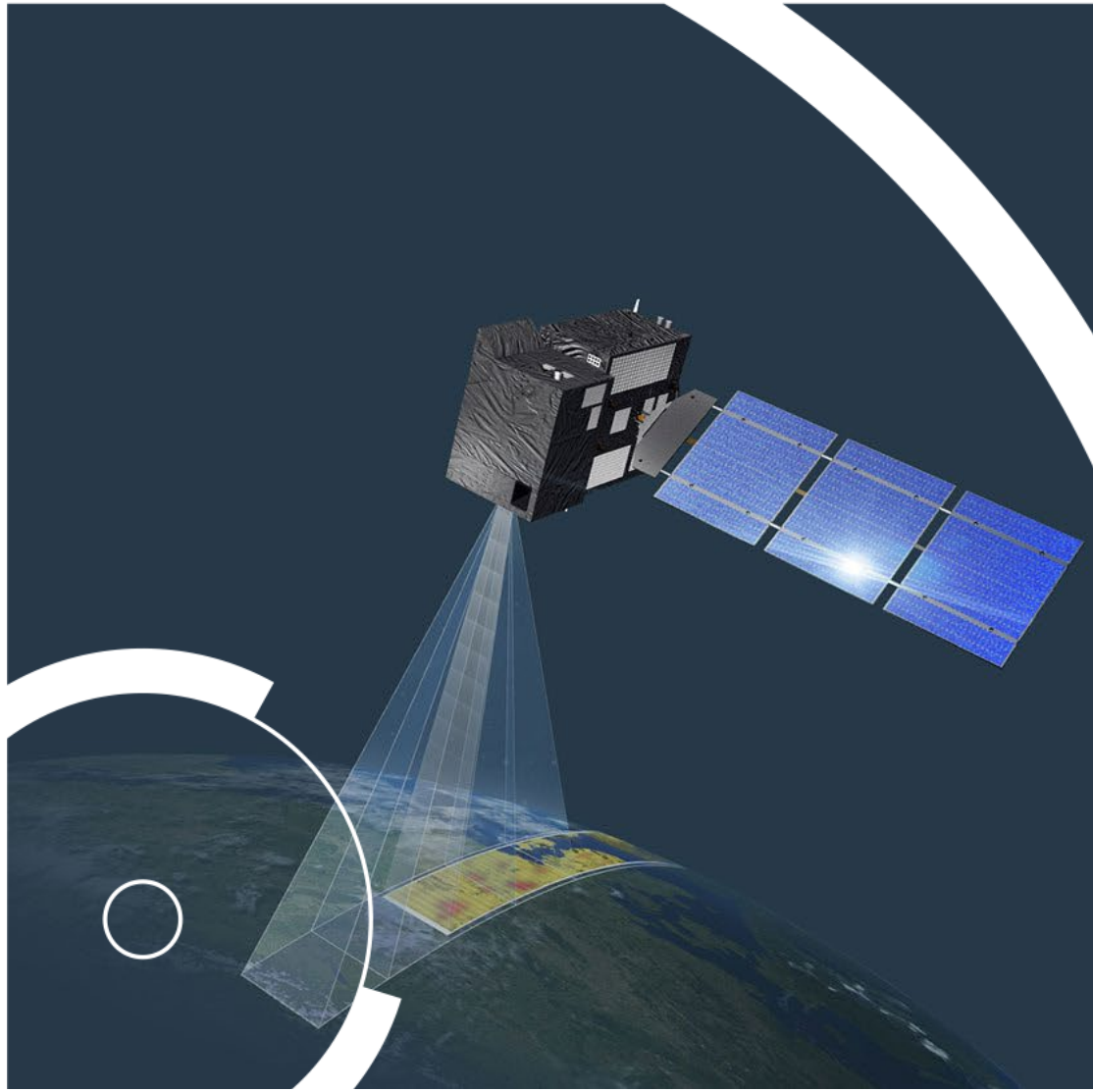
EUMETSAT

PROGRAMME OF THE EUROPEAN UNION

Copernicus Europe's eyes on Earth



EUMETSAT support to the Blue Economy

Dr Hayley Evers-King, Dr Mark Higgins

19th September 2024

Agenda

Marine Satellite data and the Blue Economy

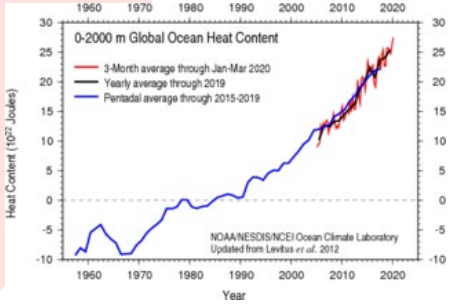
EUMETSAT marine user engagement

Current activities with African colleagues.

PLUS WEATHER!

ALTIMETRY (& SAR)

SEA SURFACE TEMPERATURE



OCEAN COLOUR

Ocean currents
Weather forecasting
Storm dynamics
Maritime safety
Eddies
Thermocline

Essential Climate Variables
Climate Model Assimilation
Marine Spatial Planning
Env. Impact Assessment
Disaster response
Insurance Risk
Ocean Fronts
ENSO

Pollutant transport
Ice detection
Oil pollution
Debris
Internal waves
Biological transport (blooms, genetics)

Fishing Zones
River plumes
Eutrophication
Aquaculture productivity
Coral bleaching
Bio-toxins
Human health
HAB formation

PLUS CLIMATE!

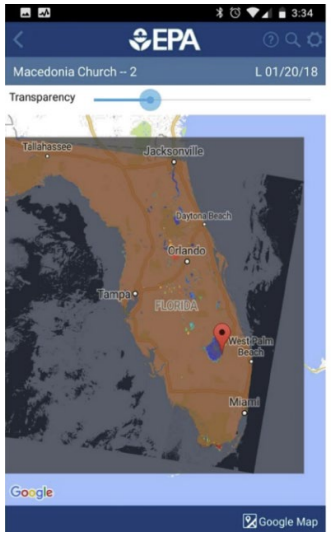
PLUS LAND!

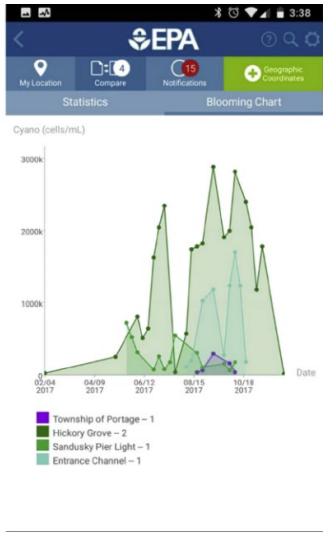
Socio-economic benefits of marine satellite data

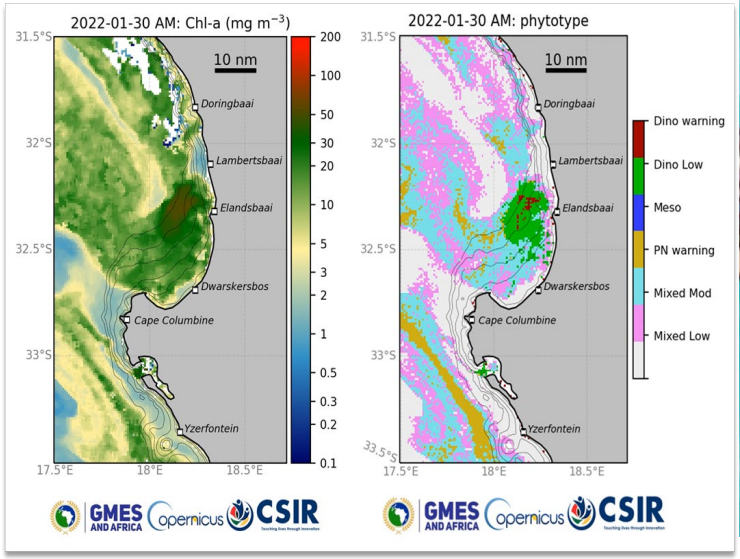
Data gives us…	Society/Blue Economy gets…
Improved current/wave measurements and model forecasts…	- Safety at sea – lives and infrastructure - Coastal resilience – storm protection - Efficient route planning – reduced fuel costs and emissions

Socio-economic benefits of marine satellite data

Data gives us…	Society/Blue Economy
Estimates of coastal (and inland) water quality… Prediction of pathogen risk (HABs, cholera, e-coli etc)…	- Reduced monitoring costs - Operational planning for aquaculture, tourism - Improved health outcomes (bathing water, food standards)

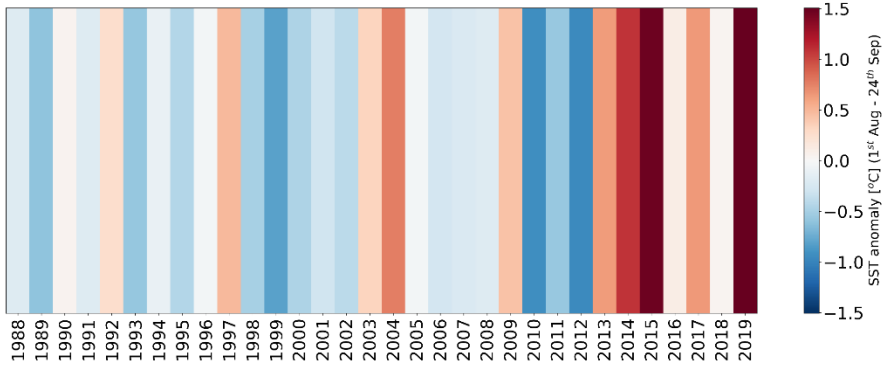


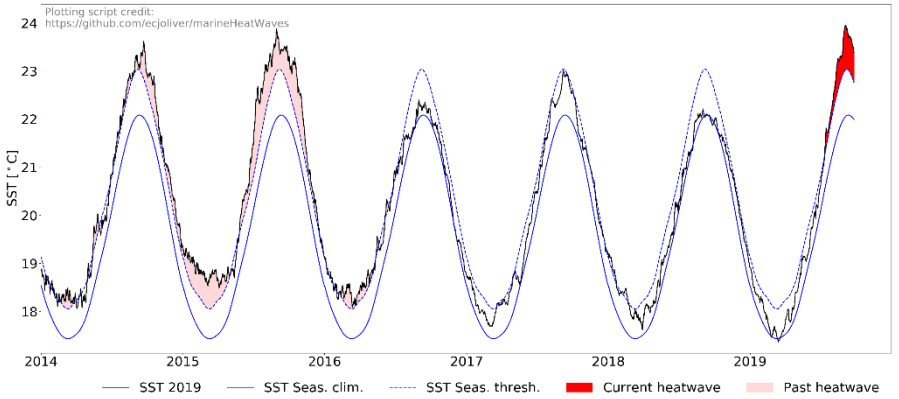




Societal benefits of marine satellite data

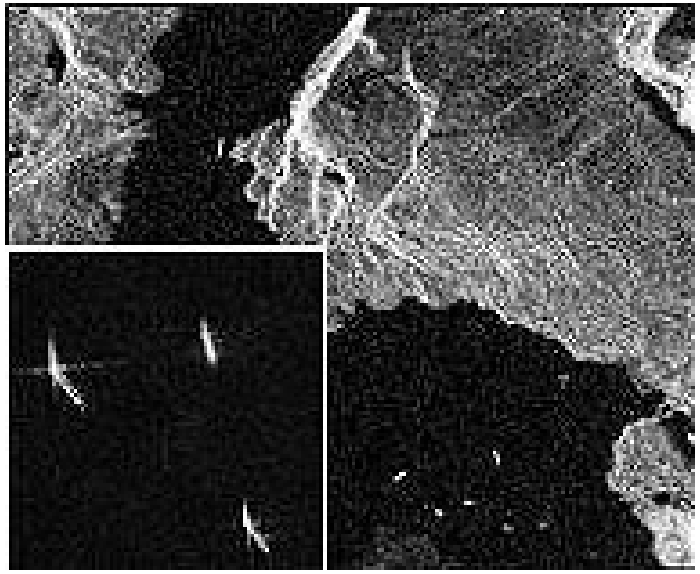
Data gives us…	Society/Blue Economy
Long-term baselines of environmental status (Chlorophyll, fronts, heat risk, sediments etc)…	Optimal Marine Protected Area siting and biodiversity protection Fisheries management (PFZs) Efficient and appropriate Marine Spatial Planning and Environmental Impact Assessments



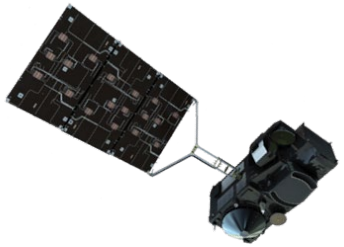


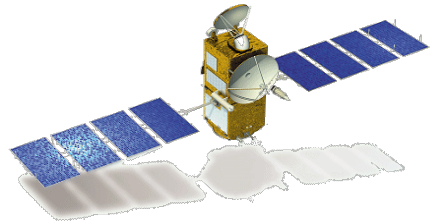
Socio-economic benefits of marine satellite data

Data gives us…	Society/Blue Economy
Monitoring of illegal activities, environmental damage etc.	Efficient enforcement, preserved resources, clean up



Marine User Engagement at EUMETSAT





User engagement

- User info services
- User support
- Training
- Community engagement
- Feedback management
- Monitoring & evaluation

EUMETSAT OSI SAF

Copernicus Marine Service

WEkEO by COPERNICUS

Marine User Support and Training Resources

EUMETSAT Helpdesk

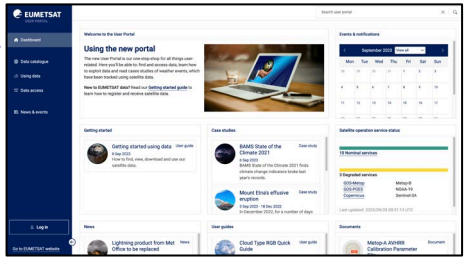
OPS@eumetsat.int

Contact the EUMETSAT helpdesk with any questions about EUMETSAT data products or services

EUMETSAT User Support Resources

User portal

Copernicus & mandatory missions Data access



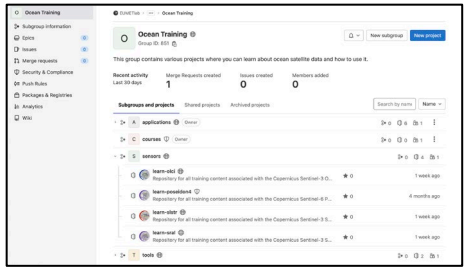
Courses

moodle

Code distribution

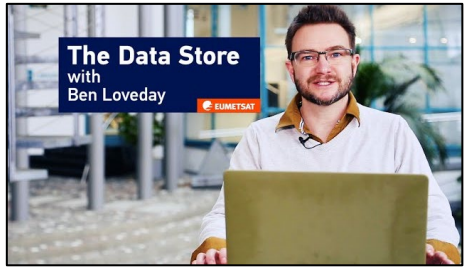
CONDA

GitLab



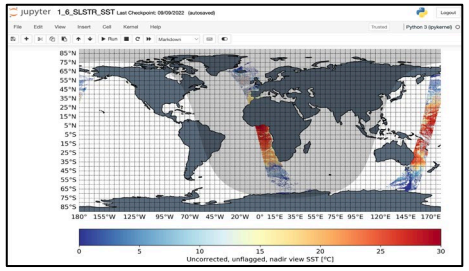
Video tutorials

YouTube



Jupyter Notebooks

jupyter

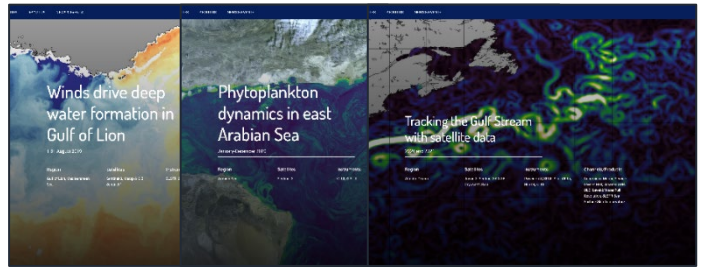


Cloud services

binder

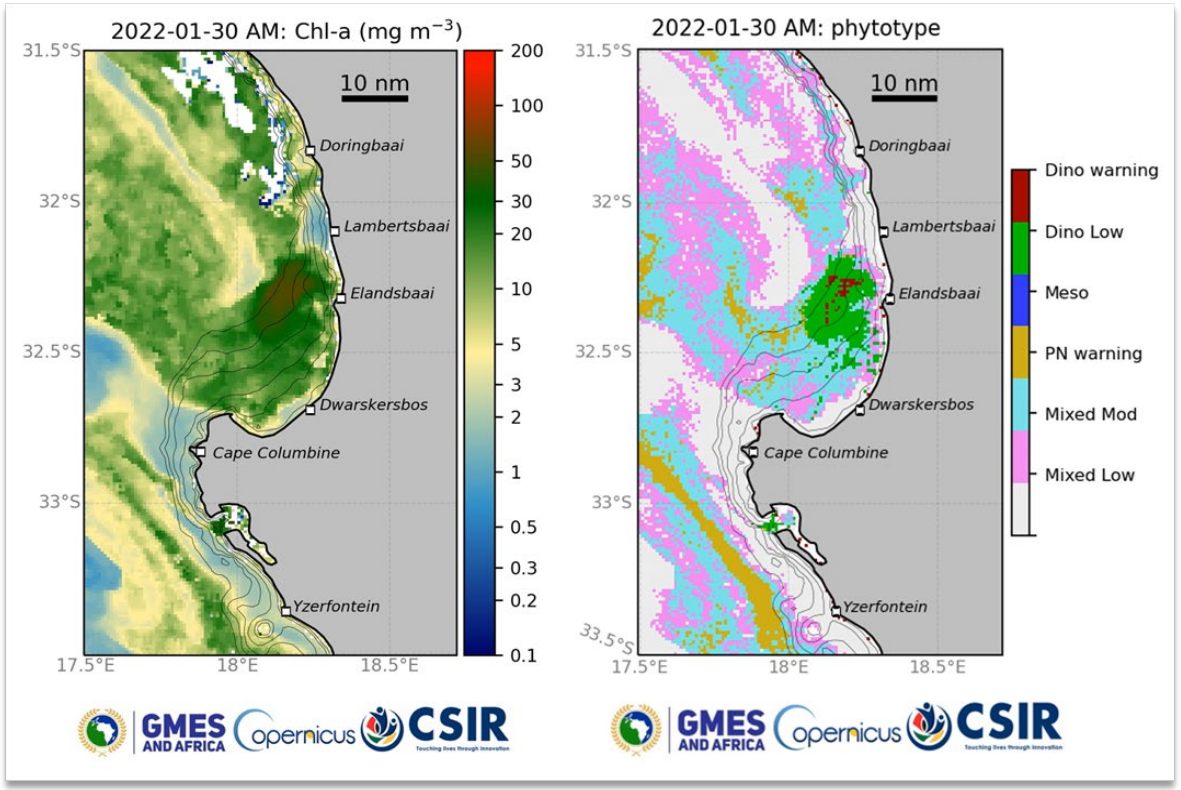
WEkEO by COPERNICUS

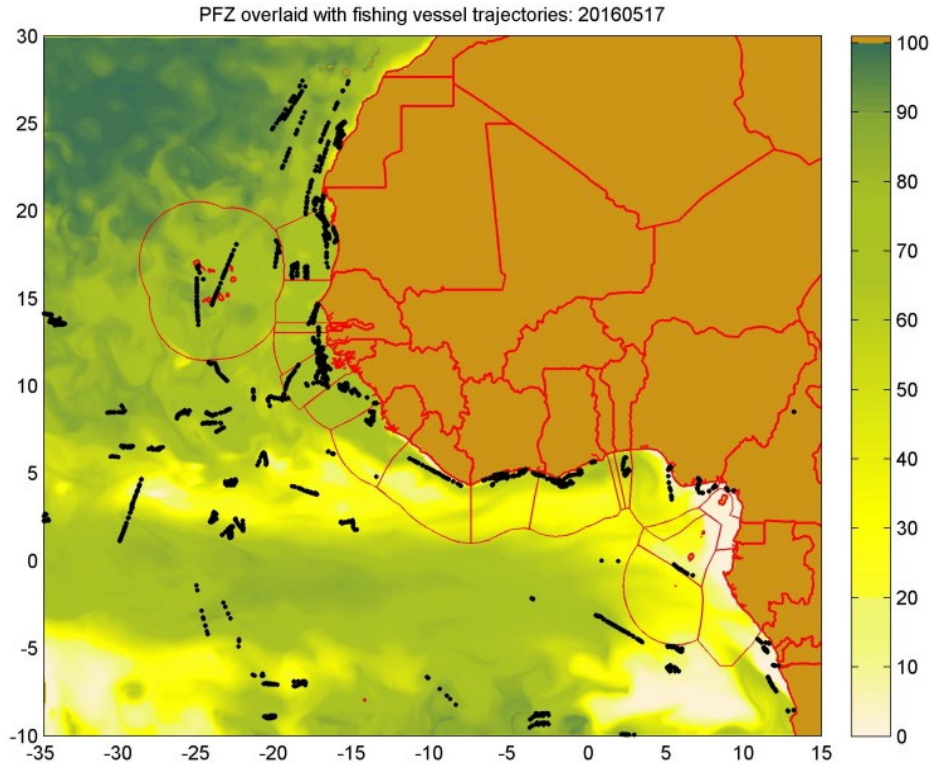
Case studies



Collaboration with GMES&Africa

- Expert exchanges held in both phases
- Data from Copernicus is used extensively in marine services

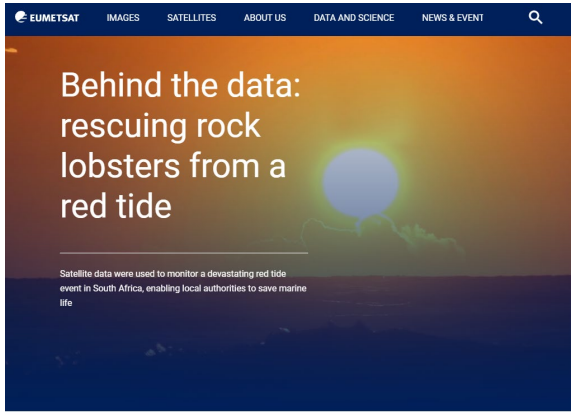


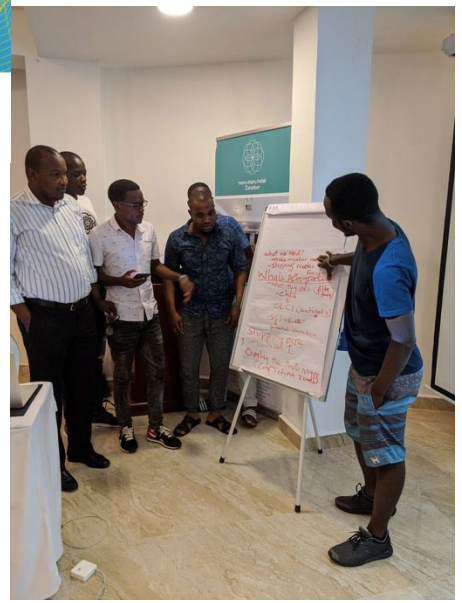


PFZ maps overlaid with fishing vessel trajectories to understand fishing behaviour

Collaboration with GMES&Africa and beyond

- Extensive collaboration on training courses
  - Initial courses lead by EUMETSAT, consortia attended Train the Trainer events
  - EUMETSAT now participates as invited experts and co-designing courses
  - In person, increasingly online
- GMES activities featured in case studies and promotional reporting
- Further participation in hackathons, mostly in collaboration with Copernicus Marine Service
- Open to more – get in touch!

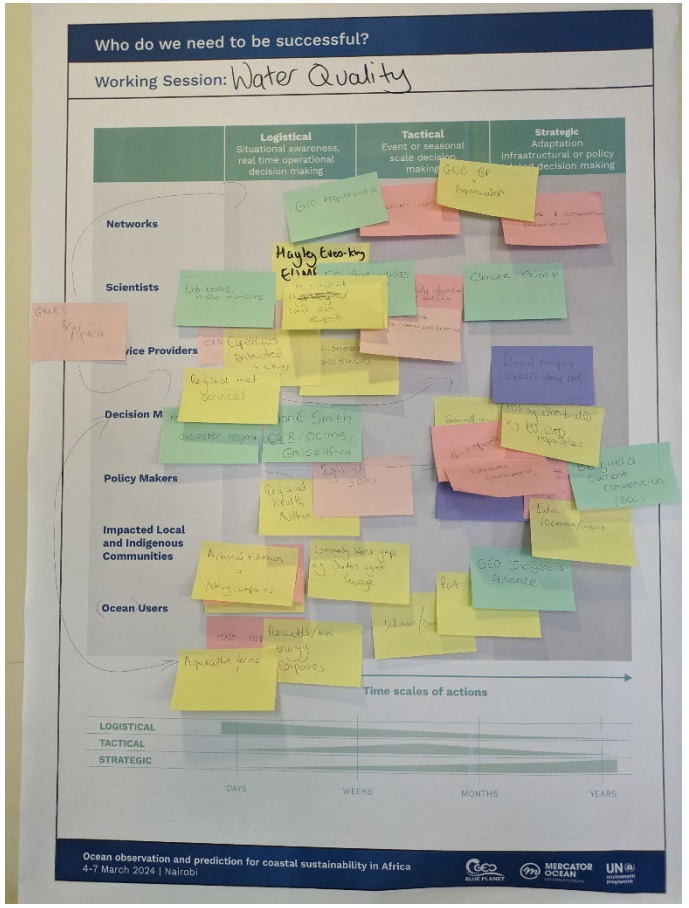


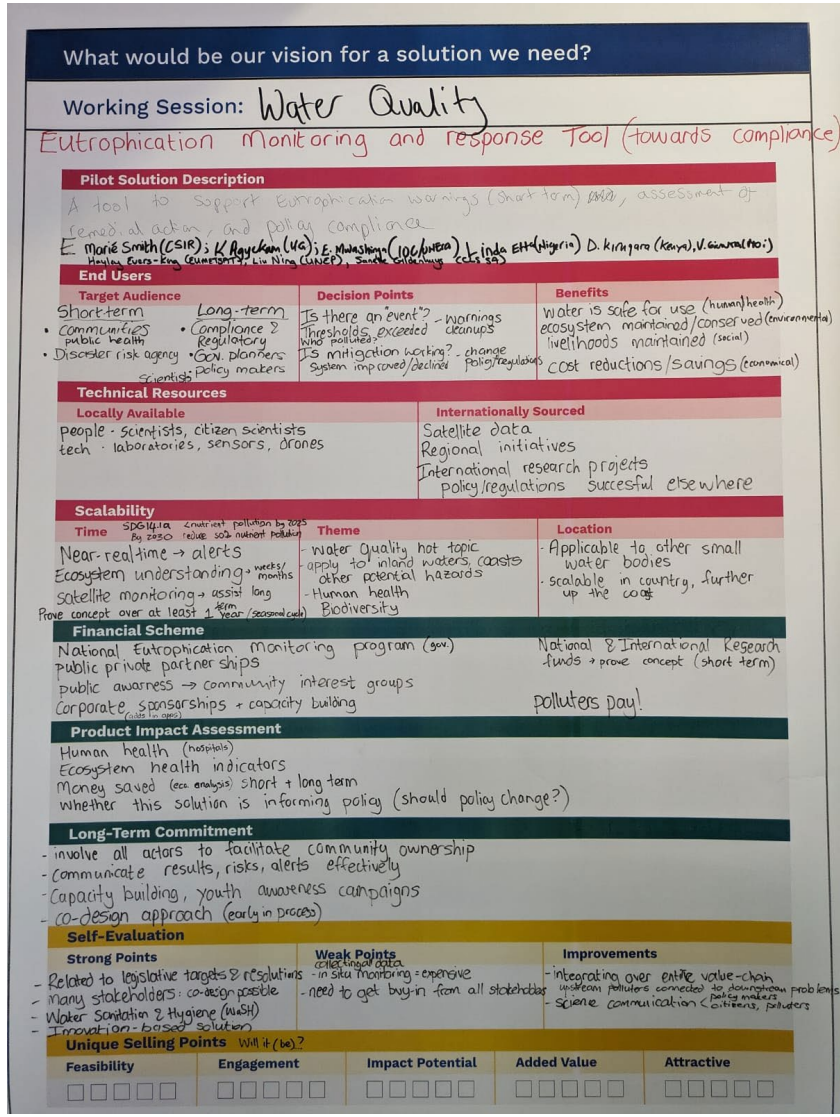


The United Nations has designated the 2020s as the **Decade of Ocean Science for Sustainable Development** and issued ten challenges with the goal of achieving a clean, safe, and accessible ocean by 2030. To support this goal, EUMETSAT is developing case studies that address each of the United Nations' challenges. This article is the fourth in a series in which one case study author gives us the story behind the data, illuminating how satellite data from EUMETSAT and the European Union's Copernicus programme contribute to a better ocean.

Collaboration with GEO Blue Planet

Recent Ocean and Coastal sustainability workshop, including solution co-design session on water quality…





Thank you!

Questions are welcome.