical basis for long term action on Climate Change in the Pacific Islands.

Critically the proposed study will examine both economic and social impacts determining what levels of sea rise will impact when and where. If projections are accurate, we need to know now what happens and what the impacts will be across a range of sea level rises from 50 cm through to at least 250 cm.

Additionally as an important consideration, the proposed study will review all critical tourism and coastal food areas and water assets in the Pacific and determine the real economic risk associated with this critical and important sector and thereby enhance the ability of Pacific Countries to adapt, plan and create strategies for decision-making.

The outcomes of this study will allow the development of a strategic plan for climate change mitigation and adaptation for all Pacific Island States.

Importantly it will also provide a methodology and action plan which will allow a focused and time-appropriate response mechanism to help identify and finance priorities in a co-ordinated manner to increase resilience for the impacts of climate change.

Of greater or equal importance, it will engage in a relevant and appropriate manner the Governments, agencies, businesses and residents of the Pacific through provision of accurate and reliable information on a local level to encourage ownership of the processes of adaptation and mitigation,

Since it is widely accepted that South Pacific Island Nations not only are amongst the most vulnerable to future sea-level rises and climate change , something that has been accepted and agreed for at least some 15 years or more (for example see IPCC 1996 & Nunn & Mimura 1997) What is surprising is that no comprehensive qualitative or quantitative study has been done to: -

- a. Determine the scope, timing and impacts of future sea-level rise and climate change.
- b. Put in place a strategic short, medium and long term plan for these island nations.
- c. Determine a short, medium and long-term disaster and food and water security plan.

- d. Calculate an economic evaluation of the range of response options.
- e. Review where appropriate relocation options and costs and produce time lines to determine when and where aid should be focused.
- f. Respond back to all vulnerable communities with an adaptation plan.

While many research and academic papers have been written, workshops, conferences held and millions of dollars expended, a real and meaningful outcome of the scope and size of the issue has not been addressed.

The low lying coastal, river and wet land communities in the Pacific have (in some cases by law – in Fiji for example Villages are exempt from any Building and Town and Country Planning requirements) and continue to develop without contemporary planning guidelines, building standards requirements, infrastructure and services planning.

The facts are that no current survey data exists which details accurately the number of homes, water sources, agricultural areas, infrastructure that are under threat from the rise in sea level. With no current Pacific wide data, mean sea levels, High water marks mapped on existing topographical maps is as much as 50 years out of date if it exists at all. Aerial Photos, Topographical Maps and cadastral Maps available are up to 50 years old and largely out of date. Extensive land clearance has resulted in silting and changing of rivers and coastal waterways and deltas. Scales are largely 1:50,000 at best to 1:25,000 with 10-meter contours, which have little value in assessing climate change impacts.

As a consequence as highlighted in Nobuo Mimura’s report in 19994 “we were hampered by the lack of data, such as topographical maps with precise contours, historical records of climate and mean sea level, land use patterns and so forth.” Mimura concluded that “to develop a response strategy based on the estimate of all possible treats (known in 1999), we would require a set of quantitative methods and all relevant data.”

This project will address these issues comprehensively,

4. Description

Please provide a brief overview of this initiative. Try to address the following: Does this initiative contribute to a positive change to the region? What makes this initiative of importance to the Pacific region as a whole? Who would implement this initiative? Who are the main beneficiaries? Are regulatory or legislative changes required at the national level to implement this initiative? How would the initiative be funded? Has this initiative been carried out previously? What are the key risks in implementing this initiative? Are there any complementary projects and programmes currently active? What is the proposed timeframe for this initiative? How would the initiative be sustained over the proposed timeframe?

Please limit your response to no more than 750 words.

Overview of Program Activities

This project will for the first time put into context all forms of aid research and provide much more than just baseline data, but accurate and reliable data for climate change adaptation, disaster management planning, pro-poor planning and implementation, food and water security and allow for the absolute quantification of the impacts of climate change.

Based on the most recent research from 2008 and 2010 by the US National Research Council. Which described the IPCC projections as “ conservative” this study should review impacts to at least 2.5 meters above real high water mark, which would be supported by Rignot⁸. In this context and with 2010 / 2011 already experiencing the most dramatic and extreme weather events and natural disasters in contemporary history, the importance of this work is now critical for the Pacific.

It's not a question of whether but how much and when the sea levels will rise. How much of the Pacific will be adversely impacted by a 5cm rise, a 30 cm rise and a 50 cm rise let alone a 1m rise? The answer is no one knows there is no data .

Therefore the aim of this project is to provide sufficient data for precise and accurate assessment.

Produce an accurate data based by country and location of all low lying villages, settlements and town with associated maps featuring topographical assessments.

- Identify the vulnerable food and water recourses.
- Identify the housing and quantify each residential settlements risk from: -
 - a. Rising sea levels.
 - b. Increased and dangerous storm surges.
 - c. Hurricanes and seismic events.
- similarly identify tourism, agriculture and other businesses at risk from: -
 - a, Rising sea levels.
 - b. Increased and dangerous storm surges.
 - c. Hurricanes and seismic events.
- Identify sites for evacuation in event of emergency.
- Identify road, water, power and communications sites and services at risk.
- Quantify the number of people by age, family units and locations at risk.
- Make the results of the study available on line for all to access.
- Provide base line data for disaster management plans.

When the next report from the United Nations Intergovernmental Panel on Climate Change (IPCC) is issued, it will include a revised forecast for how high the world's oceans might rise by 2100. With 146 million people in the world currently living less than one meter above sea level, the forecast will be vital in determining how much money governments must spend on measures to protect people from the rising waters and to resettle those in the most acute danger.

5. Alignment to Regional Vision, Values and Objectives

Briefly describe how your initiative supports the vision, values and objectives set out in the Framework for Pacific Regionalism. These can be found in the Framework for Pacific Regionalism document or in the submissions guideline document.

Please limit your response to no more than 500 words

Target Countries in the Pacific.

Given the mobilization for this project and the relatively small landmasses of many of the countries and territories and the critical importance of the information and exercise, it is planned to do all of the regional countries and territories.

The landmasses and survey areas are relatively small so the biggest individual cost of this exercise (aerial survey) on 16 countries or regions will be relatively low and can be done quickly.

Importantly, the smallest island states and territories are by and large the ones that are lowest lying and most vulnerable and most in need of a strategic plan and information.

6. Additional Information

Please provide or attach additional information in support of this initiative.

Please limit your response to no more than 5 pages.

The proposed study outcomes will come from easy to manage, affordable drone technology, Drones will be a perfect platform for aerial photography and remote sensing. The combination of low cost and easy assimilation of multiple technologies provides significant opportunities for development, including by surveyors and consulting engineers. This project using manual on ground surveys or aeroplane would have been too expensive and take a long time, but is now practical and affordable.

The outcomes will be the following: -

1. Topographical plans of all coastal settlements in Pacific Island Nations showing detailed contours from high water marks, real location set outs of villages and settlements indicating homes, community facilities, grave yards, services and infrastructure and determining level of vulnerability.
2. As accurate as possible determining the numbers of people exposed at various levels of sea rise and other impacts.
3. Quantifying this data by impacts based on 5 cm intervals of sea level rise.
4. Quantifying relocation options community by community if available.
5. Collection of anecdotal information from communities.
6. Review by each community the building approaches and future suitability to mitigate impacts.
7. Review of historic and cultural sites impacts.

8. Review of fishing ground impacts both sea and rivers.
9. A review of all major towns, cities and infrastructure for impact assessments.
10. A report on recorded data of mean sea level and high water marks.
11. Valuable cultural and historic sites recorded.
12. Anecdotal information on recognized changes at individual sites by local residents.
13. Establishment of community and business contacts database for follow up, emergency and disaster management and education.