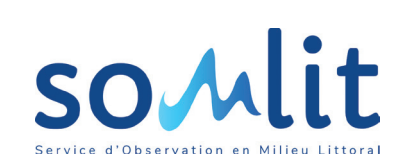


Coastal Ocean and Littoral Environmental Observation in France: Towards an Integrated System led by National Research Infrastructure ILICO

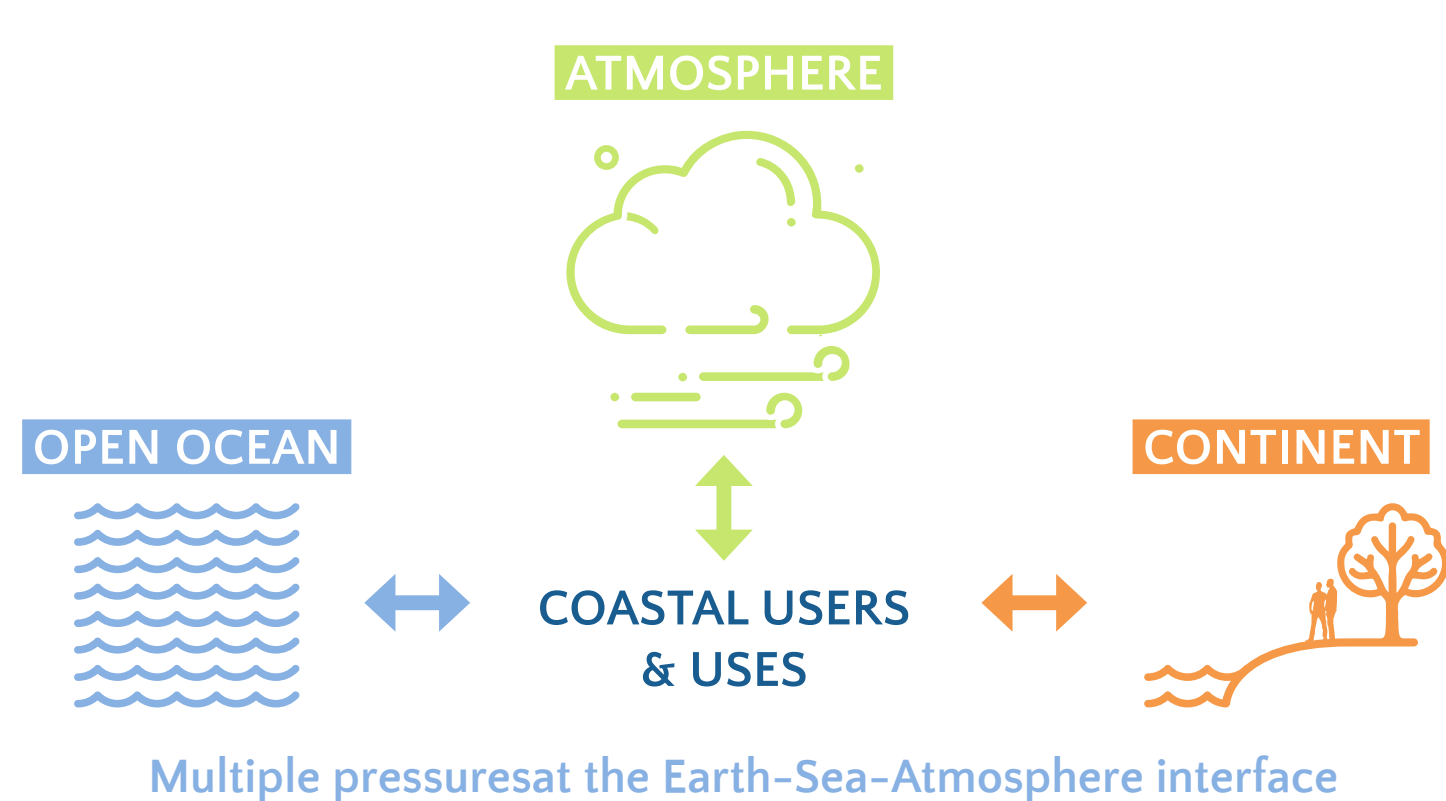
WHAT IS ILICO ?

ILICO is France's pluridisciplinary federative research infrastructure dedicated to understanding coastal ecosystems

Observation networks, instrument park, and community codes



TRIPLE INTERFACE



ILICO produces multi-disciplinary Observation Data incl. evolution of coastline topomorphology, hydrodynamics, sea level, biodiversity (phytoplankton, benthic macroinvertebrate communities) and physico-chemical composition

SCIENTIFIC CHALLENGES

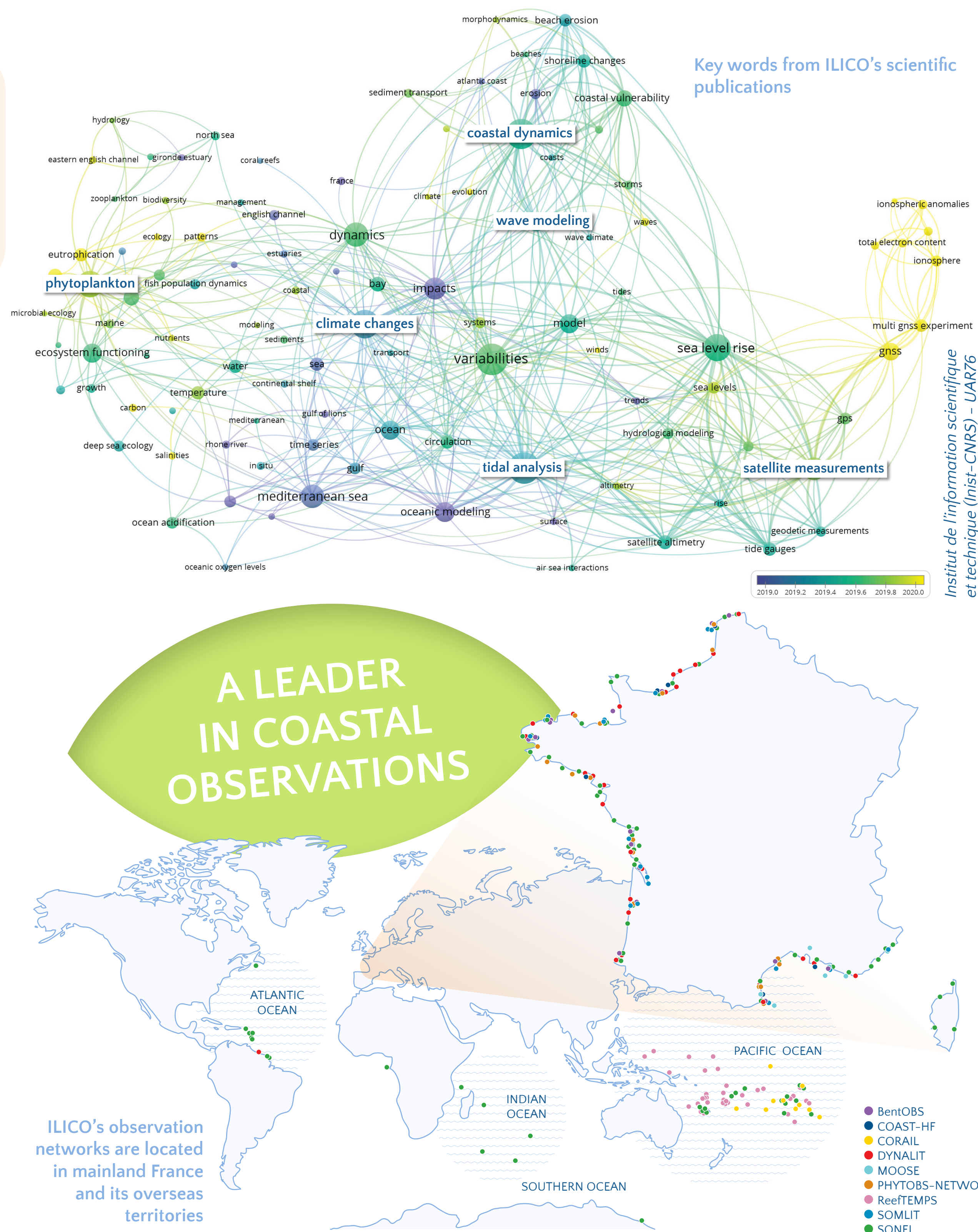
1. Understanding and predicting coastal system responses to global and local drivers
2. Assessing the impact of extreme events
3. Unravelling the effects of climate and anthropogenic changes

INTEGRATED OBSERVATIONS

ILICO is composed of pluri-disciplinary observation systems and community codes, regularly evaluated by scientific peers for accreditation. Taken together their benefits include :

- Wide-ranging coverage
- Complementary resolutions (low to high frequency)
- Long term time series (> 10 years)
- Standardised protocols & intercalibration
- FAIR AI-ready Open Data
- Inter-disciplinary integration

Integration of multi-disciplinary Observation data



A LEADER IN COASTAL OBSERVATIONS

LONG TERM COASTAL OBSERVATIONS ARE NECESSARY

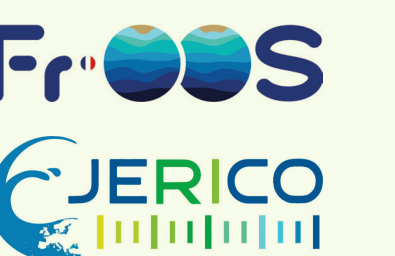
ILICO'S MISSIONS :

1. Gather diverse coastal observation data to tackle scientific and societal issues
2. Enhance integration and coherence of observation networks, models, and tools
3. Support FAIR principles and create integrated data products (working closely with the e-Infrastructure Data Terra)
4. Showcase French expertise in coastal observation at European and international levels
5. Foster and engage in foresight and development initiatives among scientific communities studying environments at the Earth-Sea-Atmosphere interface
6. Promote skills development and collaboration

NATIONAL, EUROPEAN AND INTERNATIONAL COLLABORATIONS

Through its expert research community, and data from its robust observation systems, ILICO collaborates with other research infrastructures on innovation scientific projects that will determine the future of observation.

ILICO is a member of the French Ocean Observing System (FrOOS) and a key partner of the Joint European Research Infrastructure for Coastal Observation (JERICO) project (candidate of the 2026 ESFRI Roadmap)

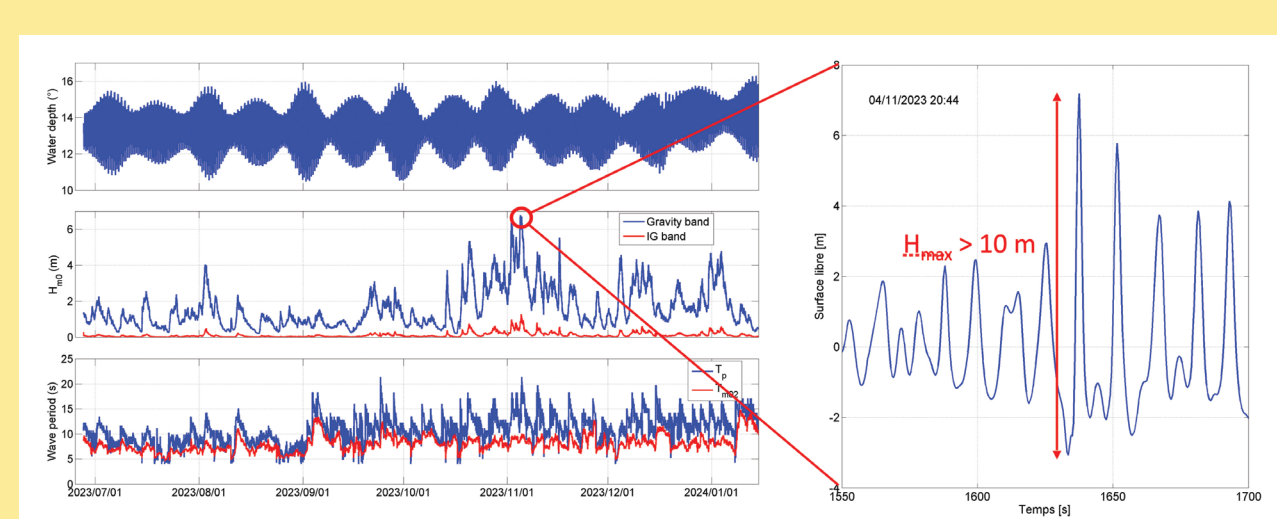


INTEGRATED LONG-TERM OBSERVATIONS ARE REQUIRED TO MEET GROWING SOCIETAL NEEDS

SUCCESS STORIES

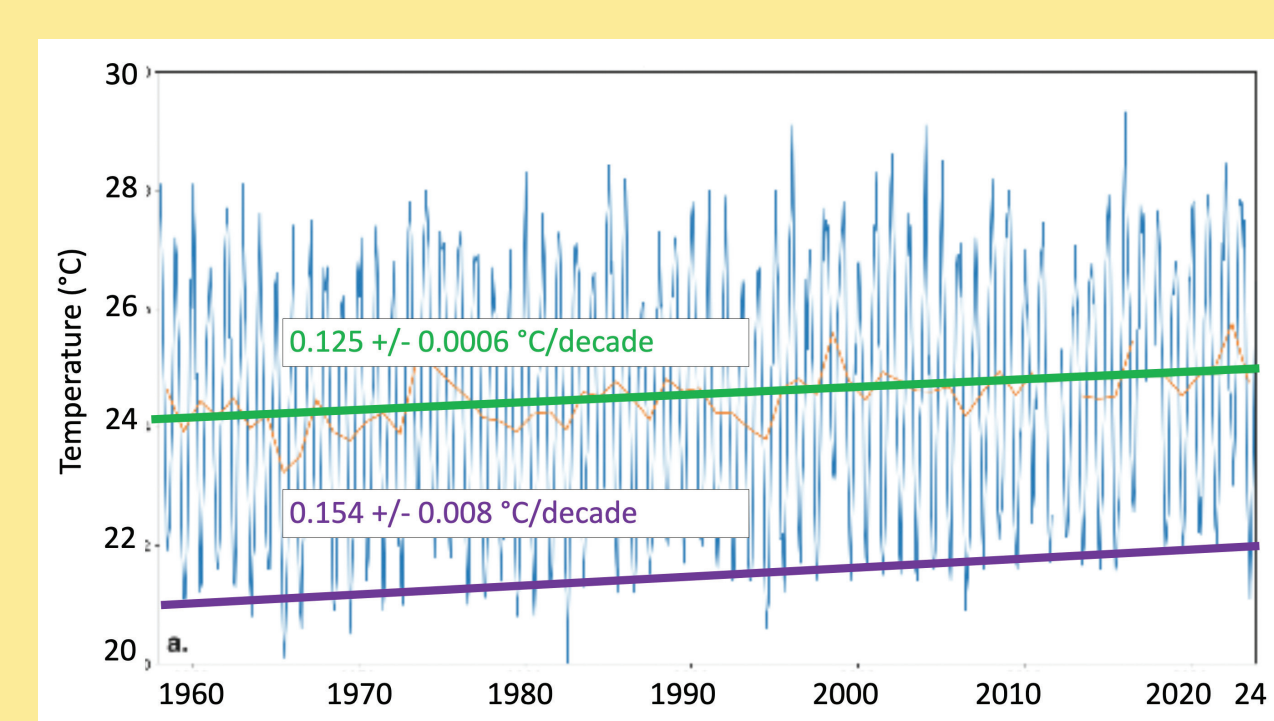
From observations and data ILICO provides

Observing a succession of **extreme weather events** : measuring 10 m Hmax waves during the Ciaran and Domingos storms (Atlantic Coast / Oleron Island)



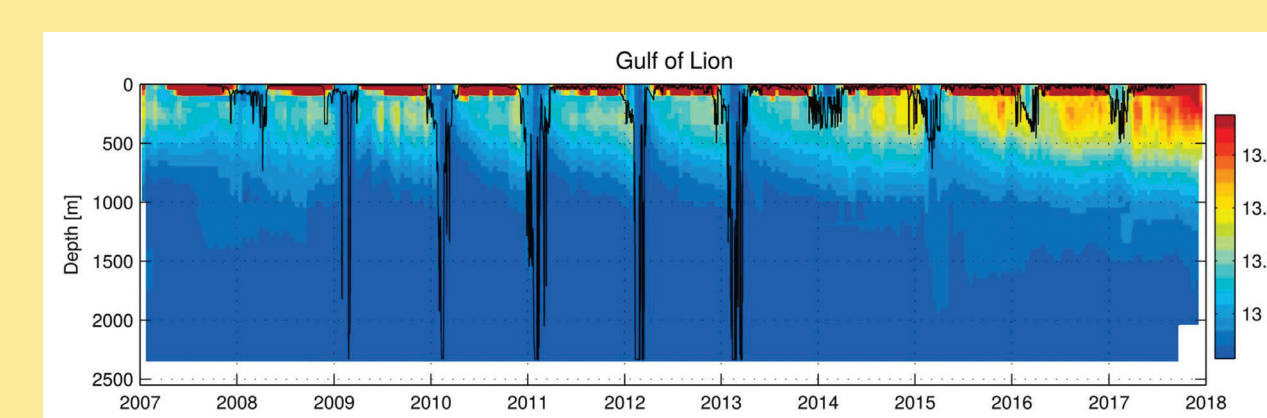
Bertin et al. in prep - Dynalit

Detecting acceleration of **coastal ocean temperature increase**, impacting on coral reef environments (New Caledonia)



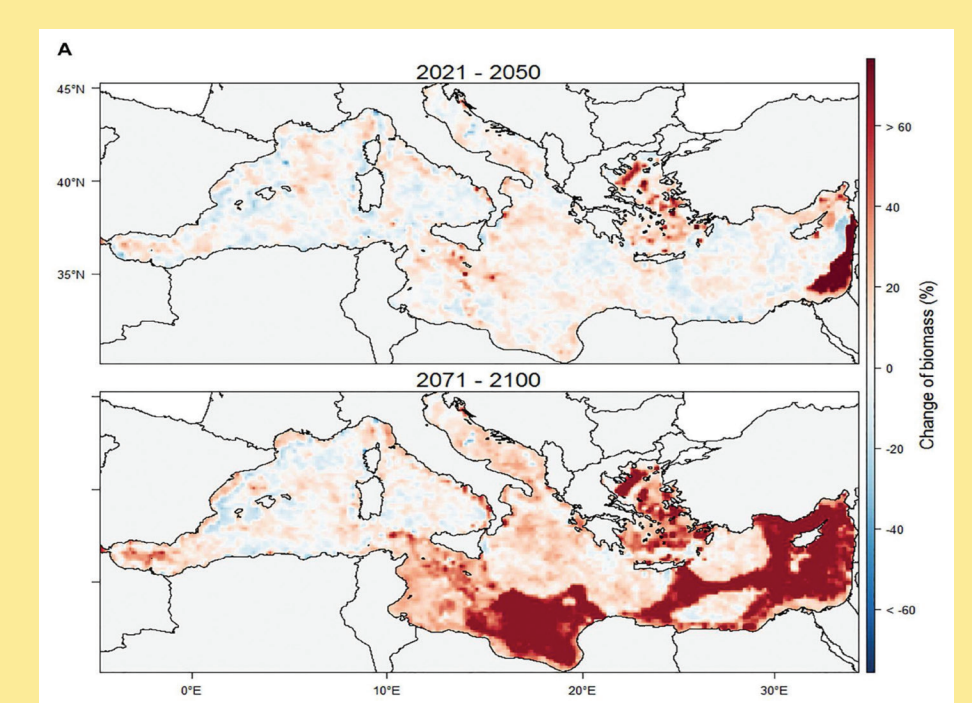
Le Gendre et al. 2024 - ReefTEMPS

Abrupt **warming** of intermediate water and slowdown of deep convection in a **climate change hotspot** (North West Mediterranean sea)



Margjier et al. 2020 - MOOSE & EMSO research infrastructure

Climate forecasting : projecting relative changes in fish biomass between the current period and near future (2050, 2075) (North West Mediterranean sea)



Moullec et al. 2019, 2023 - SIROCCO