Workshop on Observation Systems of Climate Change in the South Pacific

11-12 June2015 IRD Centre, Nouméa, New Caledonia

Parallel Session 1: Observing climate change: oceanography, ocean-atmosphere interactions and variability

Participants : Patila Amosa ; Jérôme Aucan; Gilles Bellon; Sophie Bonnet ; Kaluwin Chapalan; Olivier Cohen; Patrick De Deckker; Antoine De Ramon N'Yeurt; Cécile Dupouy; Frédéric Flouvat; Thierry Hoibian; Hélène Jacot des Combes; Geoffroy Lamarche; Anne Leroy; Francis Mani; Christophe Menkes; Tommy Moore; Bernard Pelletier; James Potemra; Scott Power ; Etienne Ruellan; Awnesh Singh

Chair/facilitator : Geoffroy Lamarche (NIWA), Rapporteur: Jérôme Aucan (IRD)

Workshop on Observation Systems of Climate Change in the South Pacific

11-12 June2015 IRD Centre, Nouméa, New Caledonia

Parallel Session 1: Observing climate change: oceanography, ocean-atmosphere interactions and variability

Introduction

4 Presentations :

- **Tommy Moore (SPREP) : Outcome of DBCP- PI1 Palau Meeting.**
- **Antoire de Ramon N'yeurt (USP) : Ocean observing in Fiji Islands.**
- **Cécile Dupouy (IRD) : South Pacific Ocean Timeserie (SPOT).**
- **Jérome Aucan (IRD) : Multi-Hazard coastal monitoring and warning system.**

Importance of Ocean for Pacific Islands livelihood.
Relevance of Pacific Ocean for the global study of climate change (ENSO and OA).
Lack of data in the South Pacific region.

Workshop on Observation Systems of Climate Change in the South Pacific

11-12 June2015 IRD Centre, Nouméa, New Caledonia

Parallel Session 1: Observing climate change: oceanography, ocean-atmosphere interactions and variability

What impacts will be addressed by which data ?

Impacts/areas need to be addressed first:

-Coastal coral reef health
-Coastal area inundation
-Open ocean health (in particular Fisheries)

Workshop on Observation Systems of Climate Change in the South Pacific

11-12 June2015 IRD Centre, Nouméa, New Caledonia

Parallel Session 1: Observing climate change: Oceanography, ocean-atmosphere interactions and variability

What types of data are needed?

Needs (Types) :
1-Coastal data.
2-Offshore data.
3-Rescue of historical data ?

Needs (Variables) :
1- pCO2, pH, carbon cycle, Temperature, Salinity, nutrients, rainfall, surface heat flux (open ocean and coastal).
2- Waves, sea-level, Temperature (coastal).

Needs (Vectors) :
1-Coastal monitoring sites.
2-Offshore sites (buoys, floats and gliders).
3-Ships of opportunities (commercial, research, fisheries or navy …).

Needs (database) :
Open-access to data

Workshop on Observation Systems of Climate Change in the South Pacific

11-12 June2015 IRD Centre, Nouméa, New Caledonia

Parallel Session 1: Observing climate change: Oceanography, ocean-atmosphere interactions and variability

What types of tools/products are needed?

Innovative approach needs be pursued.

Capacity building (training for maintenance and deployment of instruments in PICs).

Sustained dedicated human resources.

Engagement of local knowledge to design climate indicators.

Open and accessible database for raw and processed data.

Workshop on Observation Systems of Climate Change in the South Pacific

11-12 June2015 IRD Centre, Nouméa, New Caledonia

Parallel Session 1: Observing climate change: Oceanography, ocean-atmosphere interactions and variability

How will data be used and model integration will be achieved?

Data from the Pacific has global relevance (ie global climate models)

Data can be used on its own, especially long timeseries.

Models are needed to extend point data to a wider area, and to extend present conditions to future conditions

Ongoing dialog between data providers and modeling people need to be facilitated. Need of real and accurate data to feed the models.

Models to be developed for various conditions: downscaling is needed especially in the Pacific region, at the Island scale.

Workshop on Observation Systems of Climate Change in the South Pacific

11-12 June2015 IRD Centre, Nouméa, New Caledonia

Parallel Session 1: Observing climate change: Oceanography, ocean-atmosphere interactions and variability

What partnerships are needed to support and exploit these observation systems?

- PICTs meteorological and maritime agencies, universities…
- CROP agencies (USP, SPC, SPREP)
- National education and research institutions.
- Neighboring countries research institutes.
- International bodies (WMO,IOC …)

Workshop on Observation Systems of Climate Change in the South Pacific

11-12 June2015 IRD Centre, Nouméa, New Caledonia

Parallel Session 1: Observing climate change: Oceanography, ocean-atmosphere interactions and variability

Recommendations

-Hold more regular meetings/workshops (eg STAR meetings).

-Identify/retrieve historical data, and non-functioning monitoring sites (eg rainfal stations, tide gauges, and cyclones).

-Develop coastal monitoring for multi-hazard mitigation and forecasting.

-Develop coastal monitoring sites for coral reef conditions (pH, temperature …).

-Open-ocean data acquisition in particular to monitor ocean acidification and carbon cycle :

-Sustain and reinforce measurements from ships of opportunity

-Establish long term mooring timeseries and ship surveys.

Workshop on Observation Systems of Climate Change in the South Pacific

11-12 June2015 IRD Centre, Nouméa, New Caledonia

Parallel Session 1: Observing climate change: Oceanography, ocean-atmosphere interactions and variability

Resolutions

-Hold more regular meetings/workshops (eg STAR meetings).

-Seek Pacific Island leaders support (forum, Pacific Met Council).

-Identify focal points in countries.

-Identify calls for proposals and develop specific proposals.

-Collaboration in the Region for data sharing.