



ReefTEMPS, FAIRs access to Reef ecosystem environmental measurements

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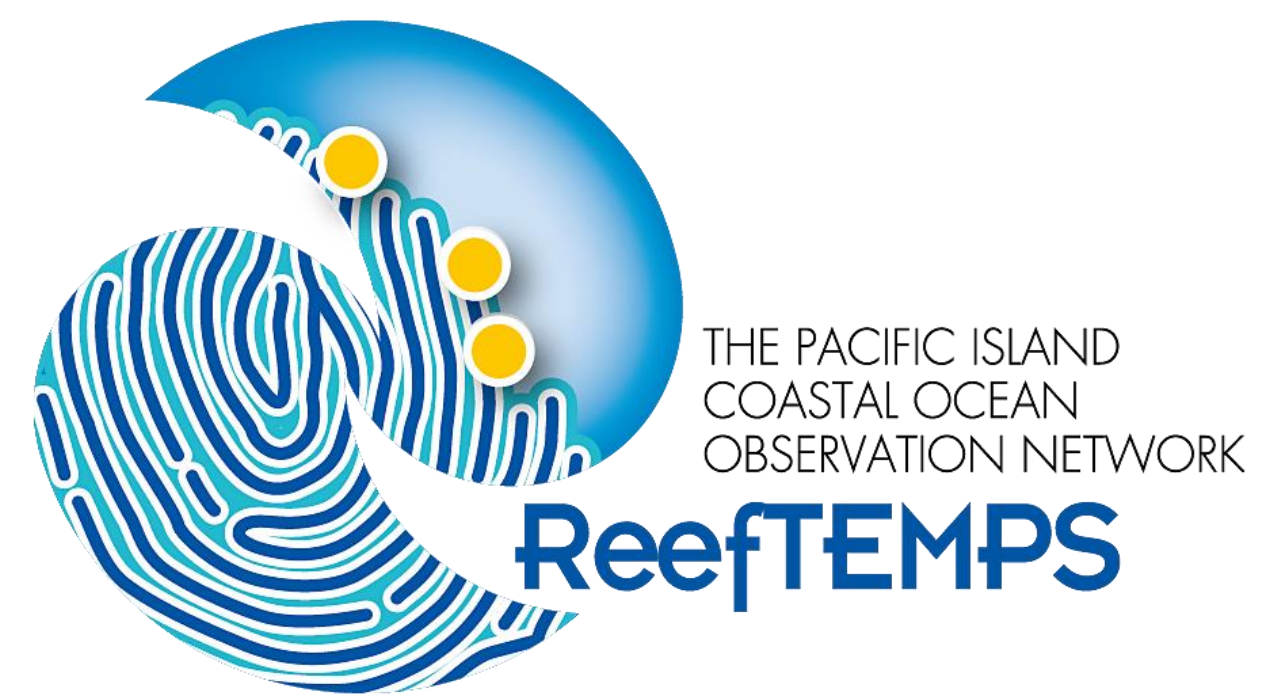
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ReefTEMPS, FAIRs access to reef ecosystem environmental measurements



Sylvie Fiat¹, Jérôme Aucan², David Varillon³, Régis Hocdé⁴



ReefTEMPS^α 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^β.

^α <http://reeftemps.science>

^β www.ir-ilico.fr

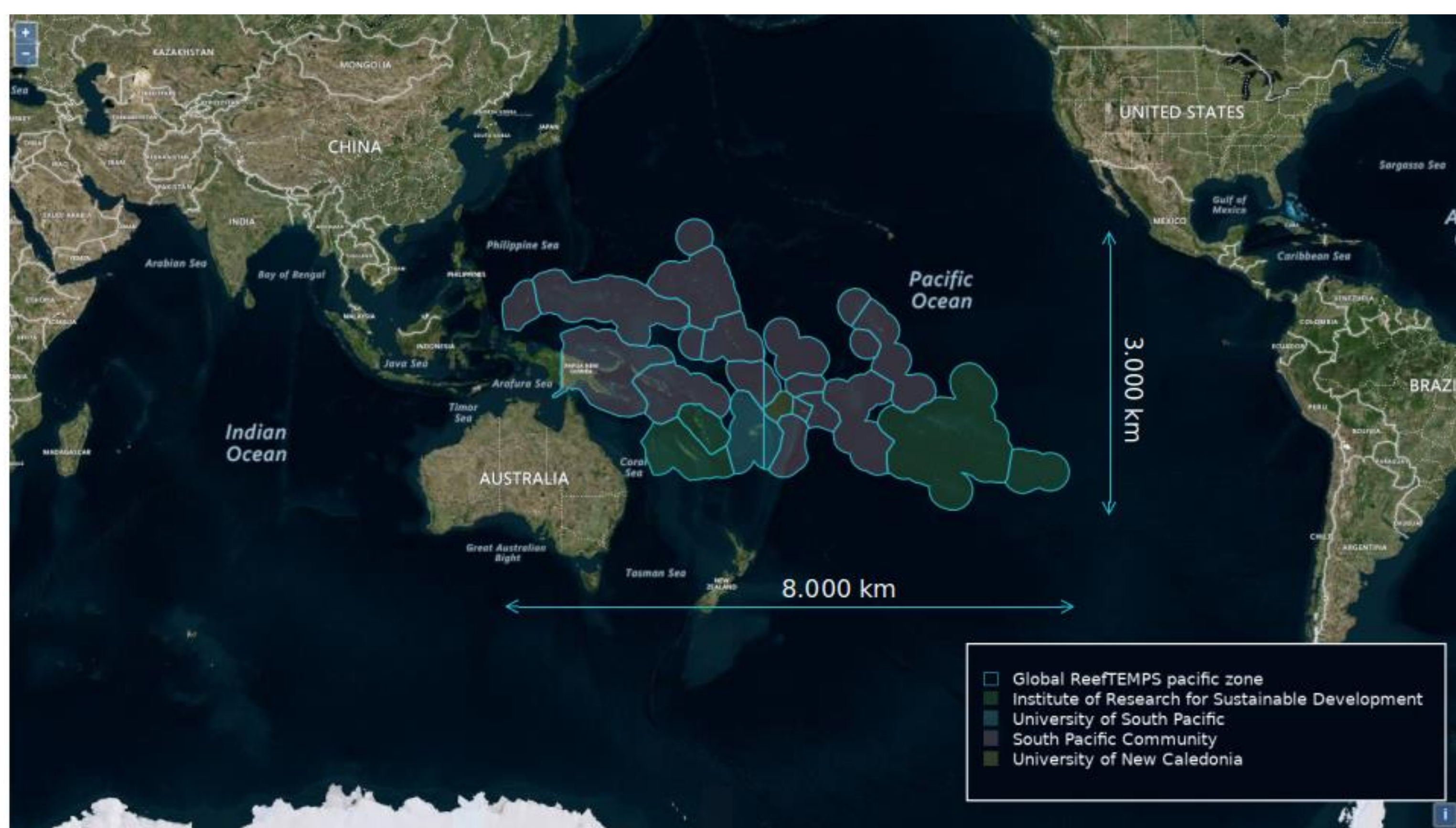
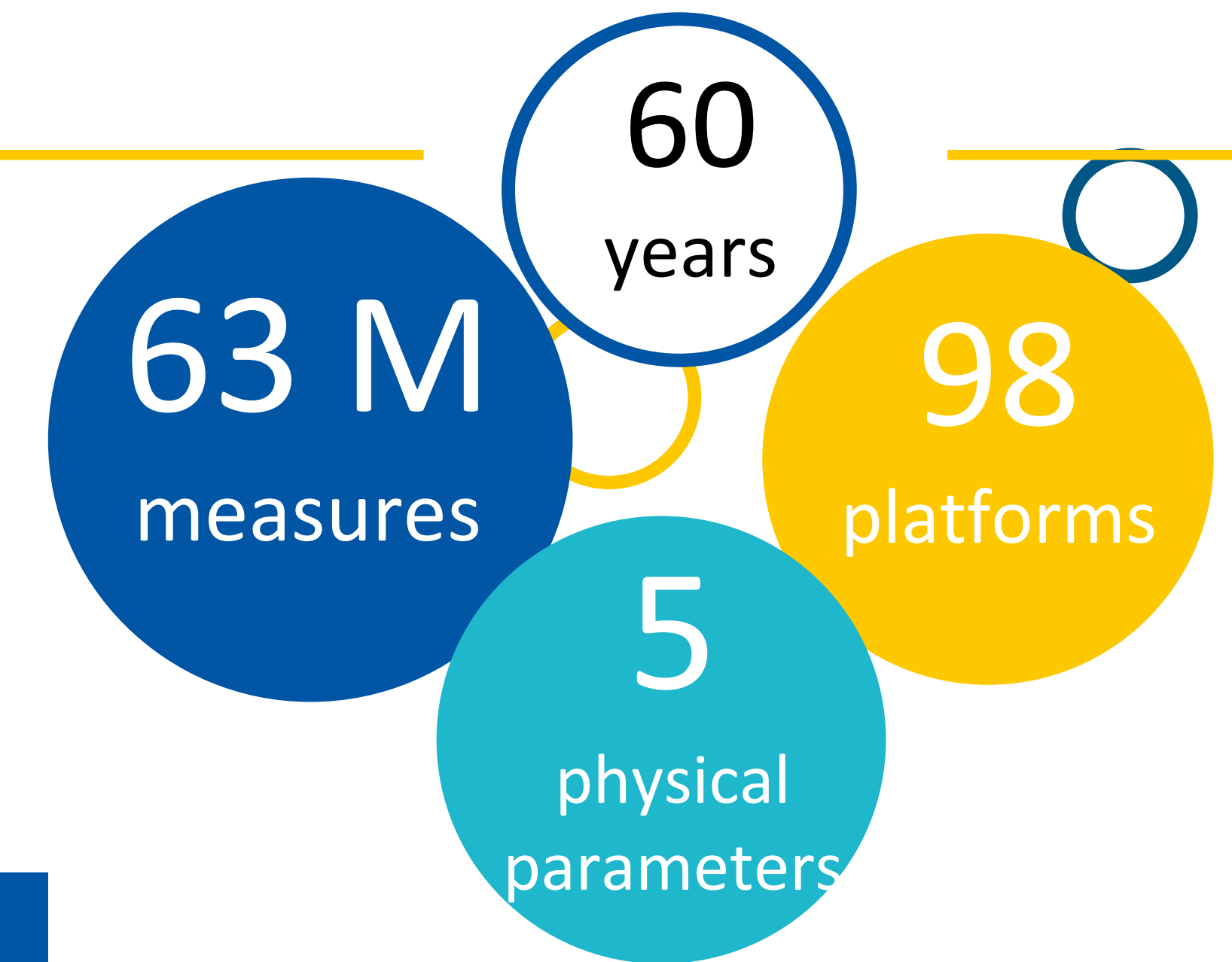


Figure 1. The ReefTEMPS network federates 4 data producers covering in part the South, South West and West Pacific: the Institute of Research for sustainable Development, the Pacific Community, the University of the South Pacific and the University of New Caledonia.



Figure 2. Installation of a sensor by a diver.



Figure 3. Underwater sensor.

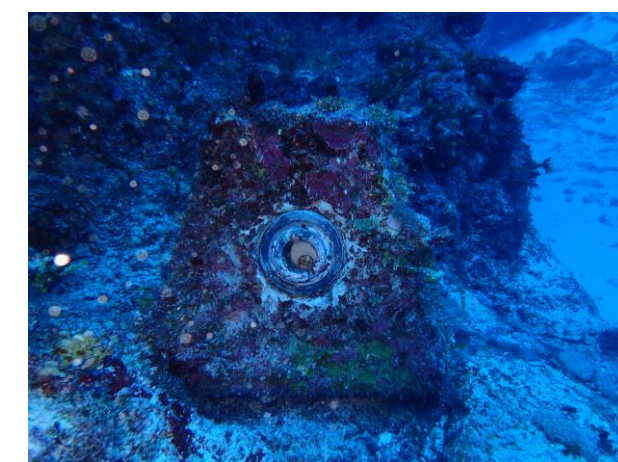


Figure 4. Underwater platform.

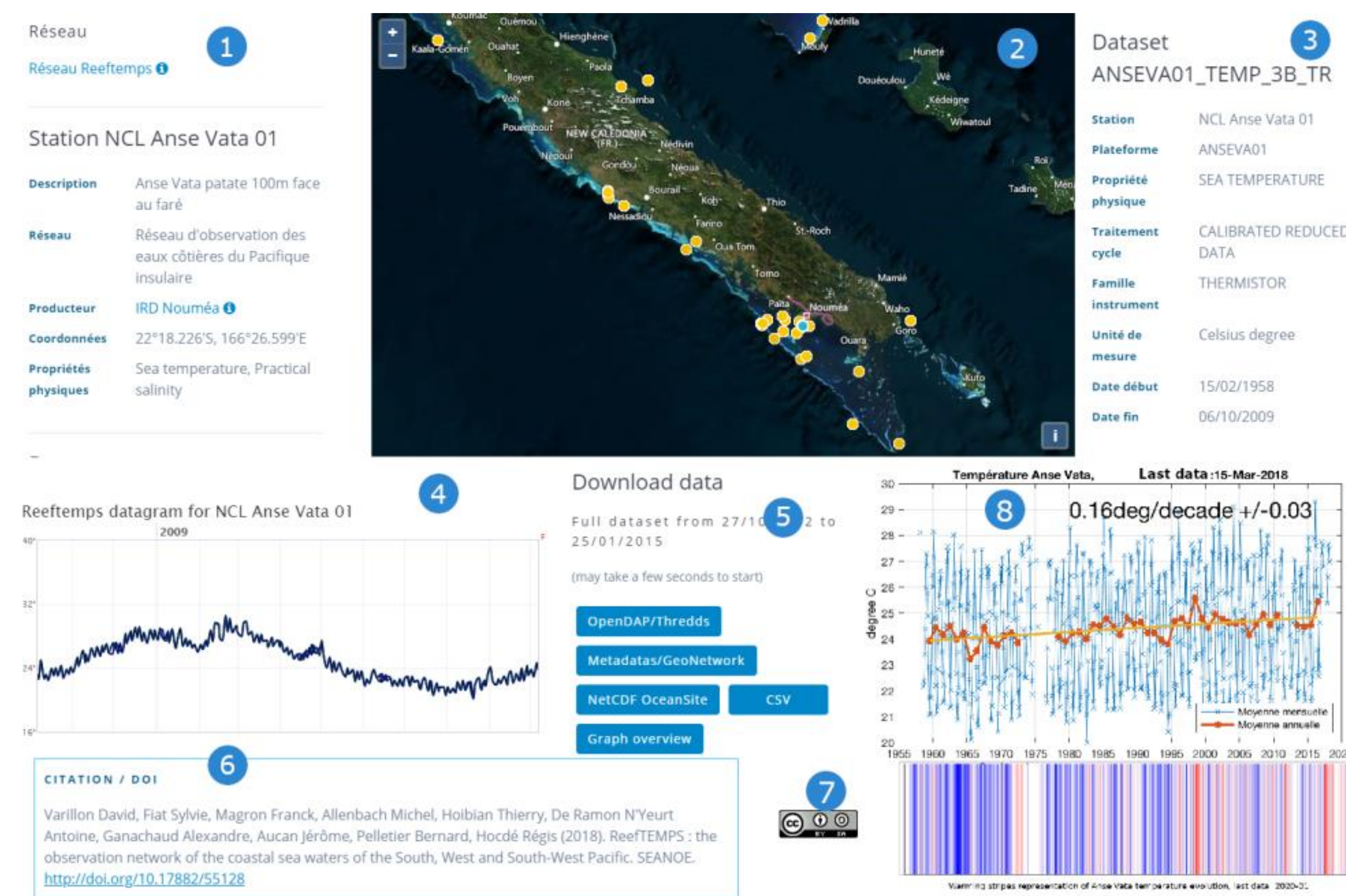


Figure 5. Getting Anse Vata (New Caledonia) temperature data in ReefTEMPS : 1/ station metadata, 2/ station location on interactive map (blue spot), 3/ Dataset metadata, 4/ Interactive datagram to preview data, 5/ Download available, 6/ DOI reference, 7/ Data licence, 8/ Data science products as a result.

FINDABLE

[doi:10.17882/55128](https://doi.org/10.17882/55128)

Unique and persistent identifier

SEANOE



Bi-annual updates

September 2019 update : [doi:10.17882/55128#66815](https://doi.org/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

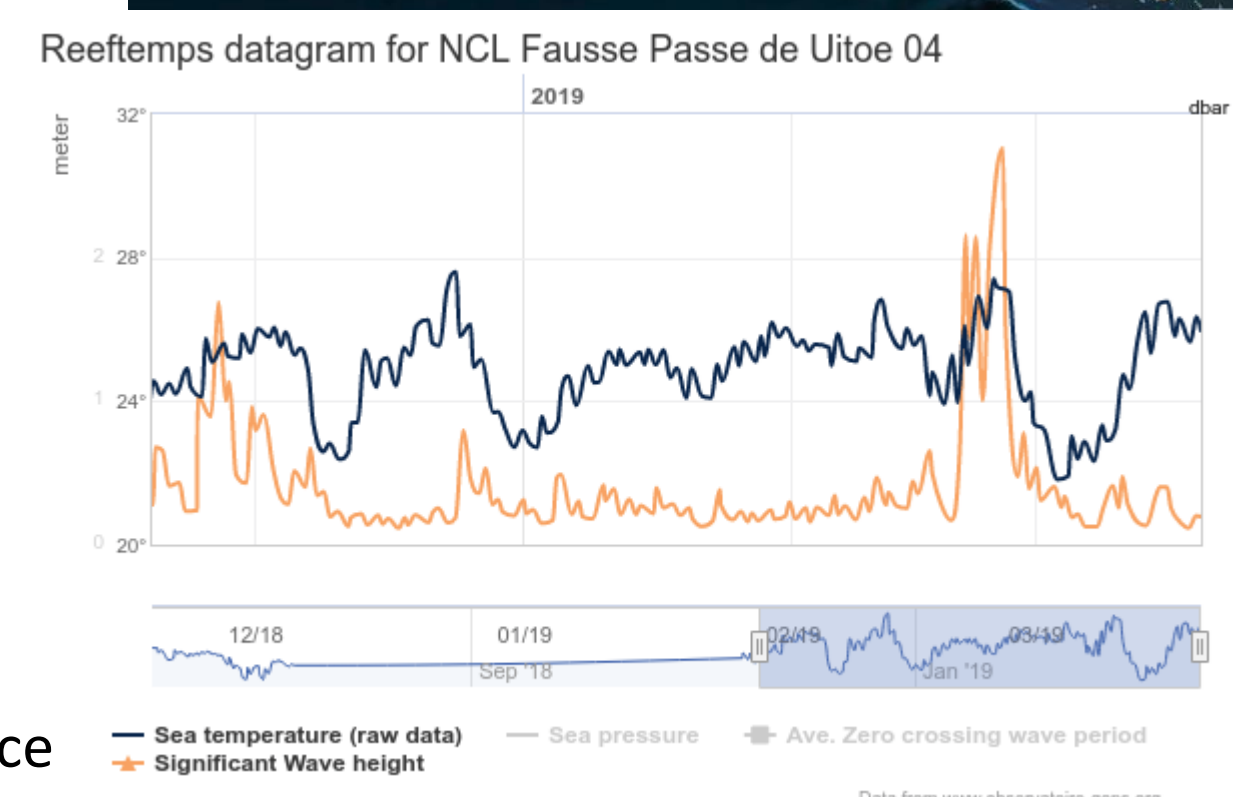
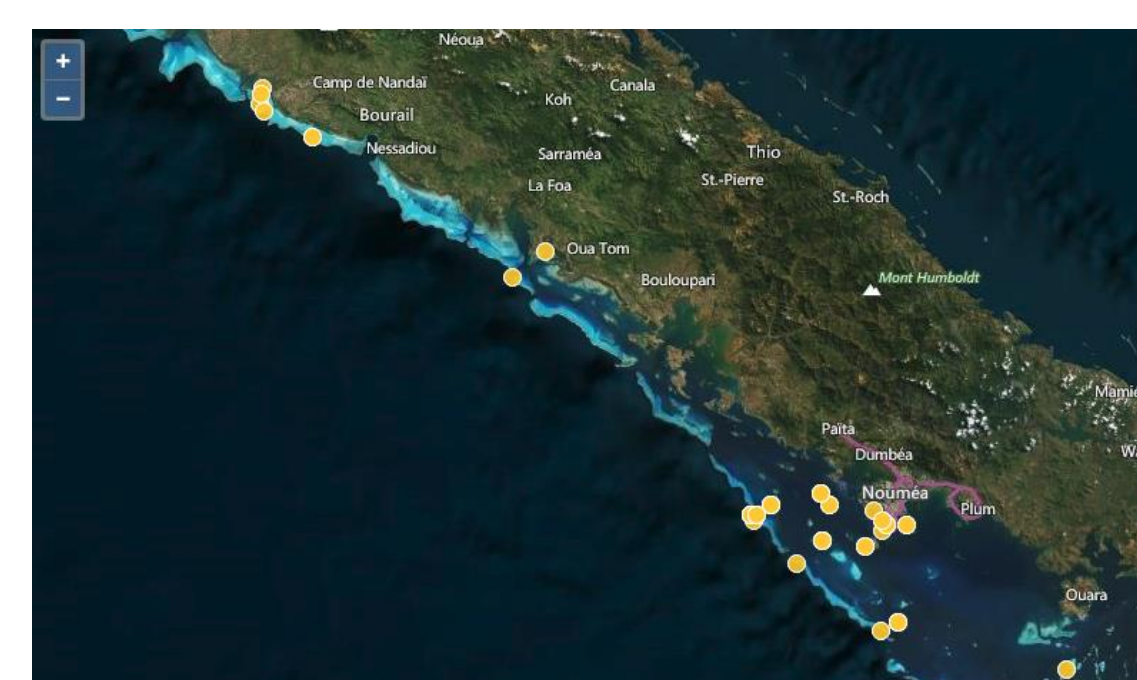
INTEROPERABLE

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

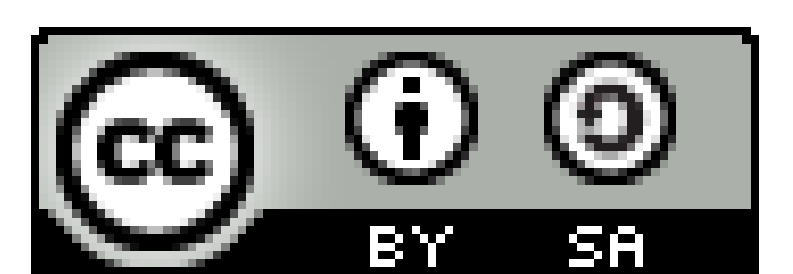
Rich metadata & multiple layers

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, Ganchaud Alexandre, Aucan Jérôme, Pelletier Bernard, Hocdé Régis (2018). ReefTEMPS : the observation network of the coastal sea waters of the South, West and South-West Pacific. SEANOE. <https://doi.org/10.17882/55128>

Data usage licence



Creative Commons Attribution – ShareAlike 4.0 International

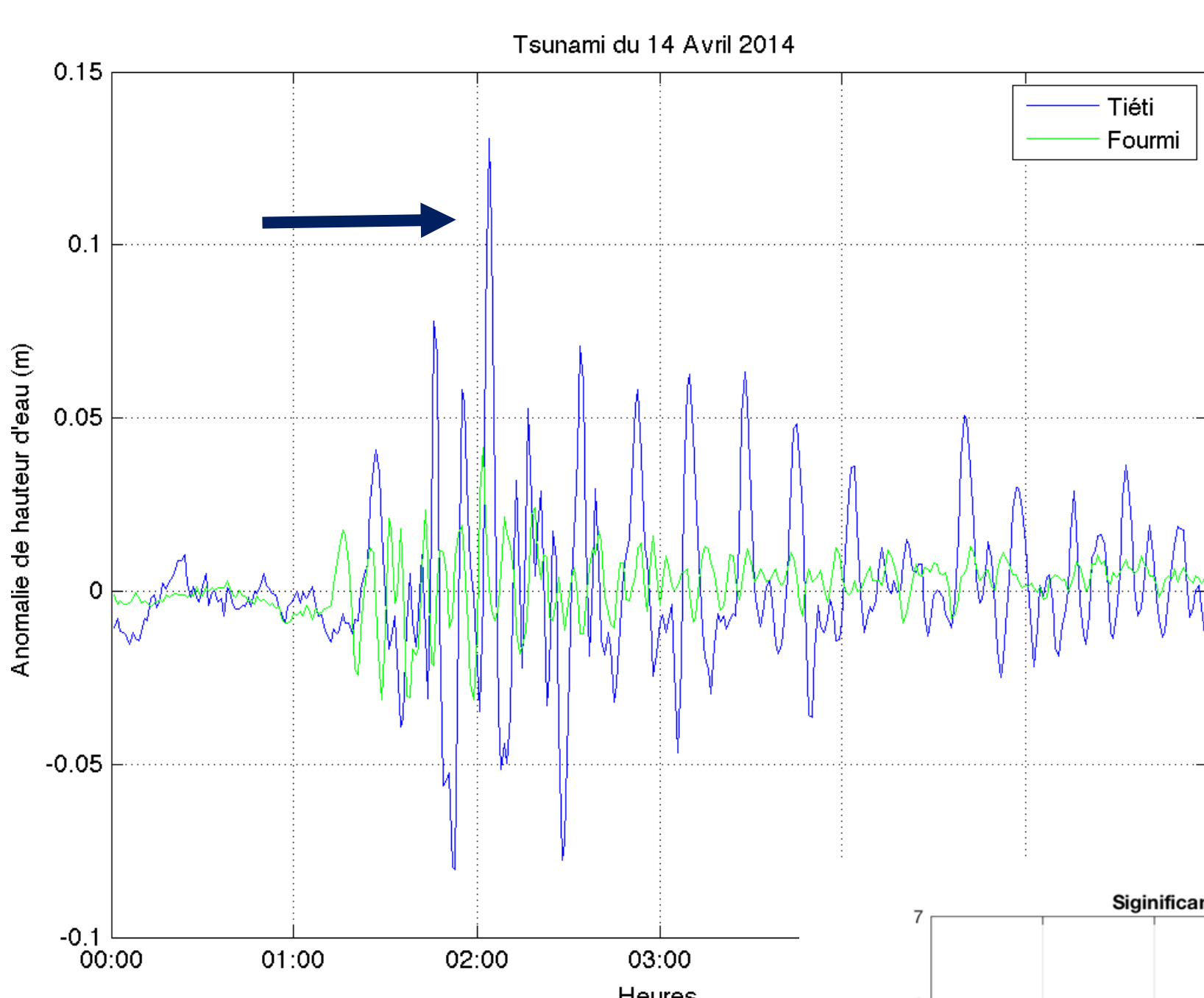
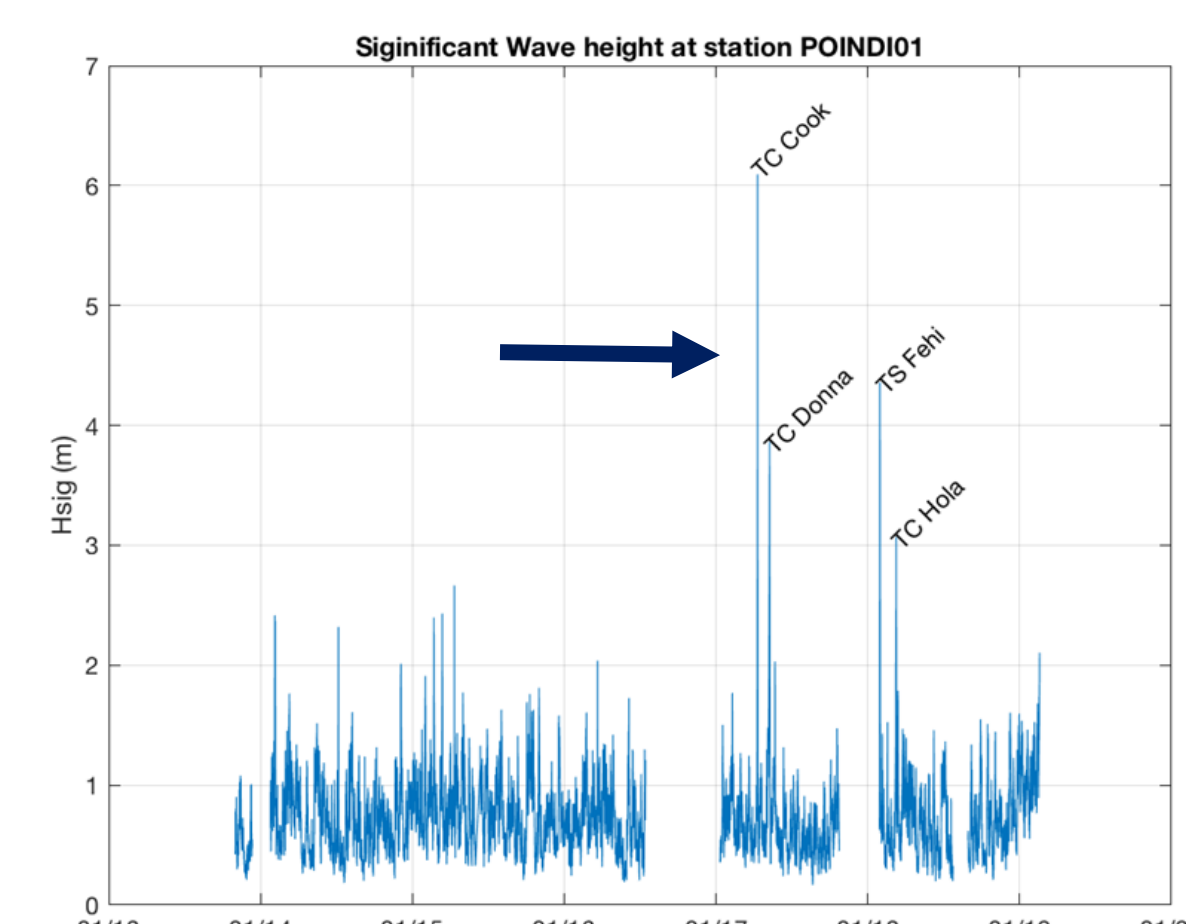


Figure 6. Effect of reef protection from tsunamis

Figure 7. Wave height during tropical cyclones

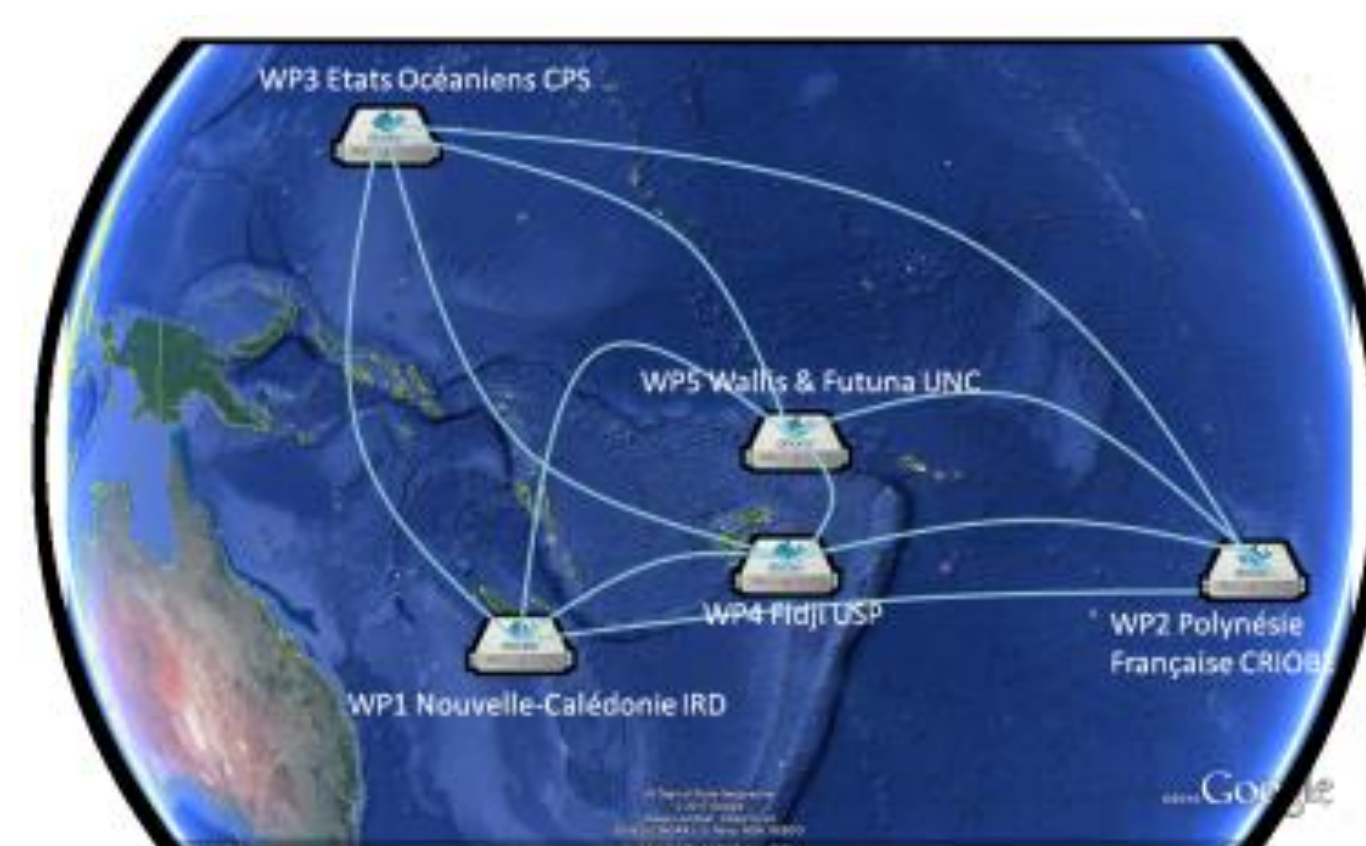


FAIR, SUSTAINABLE DEVELOPMENT

20 island states and overseas territories of the Pacific

Natural disasters studying

Long-term monitoring



Open source software architecture

Figure 8. ReefTEMPS informatoph system deployment

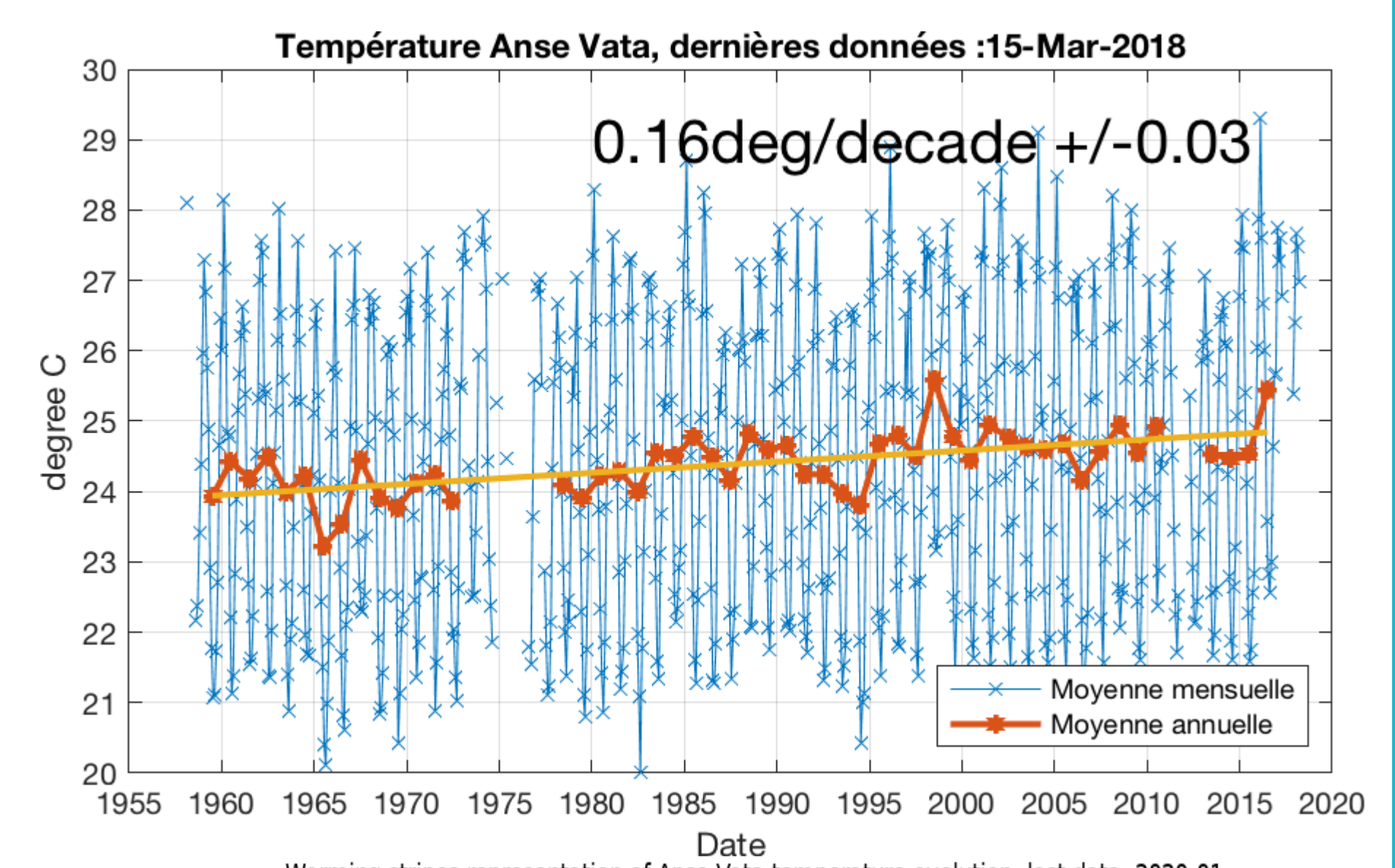


Figure 9. Global warming evidence