



# CLIPSSA project

## Pacific climate, Local knowledge and Adaptation Strategies

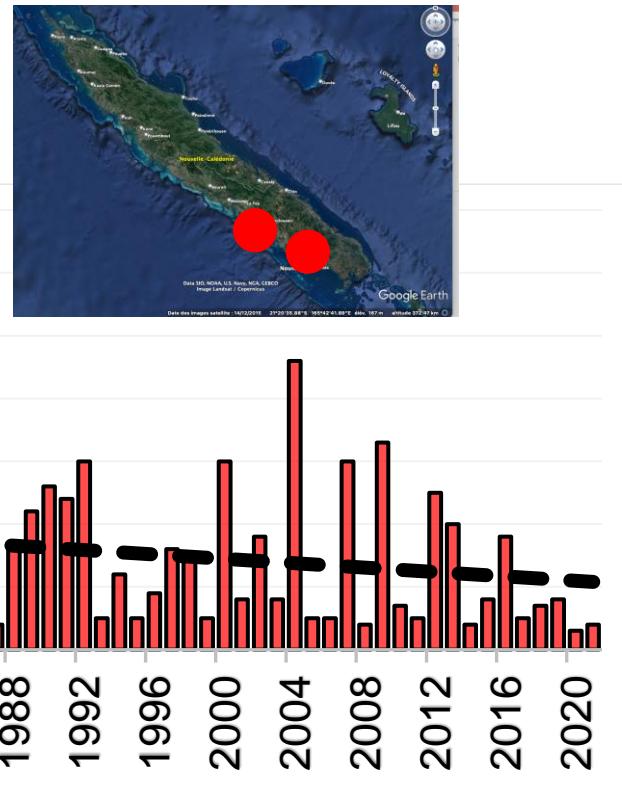
***Better knowledge for climate change adaptation  
in the South Pacific***

New Caledonia – French Polynesia – Vanuatu – Wallis and Futuna

# Observations

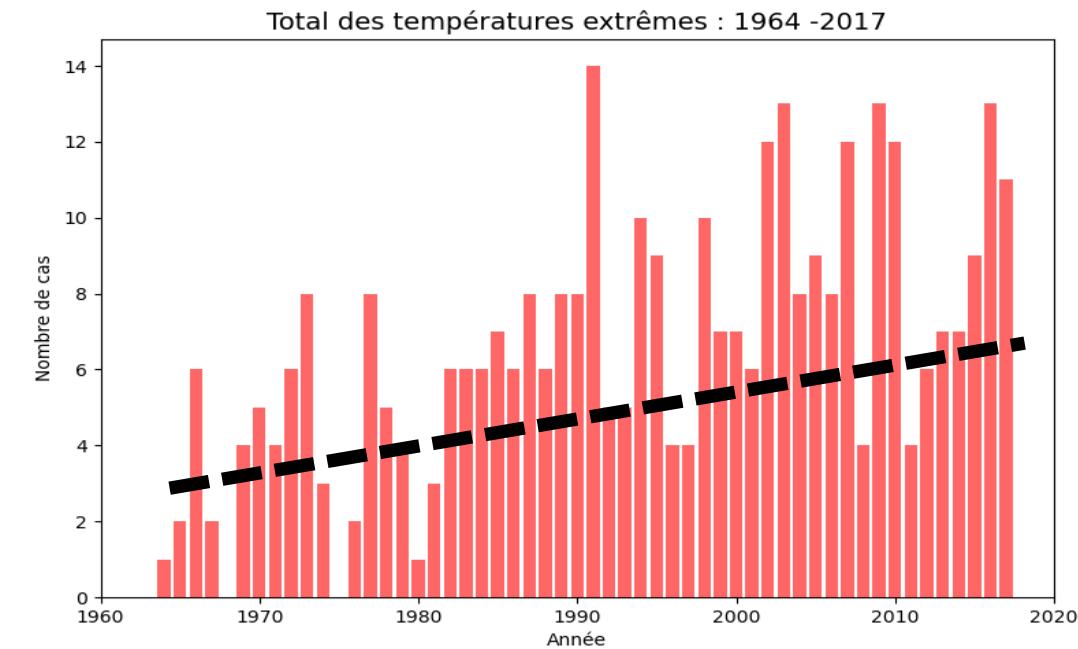
- Climate change is already leading to **high-impact hazards** in the Pacific Island Countries and Territories: rising temperatures, heat waves, increased droughts, etc.

**New Caledonia rainfalls**  
Boulouparis city, June, July  
- 10 mm/10 years



# Context

**French Polynesia**  
**Evolution of heatwaves observed to 1964 from 2017 - Hiva Oa, Faa'a, Takaroa, Hao et Rapa**

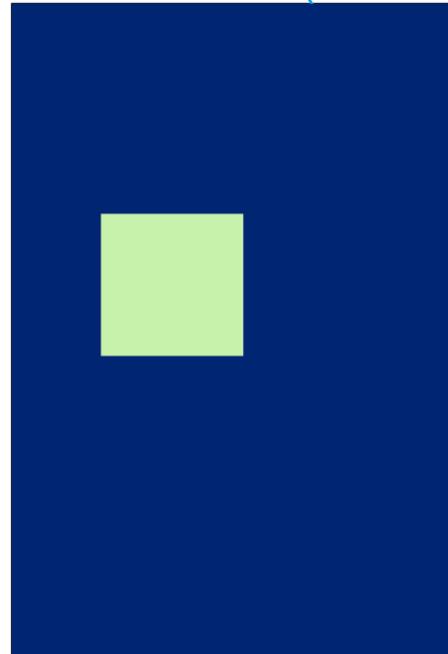


# Models

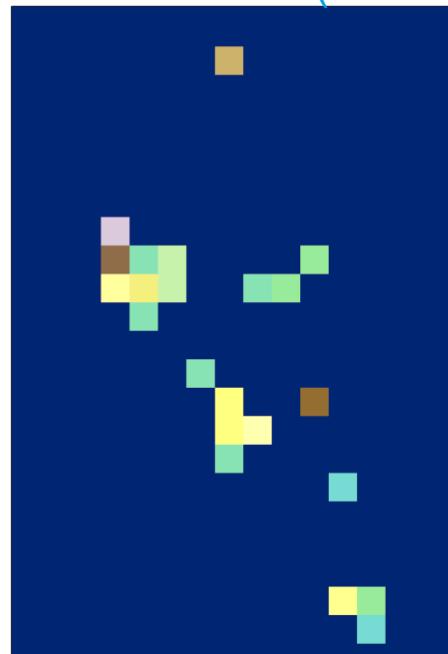
# Context

The IPCC models are **not appropriate for the islands scales** and cannot represent the evolution of temperatures, rainfalls and winds at fine scales. Hence We cannot reasonably study Climate Change Impacts and Policies if we do not know what will be the future climates

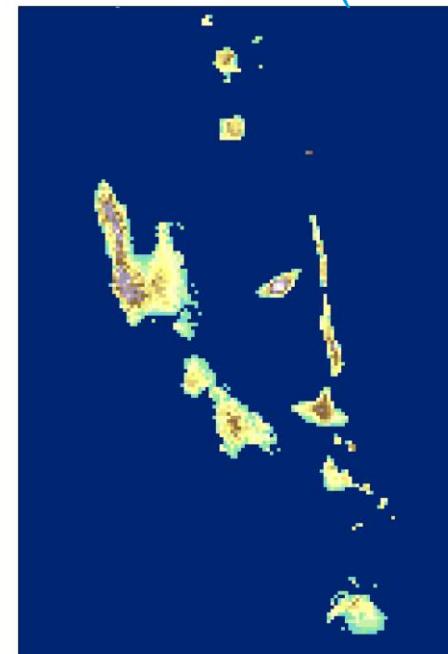
Global climate models  
over Vanuatu (100 km)



Regional climate models  
over Vanuatu (20km)



High resolution climate models  
over Vanuatu (2.5km)

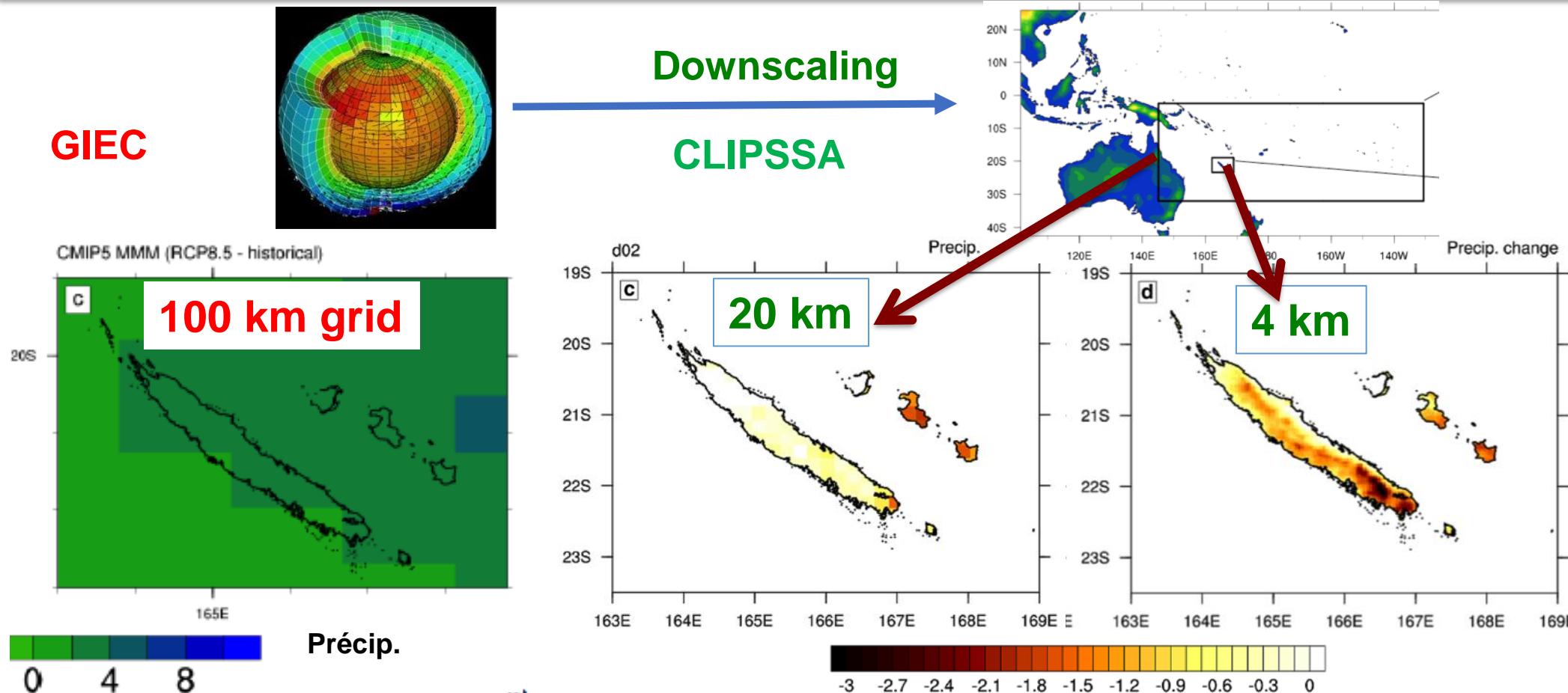


IPCC simulations



CLIPSSA project simulations: island scale downscaling

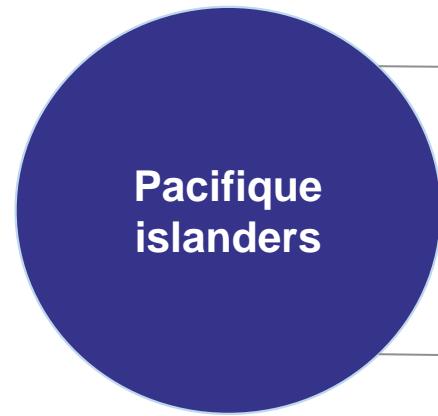
# previous Climate Change downscaling for New Caledonia in the previous CMIP (CMIP5) exercice in one scenario 8.5 and in 2080: precipitation



- In CMIP climate models at ~100km, **weak positive projected changes for precipitation**
- At 20 km downscaling, **weak drying in the future**
- At 4 km : Strong drying in the future (~-30 % on the western coast of New Caledonia)

# General Objectives

- ⦿ High-resolution climate simulations for the entire South Pacific area for a better understanding of the future of the Pacific climate in terms of heat waves, precipitation, drought and cyclone activity 20 km
- ⦿ Very high-resolution simulations for three specific geographic areas (Vanuatu and New Caledonia, Wallis and Futuna, and French Polynesia) for the next 100 years 2.5 km
- ⦿ Update climate change data from IPCC models and national priorities for key sectors affected by the climate. In agriculture, for example, the simulations will provide answers to the following questions: how will rainfall and drought change over the coming decades? Are these changes a threat to agriculture? What changes might this lead to for crops?
- ⦿ Databases containing local knowledge and practices that constitute the «risk cultures» of Oceanian societies, i.e. non-confidential knowledge and know-how that will be particularly useful in adapting to extreme phenomena
- ⦿ An analysis of the transformations that have affected places and times of transmission of useful knowledge and skills for adaptation
- ⦿ Promotion of climate change adaptation strategies among the population by drawing on local traditional knowledge



Lifestyle dependent on the environment  
(agriculture, fishing, hunting)

Faced with environmental hazards



Develop local, adjusted ecological  
knowledge and know-how

- To adapt to climate variability
- To ensure sustainability of communities and society-environment relationships

→ Production of « cultures of risk »

# Work flow

# Objectives & Outcomes

Objective 1 – Elaborate climate projections to better know the hazards

Produce simulations of the future climate by 2100

Scale 20 km

1 postdoc

Scale 2 km

1 postdoc & 1 PhD



Objective 3 – Define impact risks and capabilities

Analyse the future impact on activities and lifestyles

Objective 2 – Define issues and vulnerabilities with stakeholders

Analyse the weaknesses and capacities of local actors

Levels of fragility

1 postdoc & 1 PhD



Knowledge, local practices and modes of transmission

Objective 4 – Produce operational adaptation responses

Accessibility research results to all (population, decision makers...)

Portals



2 postdoc

Sectoral impact modelling

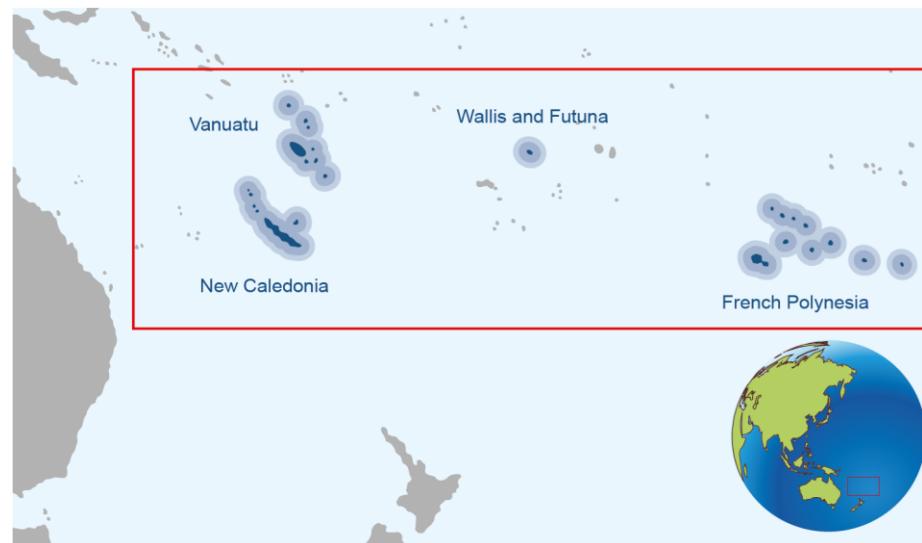


Adaptation plans

Technical Assistance to territories

**A cross-cutting and interdisciplinary applied research for building capacity for adaptation and action against the effects of Climate Change**

- The CLIPSSA project brings together natural and social sciences: climatologists, geographers, anthropologists (more than 25 scientists and collaborators) from the Indopacific area, together with public entities
- Regional and multi-partner scientific cooperation
- New Caledonia
- French Polynesia
- Wallis and Futuna
- Vanuatu



**Timeline of the project :**  
**3,5 years / 2021 to 2025**  
**Global Cost: 3.8 M€**

# CONTACTS



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