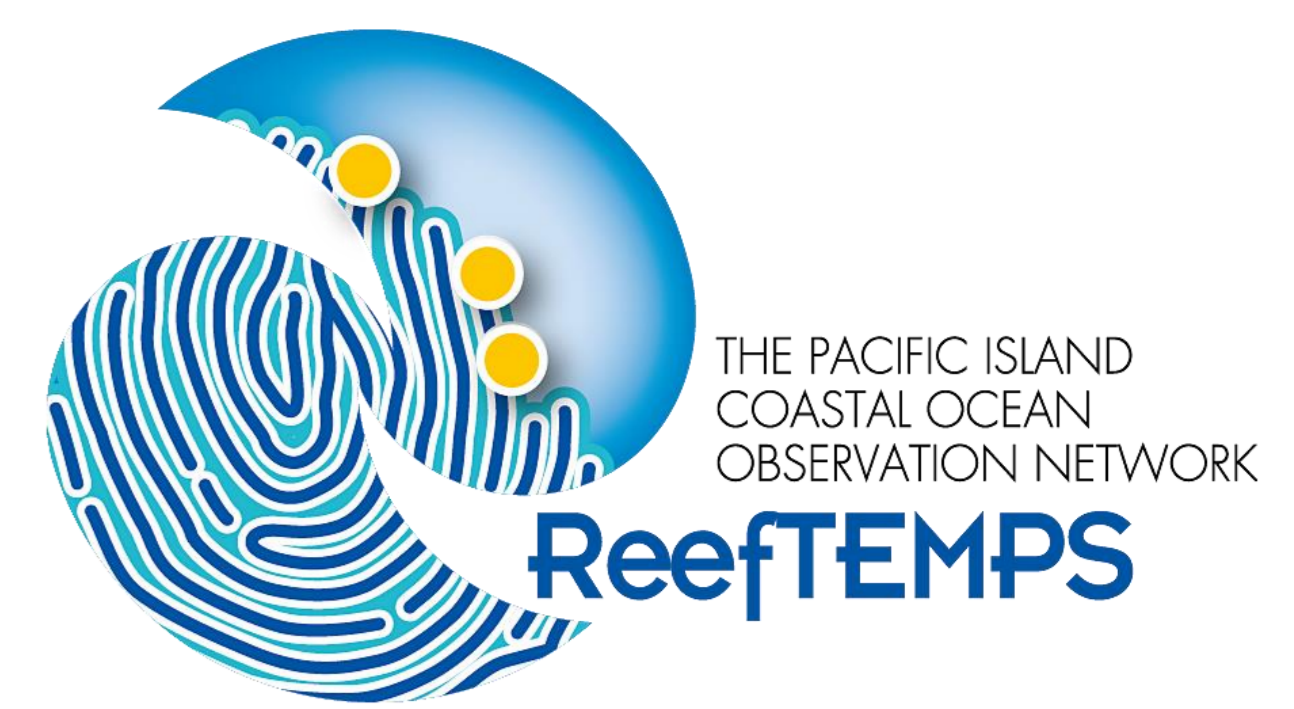


# ReefTEMPS, FAIRs access to reef ecosystem environmental measurements



Sylvie Fiat<sup>1</sup>, Jérôme Aucan<sup>2</sup>, David Varillon<sup>3</sup>, Régis Hocdé<sup>4</sup>



ReefTEMPS<sup>α</sup> is a coastal ocean observatory in the South, South West and West Pacific that provides long-term monitoring of climate change and its effects on the status of coral reefs and their resources. The network has been deploying sensors for temperature, pressure, conductivity, fluorescence and/or turbidity at 98 sites throughout the coastal zone of some 20 island states and territories since 1958.

ReefTEMPS, labelled Service National (for) Observation (SNO), is part of the French research infrastructure "coastal ocean and nearshore observations" IR ILICO<sup>β</sup>.

<sup>α</sup> <http://reeftemps.science>

<sup>β</sup> [www.ir-ilico.fr](http://www.ir-ilico.fr)

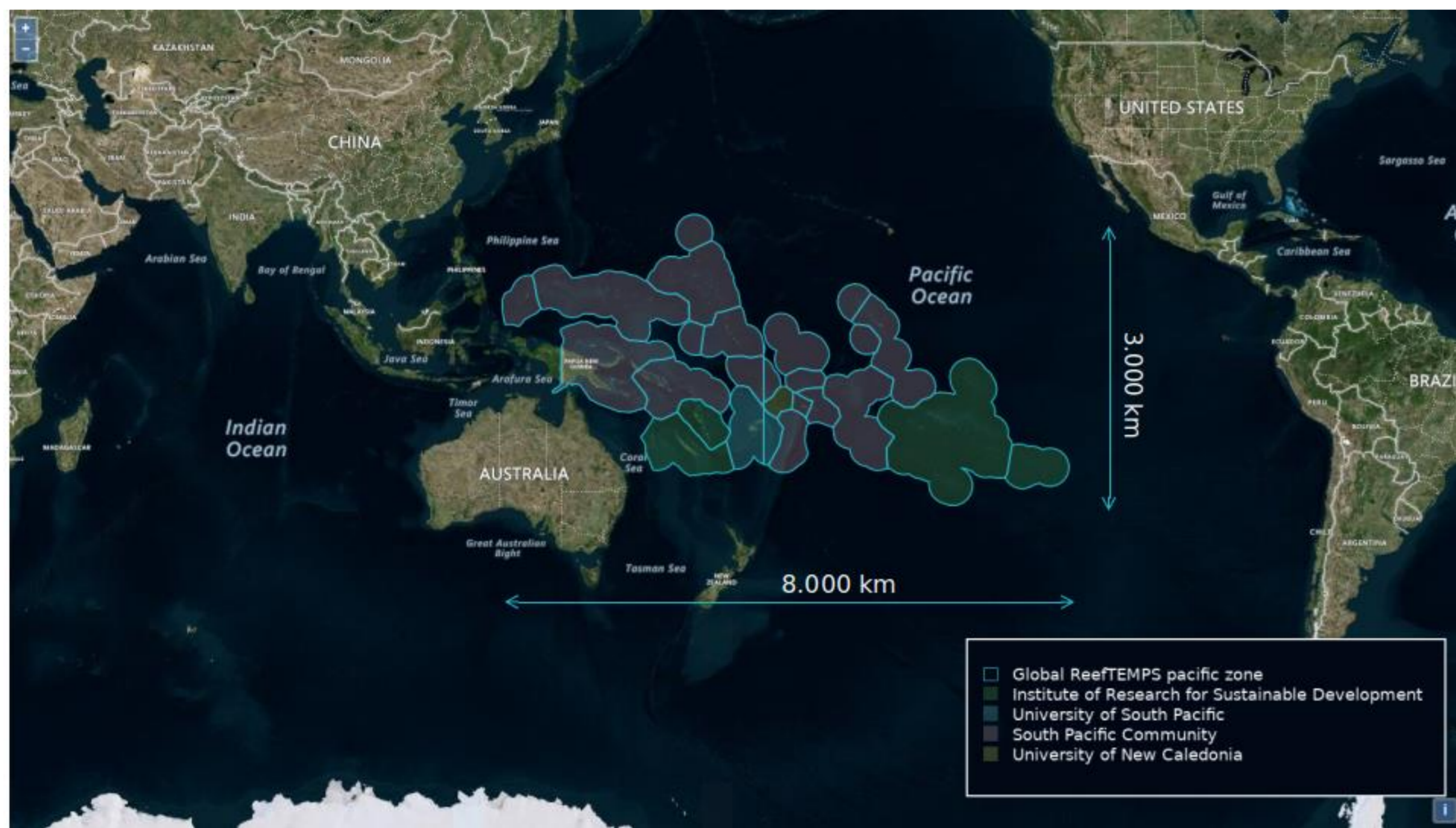
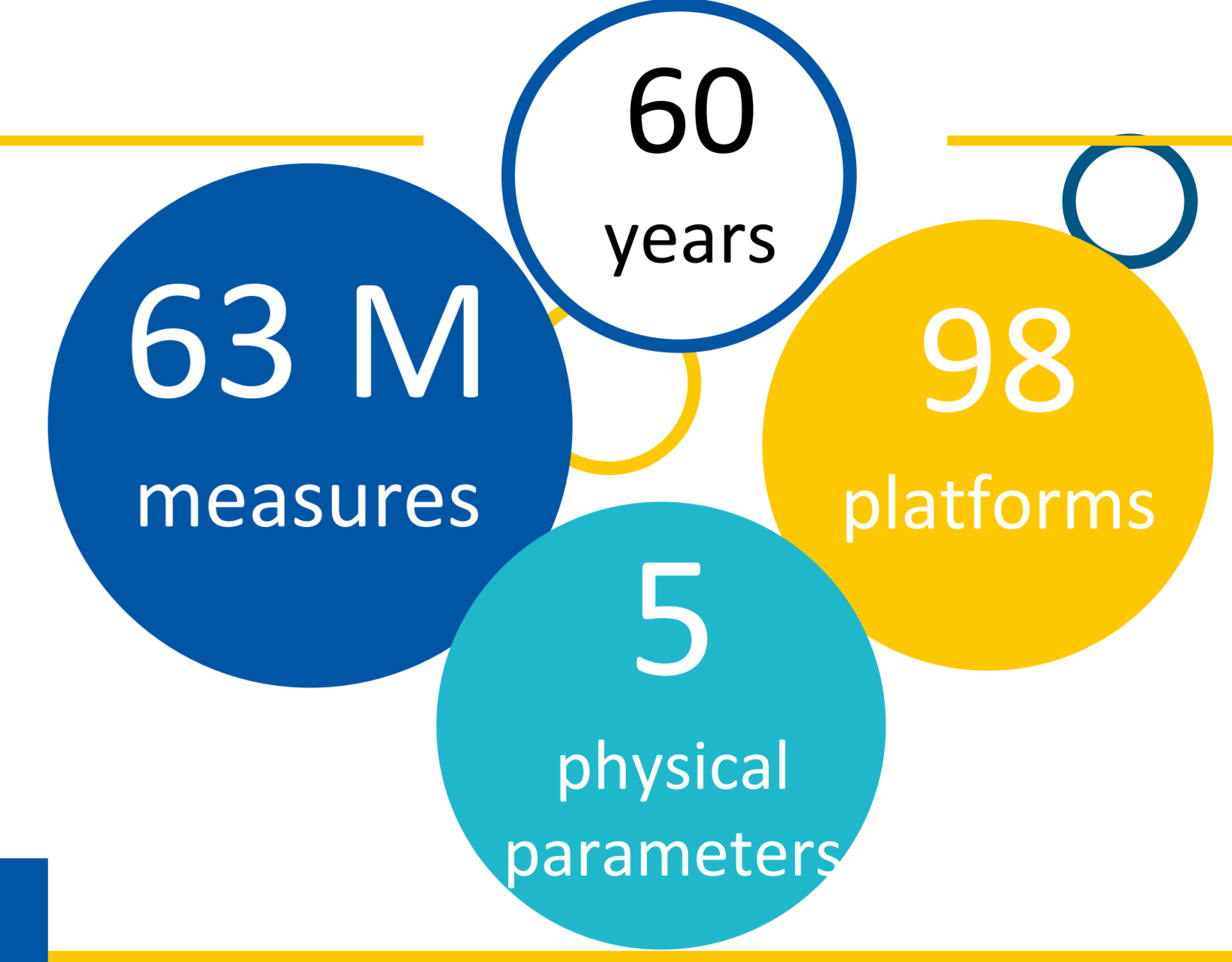


Figure 1. The ReefTEMPS network federates 4 data producers covering in part the South, South West and West Pacific: the Institute of Research for sustainable Development, the Pacific Community, the University of the South Pacific and the University of New Caledonia.



Figure 2. Installation of a sensor by a diver.



Figure 3. Underwater sensor.

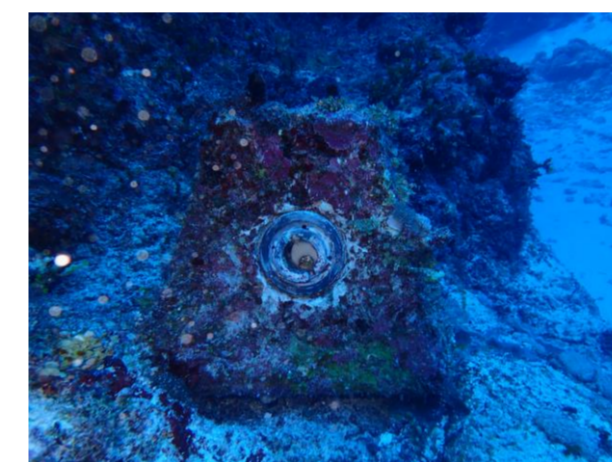


Figure 4. Underwater platform.

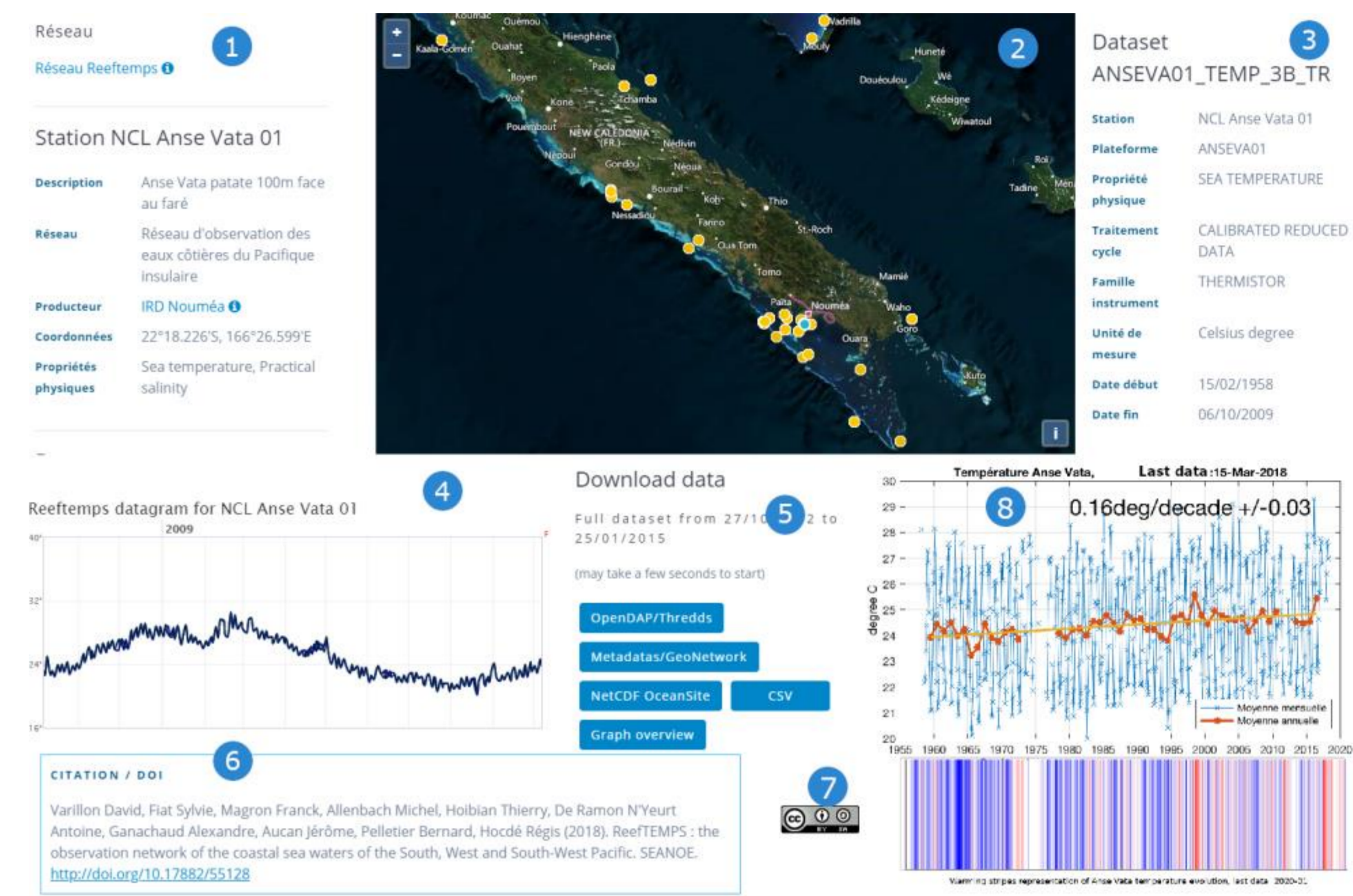


Figure 5. Getting Anse Vata (New Caledonia) temperature data in ReefTEMPS : 1/ station metadata, 2/ station location on interactive map (blue spot), 3/ Dataset metadata, 4/ Interactive datagram to preview data, 5/ Download available, 6/ DOI reference, 7/ Data licence, 8/ Data science products as a result.

## FINDABLE

doi:10.17882/55128

Unique and persistent identifier

SEANOE



Bi-annual updates

September 2019 update : doi:10.17882/55128#66815

Findable by data generic search engines

## ACCESSIBLE

HTTP HTTPS



Access through standards

DOWNLOAD & ACCESS OPEN

No registration, no restriction, no constraints, no fees

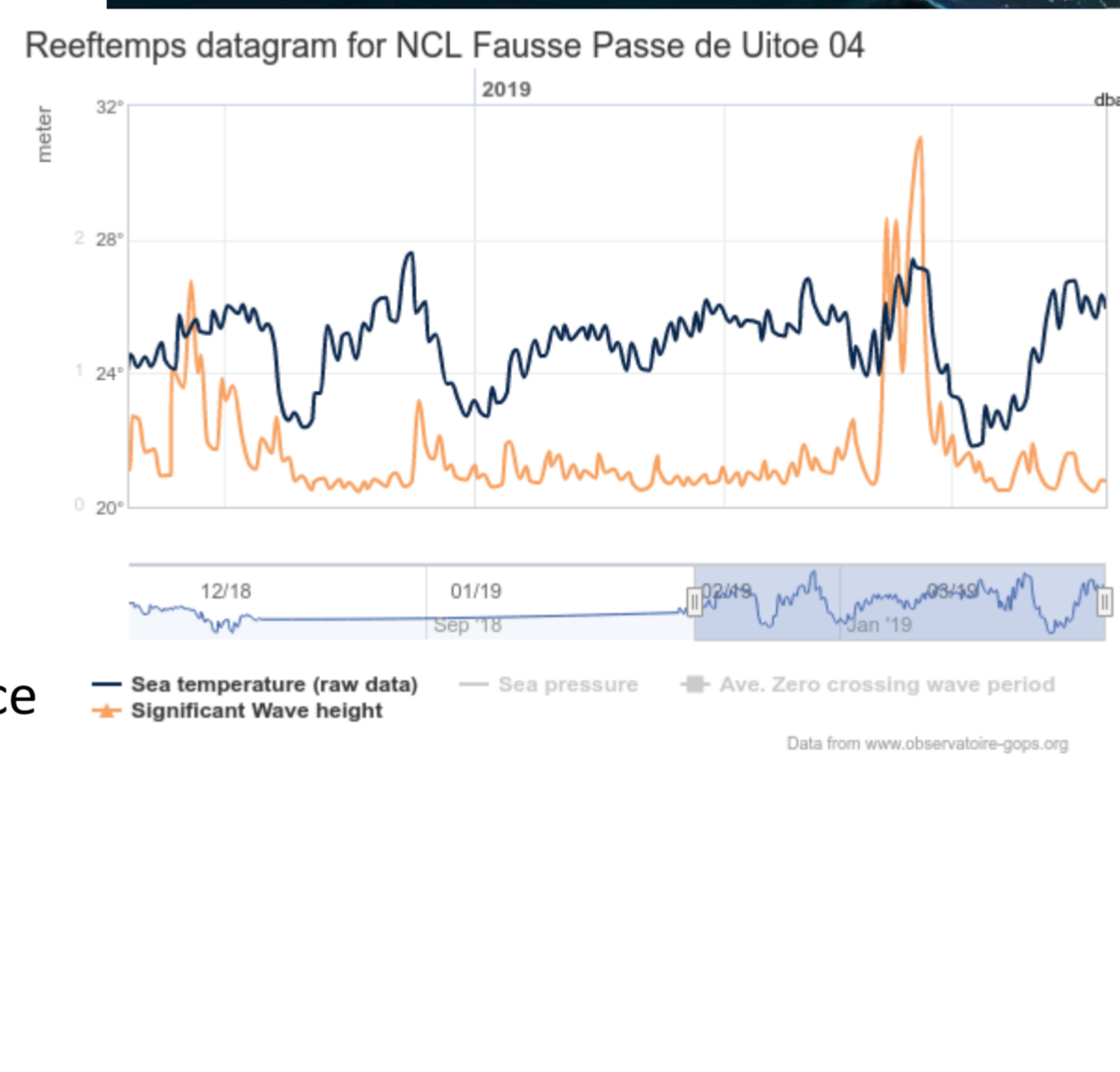
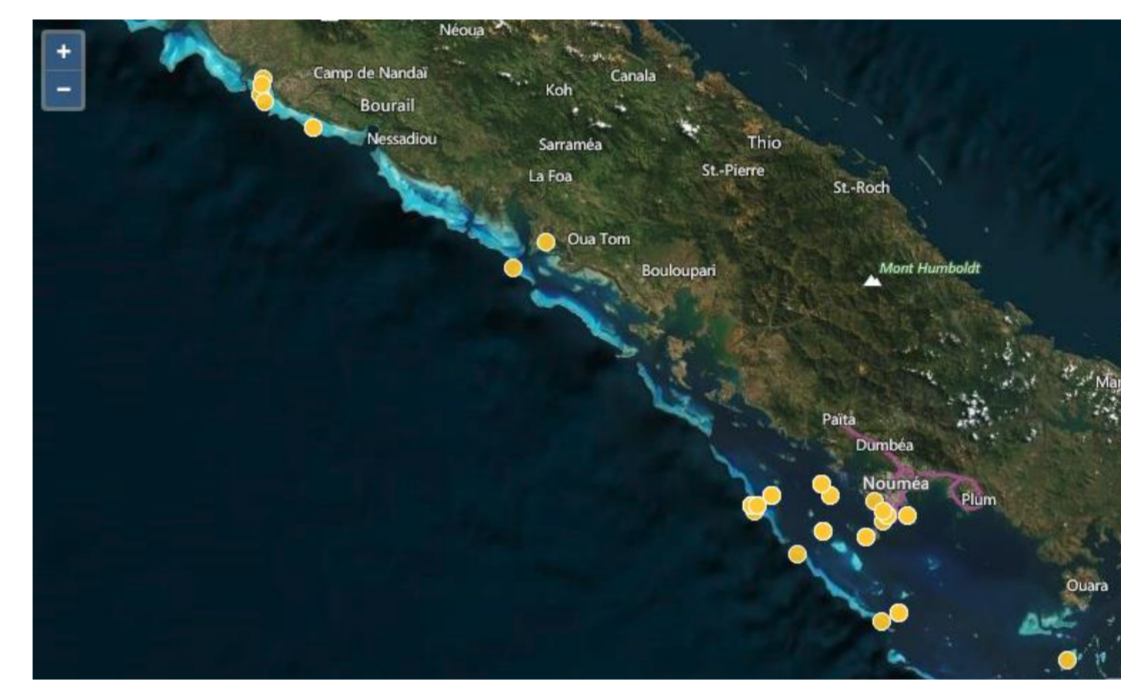
## INTEROPERABLE

WMS WFS Web Map Service Web Feature Service

SOS Sensor Observation Service

CSW Catalog Service for the Web

Open DAP Open-source Project for a Network Data Access Protocol



NetCDF 4 Climate and Forecast (CF) Convention, format OceanSites

## REUSABLE

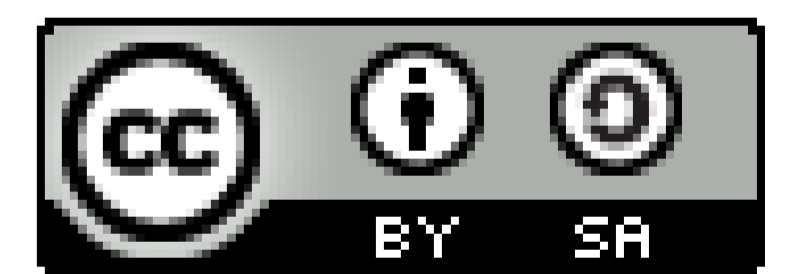
Rich metadata & multiple layers

Datasets metadata  
Data quality control flags  
Sensors metadata  
Observation service metadata

Provenance / Citation

How to cite  
Varillon David, Fiat Sylvie, Magron Franck, Allenbach Michel, Holban Thierry, De Ramon N'Yeurt Antoine, Ganschaul Alexandre, Aucan Jérôme, Pelletier Bernard, Hocdé Régis (2018). ReefTEMPS: The Pacific Island coastal ocean observation network. SEANOE. <https://doi.org/10.17882/55128>

Data usage licence



Creative Commons Attribution - ShareAlike 4.0 International

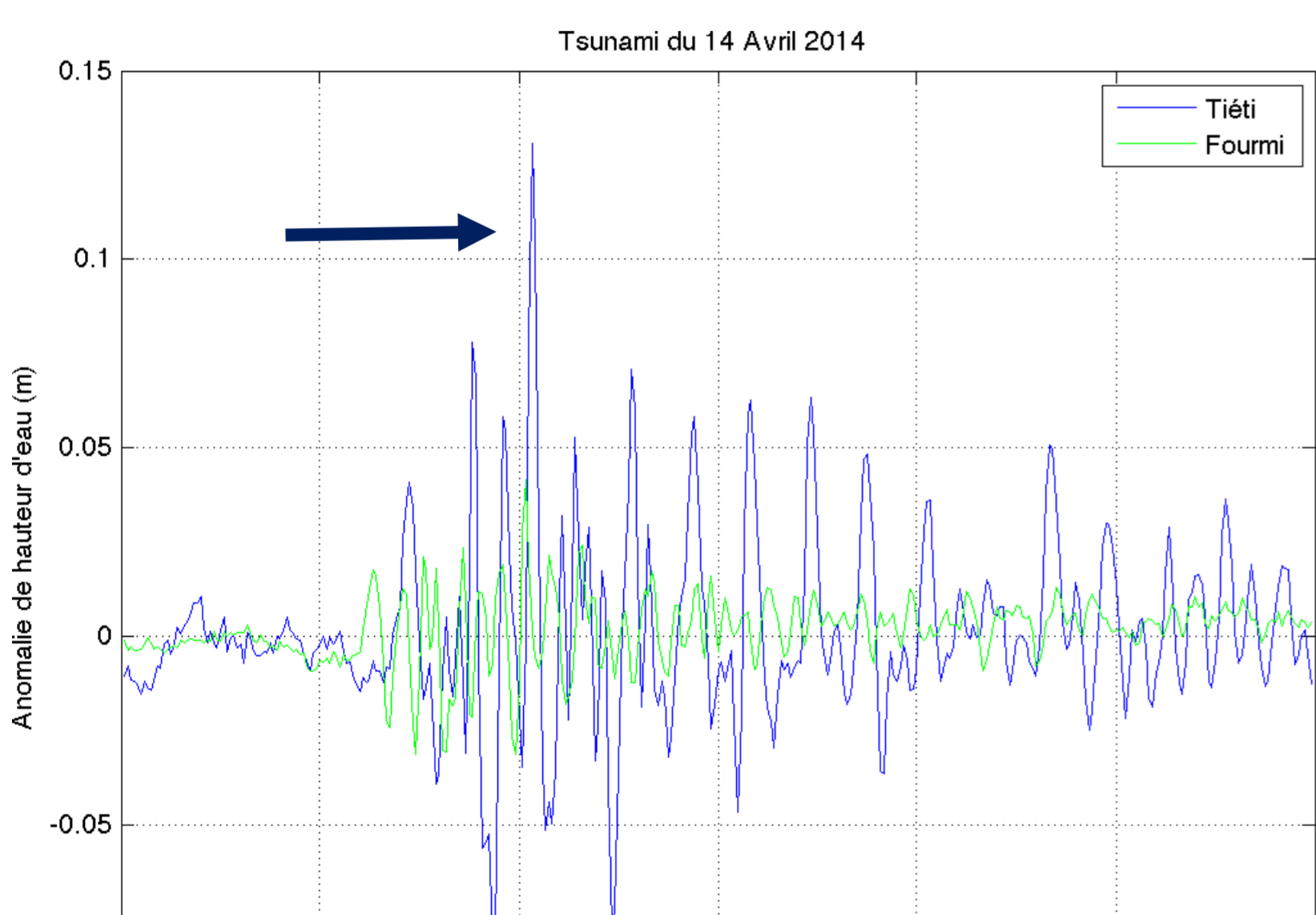


Figure 6. Effect of reef protection from tsunamis

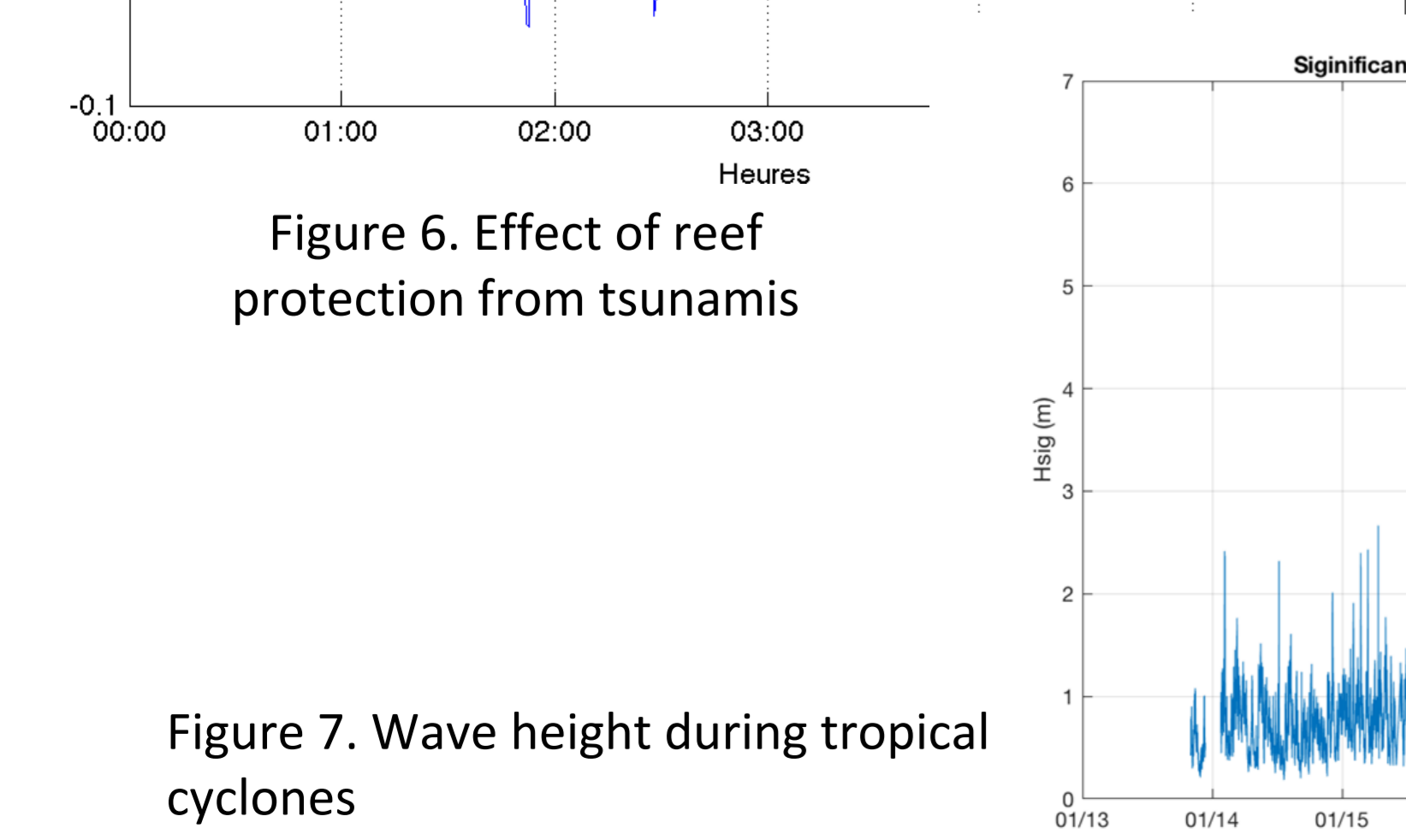


Figure 7. Wave height during tropical cyclones

## FAIR, SUSTAINABLE DEVELOPMENT

20 island states and overseas territories of the Pacific

Natural disasters studying

Long-term monitoring



Open source software architecture

Figure 8. ReefTEMPS informatopn system deployment

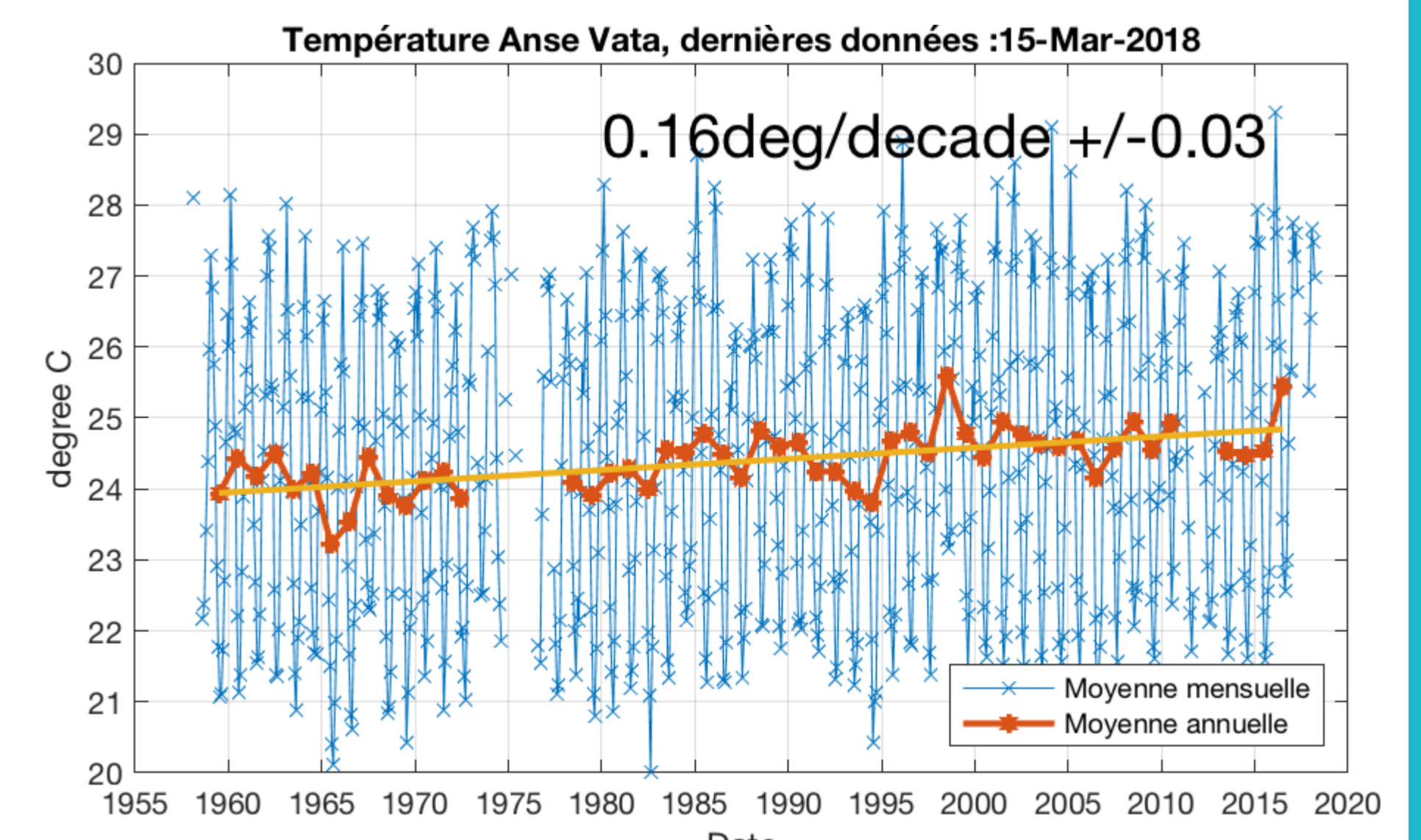


Figure 9. Global warming evidence



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<sup>3</sup> IMAGO, IRD, Nouméa, Nouvelle-Calédonie  
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