EuroSITES
European Ocean Observatory Network

http://www.eurosites.info/

SEVENTH FRAMEWORK PROGRAMME

European network of marine observatories.

ESONET NOE

european multidisciplinary seafloor observatory emso

http://www.esonet-emso.org/

Richard Lampitt
NOC, Southampton
UK

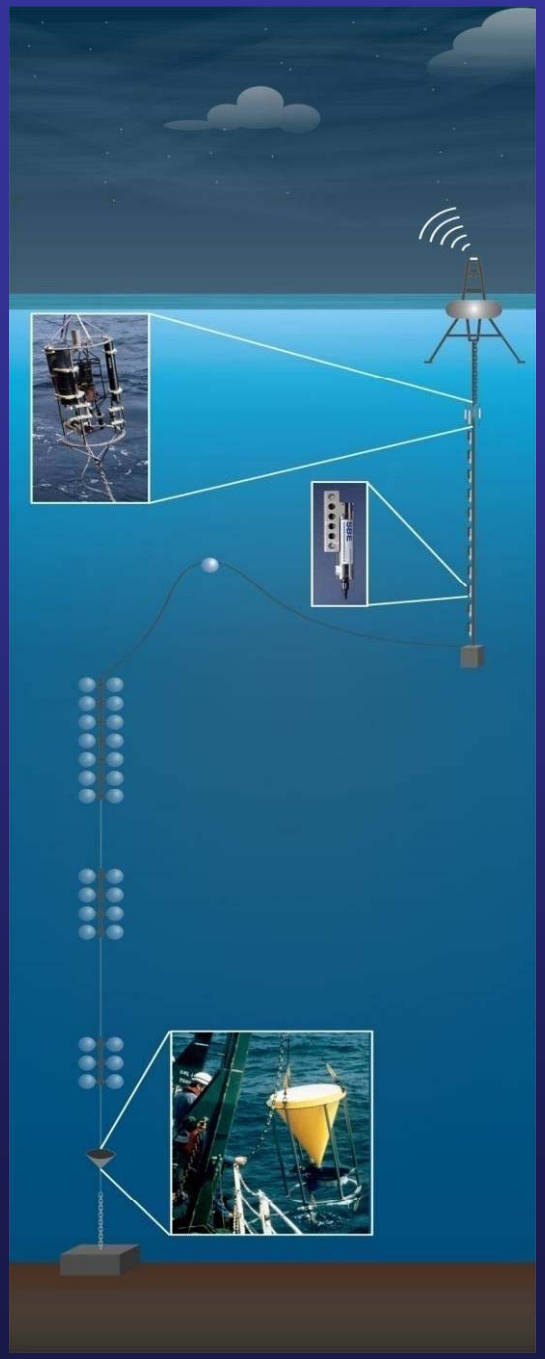
In order to monitor and understand the marine system we need to make sustained multidisciplinary observations at appropriate temporal resolution.

Importance of episodic events

Operational and research

1. Satellite remote sensing
2. Gliders
3. Floats
4. Ships of Opportunity
5. Research cruises
6. Eulerian observatories
7. Computational models

All approaches have strengths and weaknesses



EuroSITES integrates and enhances the 9 existing deep ocean (>1000m) fixed point observatories.

EuroSITES
European Ocean
Observatory Network

- EU FP7 Collaborative Project
- 3 years: April 1st 2008 – March 31st 2011
- Coordination: NOC, UK
- 13 partners (8 countries)
- International Oversight Committee
- Open ocean (>1000m)
- Full depth, *in situ*: Ocean interior, seafloor and subseafloor

www.eurosites.info

Dual function of funding:

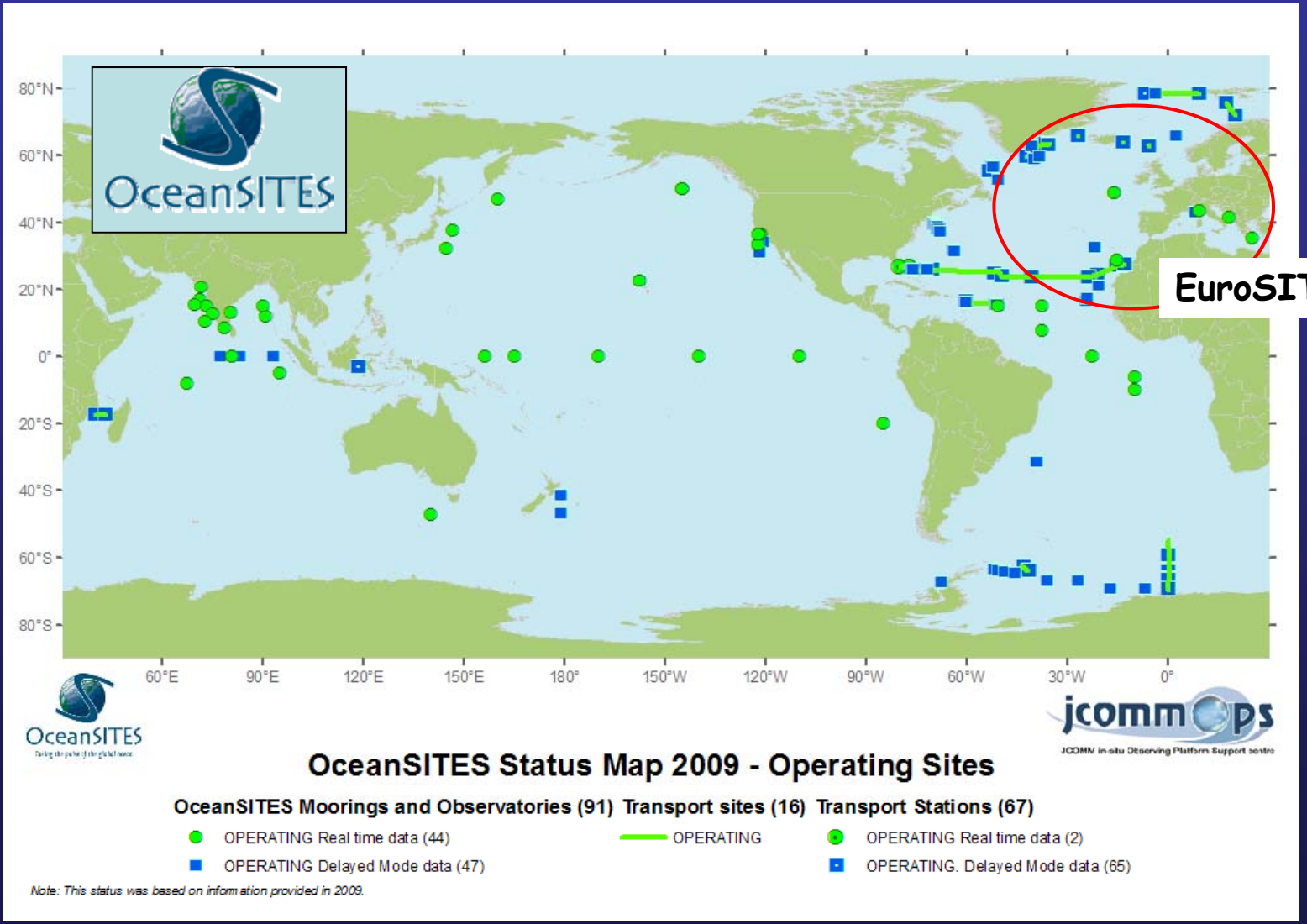
1: **Observatory support**

- Staff
- Equipment

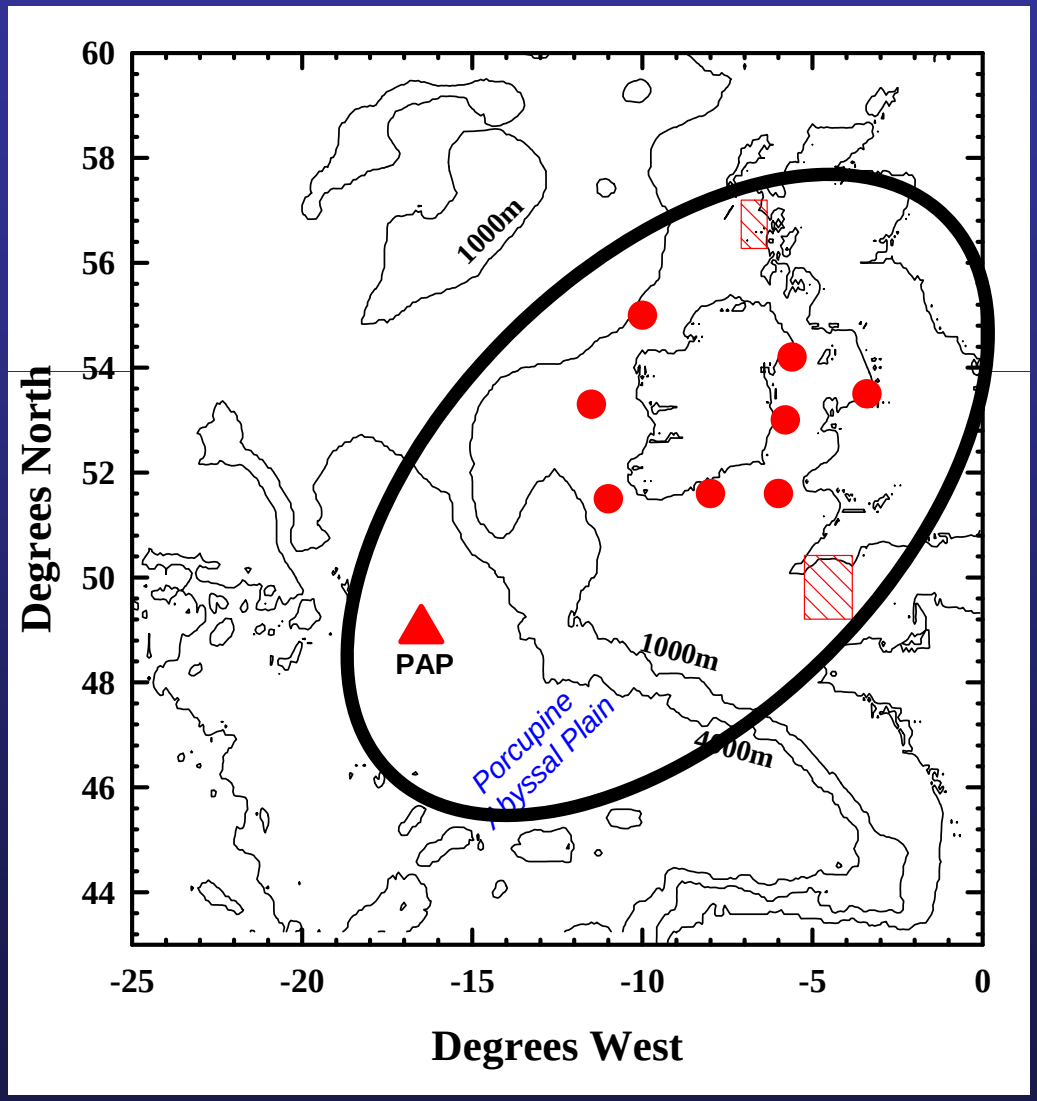
2: **Glue**

- Efficiency of operation
- Enhanced national funding
- Outreach & knowledge transfer
- Effectiveness

OceanSITES: Global network.
An essential component of GOOS.



Links to shelf networks



The Western Shelf Observatory

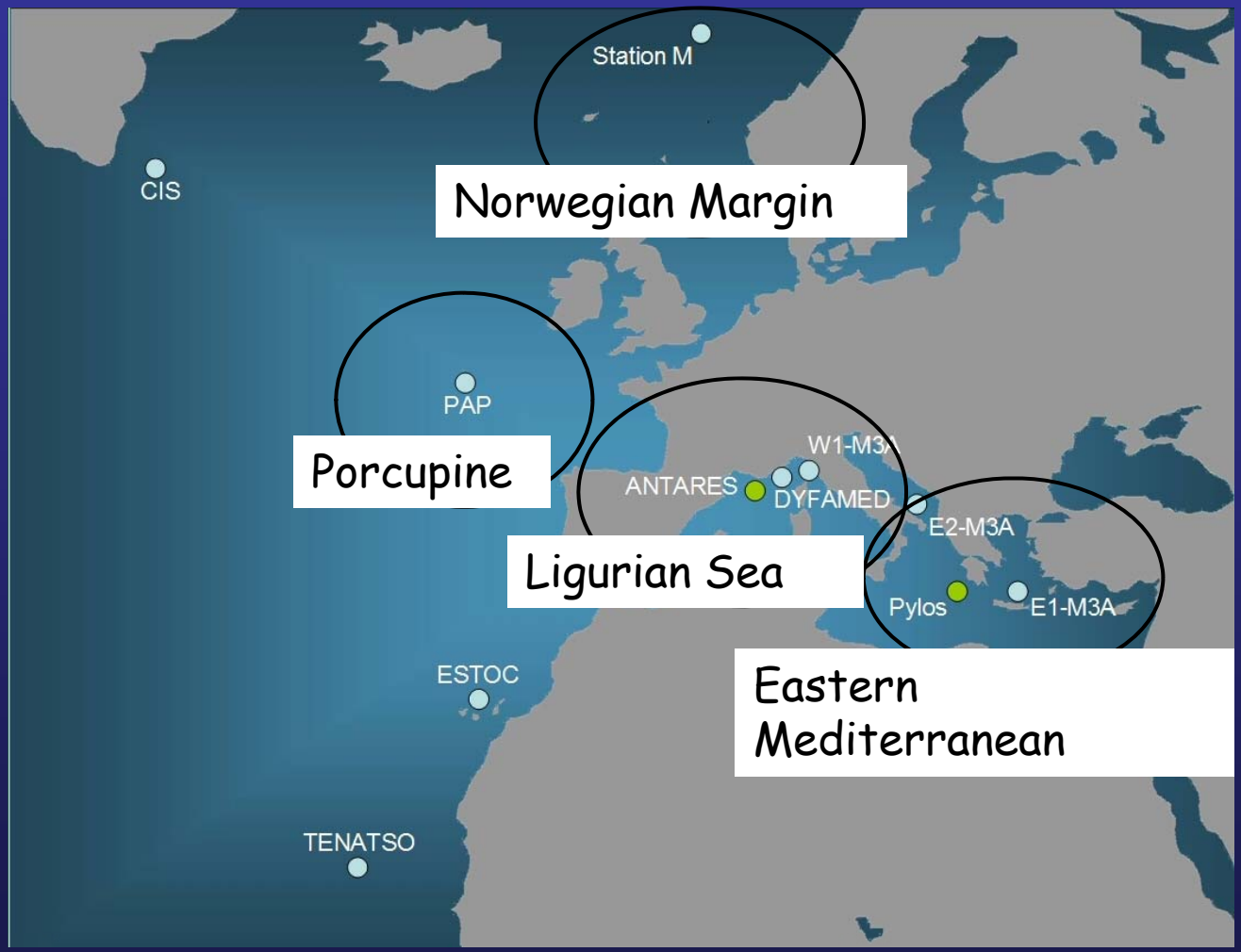
http://www.noc.soton.ac.uk/pap/

Links to shelf networks

The UK Met Office ODAS buoy array

From May 2010 this includes PAP ★

Regional, collaborative science



EuroSITES and ESONET/EMSO: 4 Common regions

Connection to other international initiatives

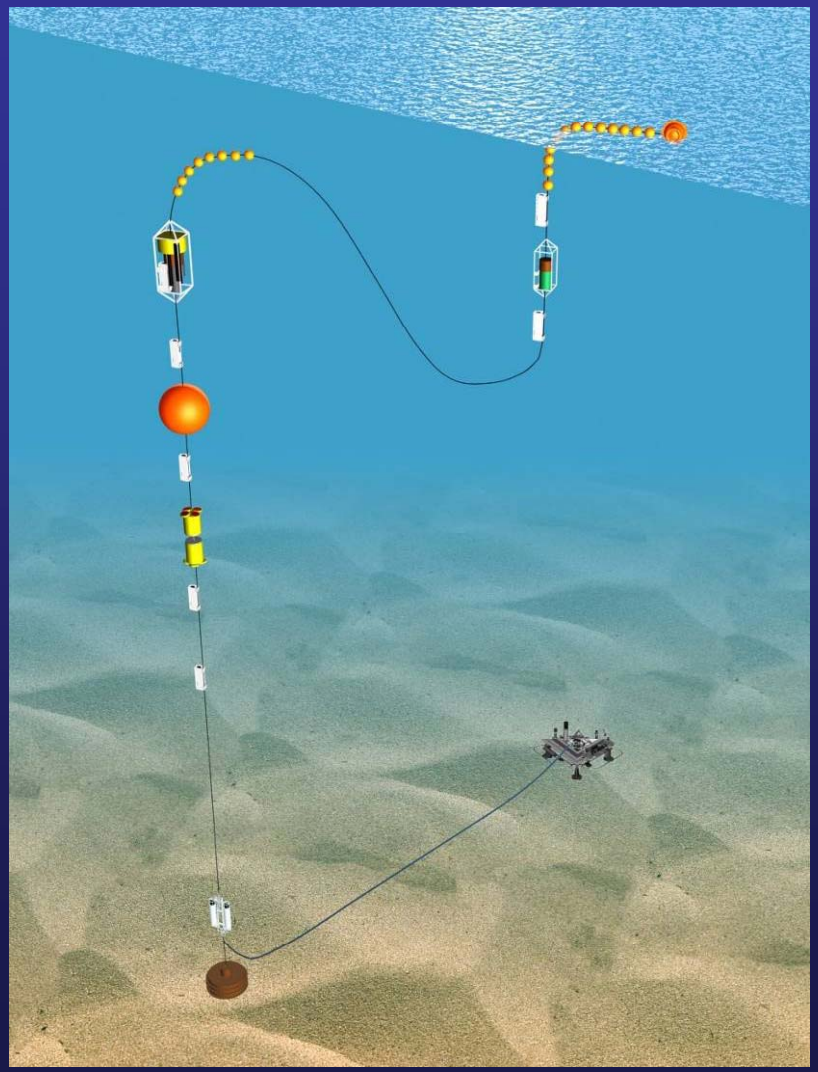
EuroSITES

OCEAN OBSERVATORIES INITIATIVE

Ocean Observatories Initiative

Close links to OOI

Multidisciplinary time-series
Vertical coverage: Surface to seafloor



- Temperature
- Salinity
- Currents
- Nutrients
- Chl-a
- CO_2
- O_2
- Particle flux
- Benthic components

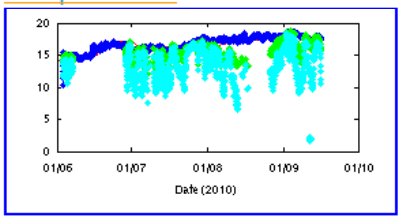
Real-Time Telemetry

Porcupine Abyssal Plain (PAP)

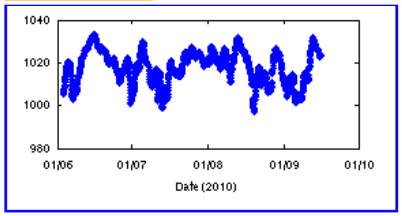
Meteorology

Wednesday 15th September 2010 1945h UTC

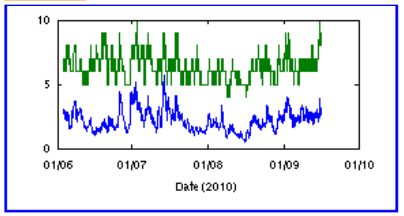
Temperatures



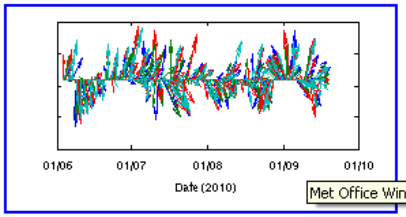
Air Pressure



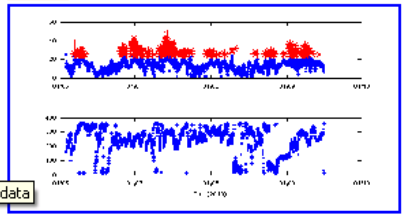
Waves



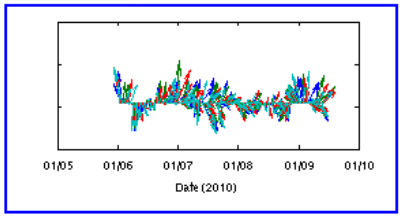
Wind



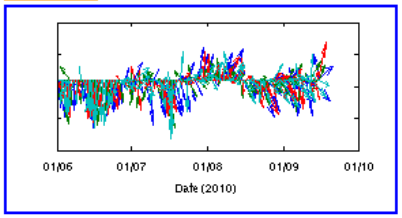
Wind



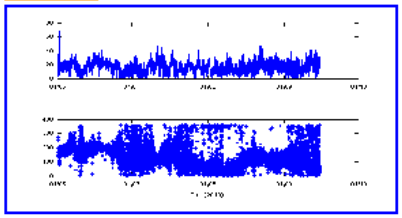
NCEP Wind



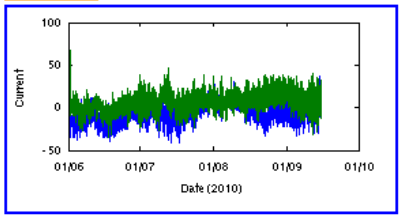
Current



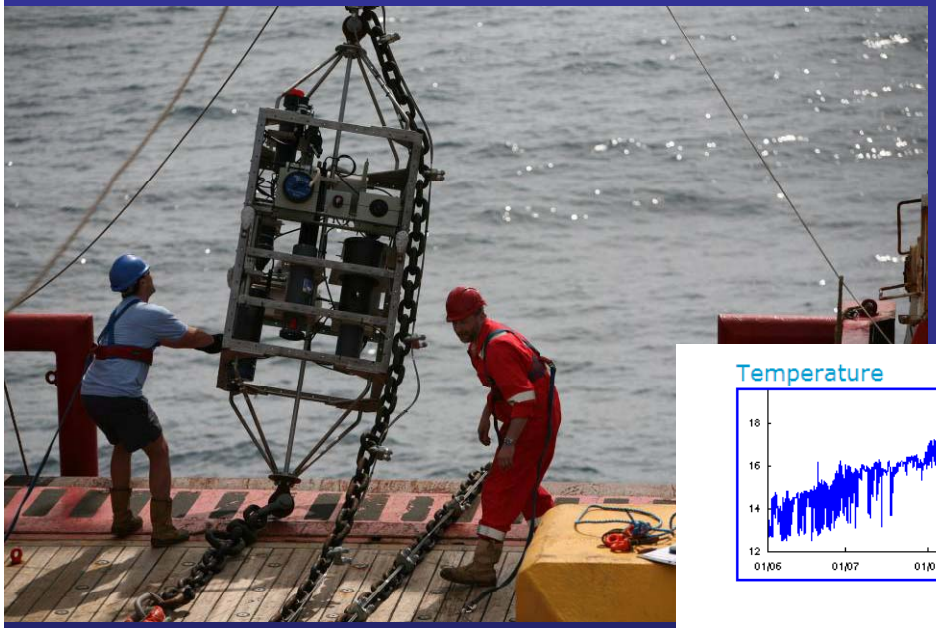
Current



Current



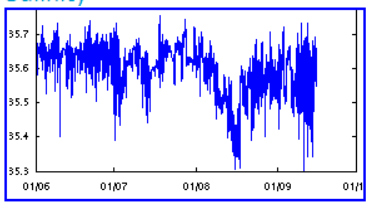
Upper Ocean biogeochemistry



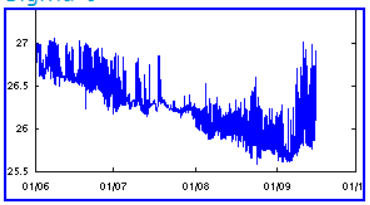
Wednesday 15th September 2010 1945h UTC

Temperature

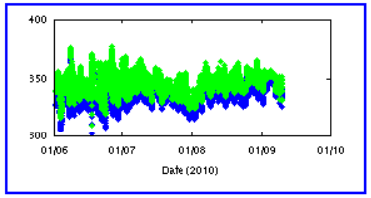
Salinity



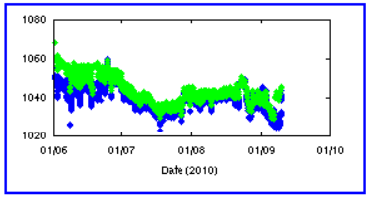
Sigma-t



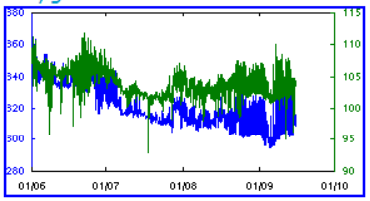
Carbon Dioxide



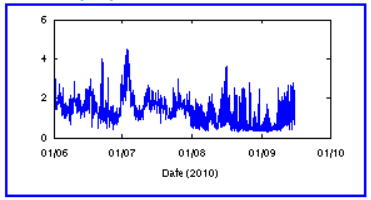
Pro-oceanus Pressures



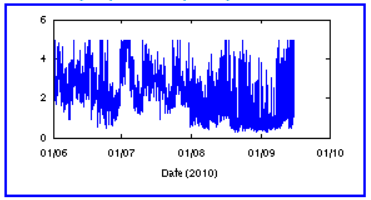
Oxygen



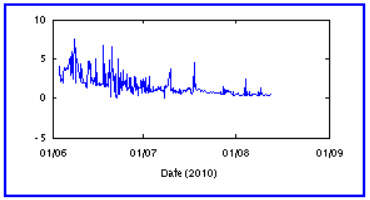
Chlorophyll-a Wetlabs



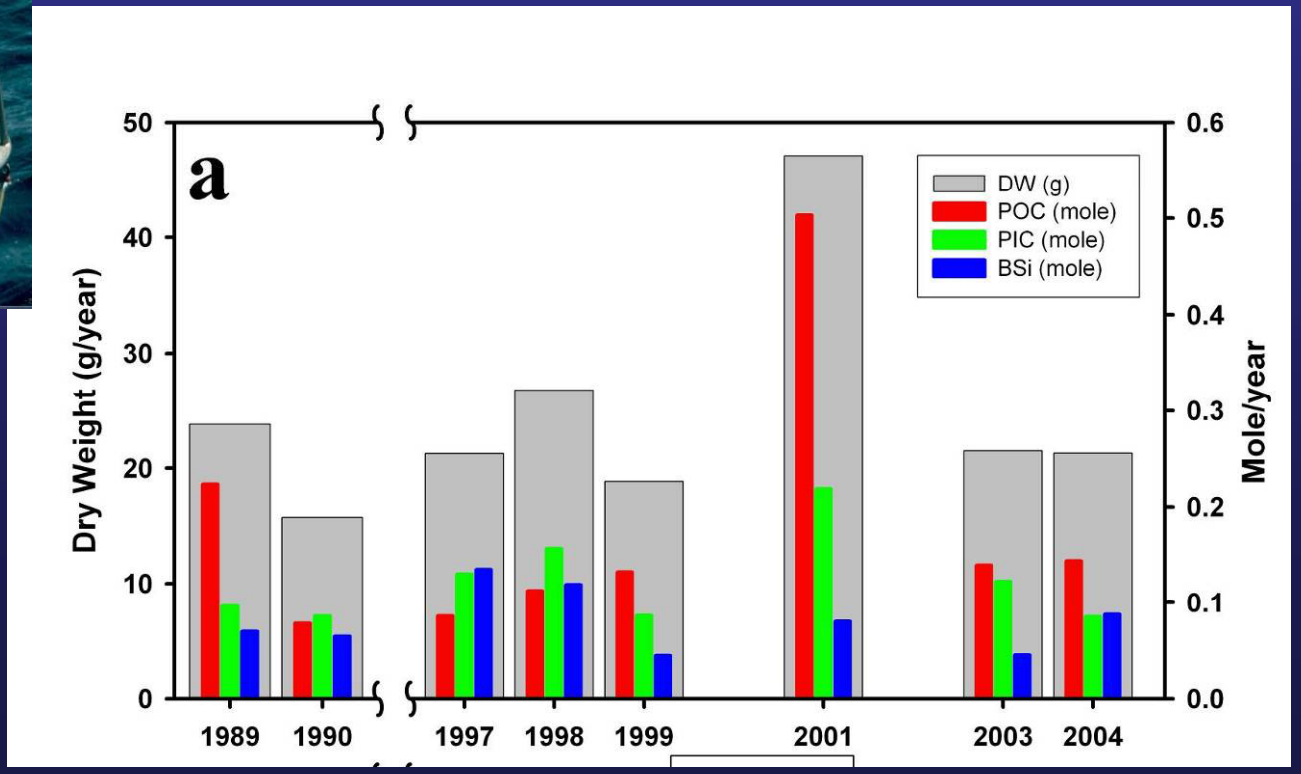
Chlorophyll-a Cyclops



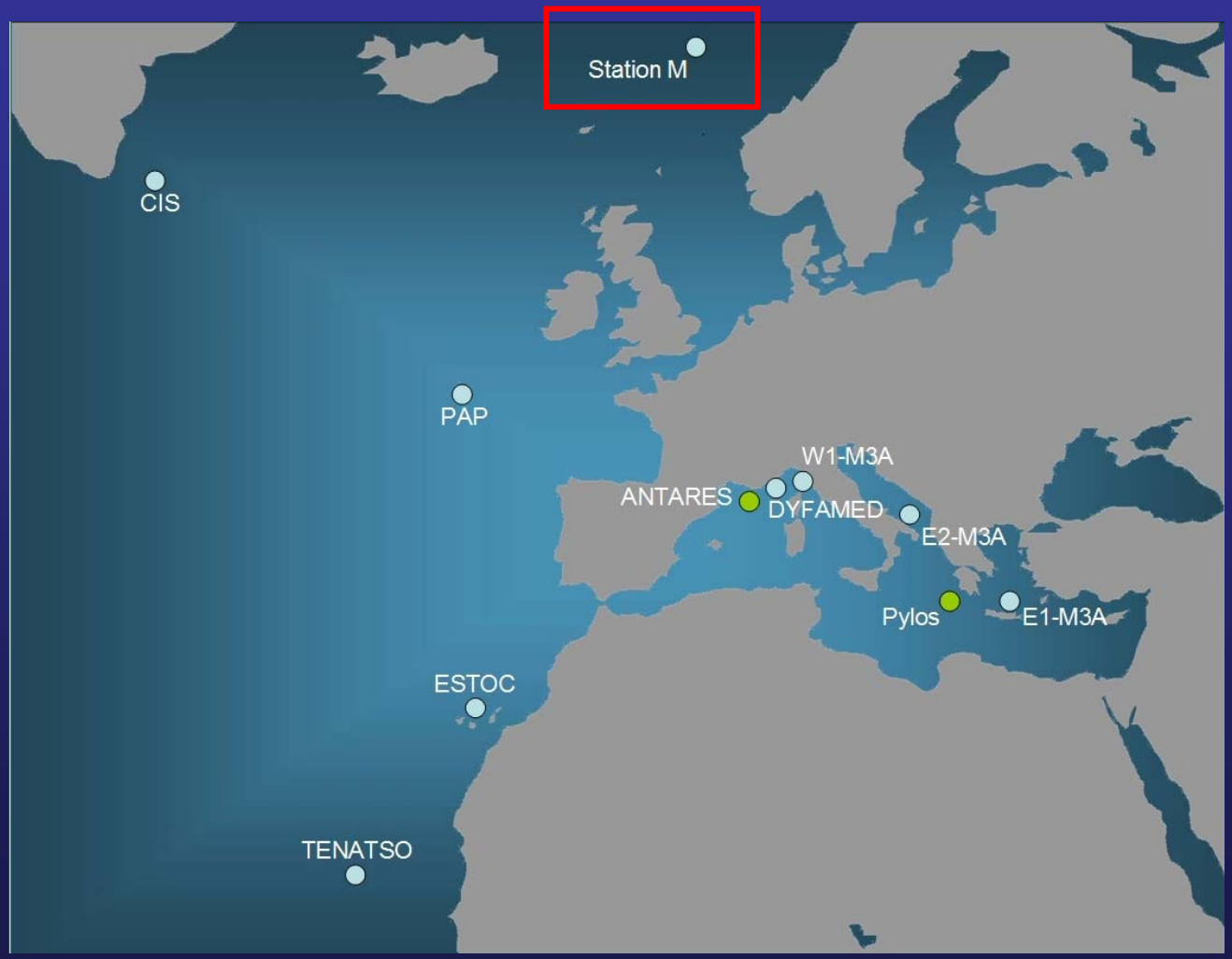
Nitrate : NAS



Downward particle flux at 3000m depth

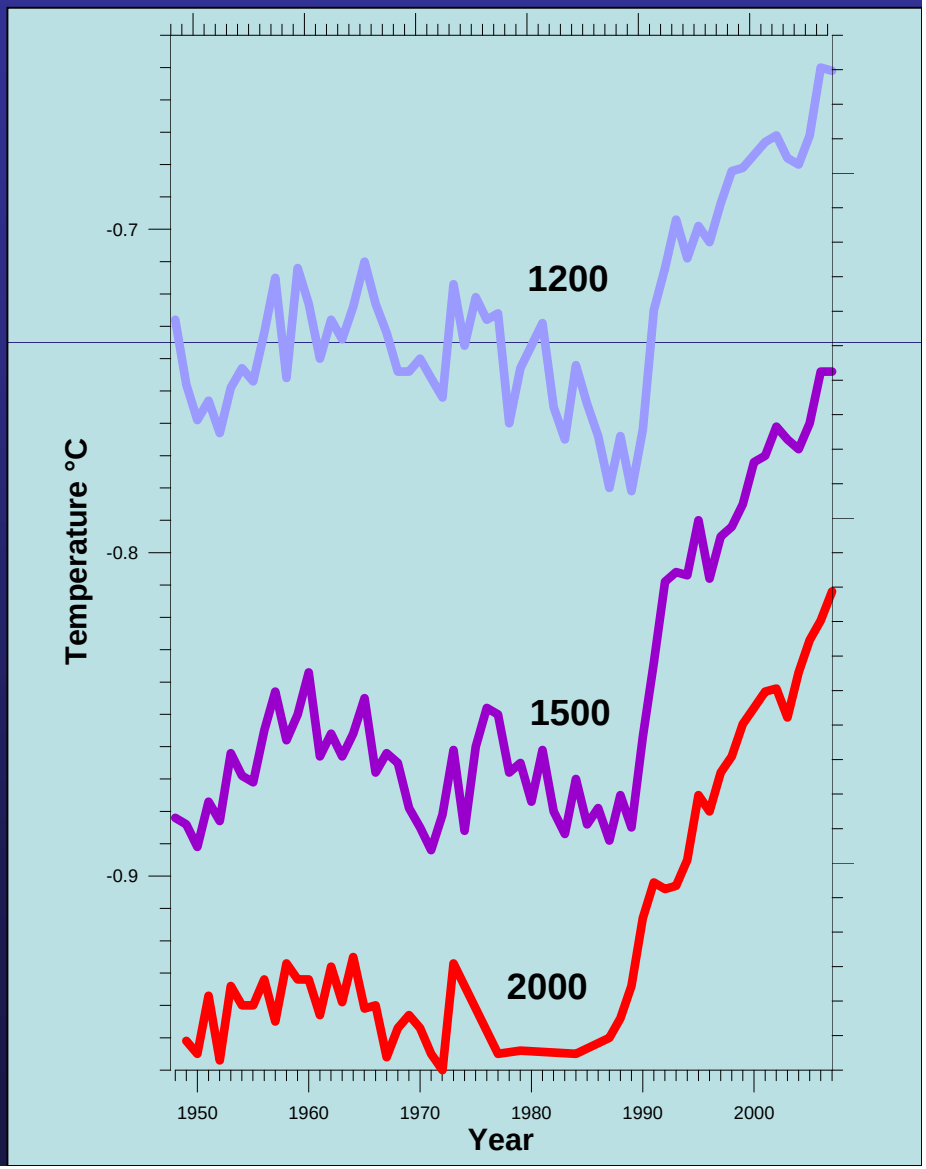


Station M, Norwegian Sea



Station Mike

Dramatic deep water temperature increase



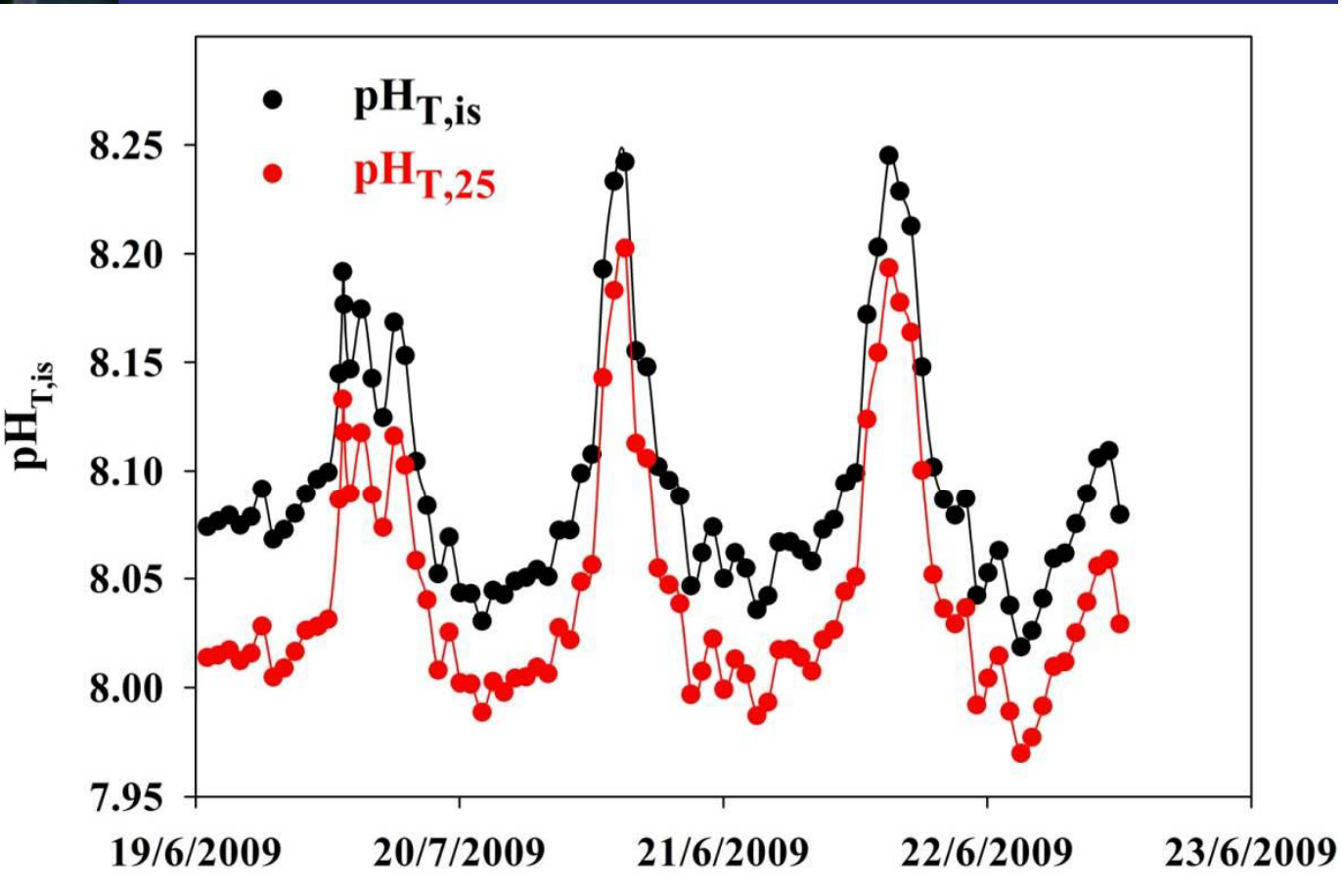
ESTOC


Station M
CIS
PAP
W1-M3A
ANTARES
DYFAMED
E2-M3A
Pylos
E1-M3A
ESTOC
TENATSO

Ocean acidification

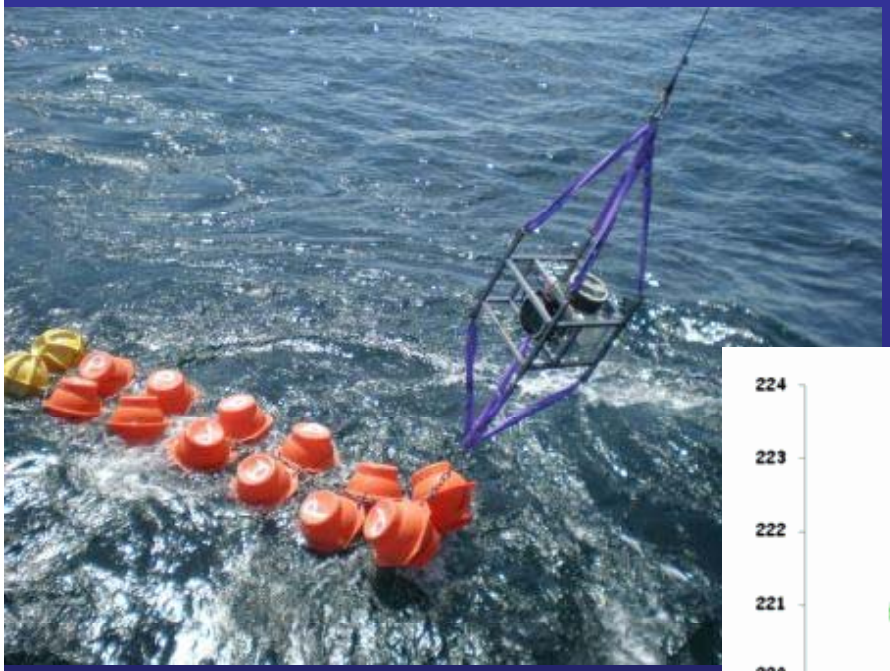
-autonomous pH time-series sensor

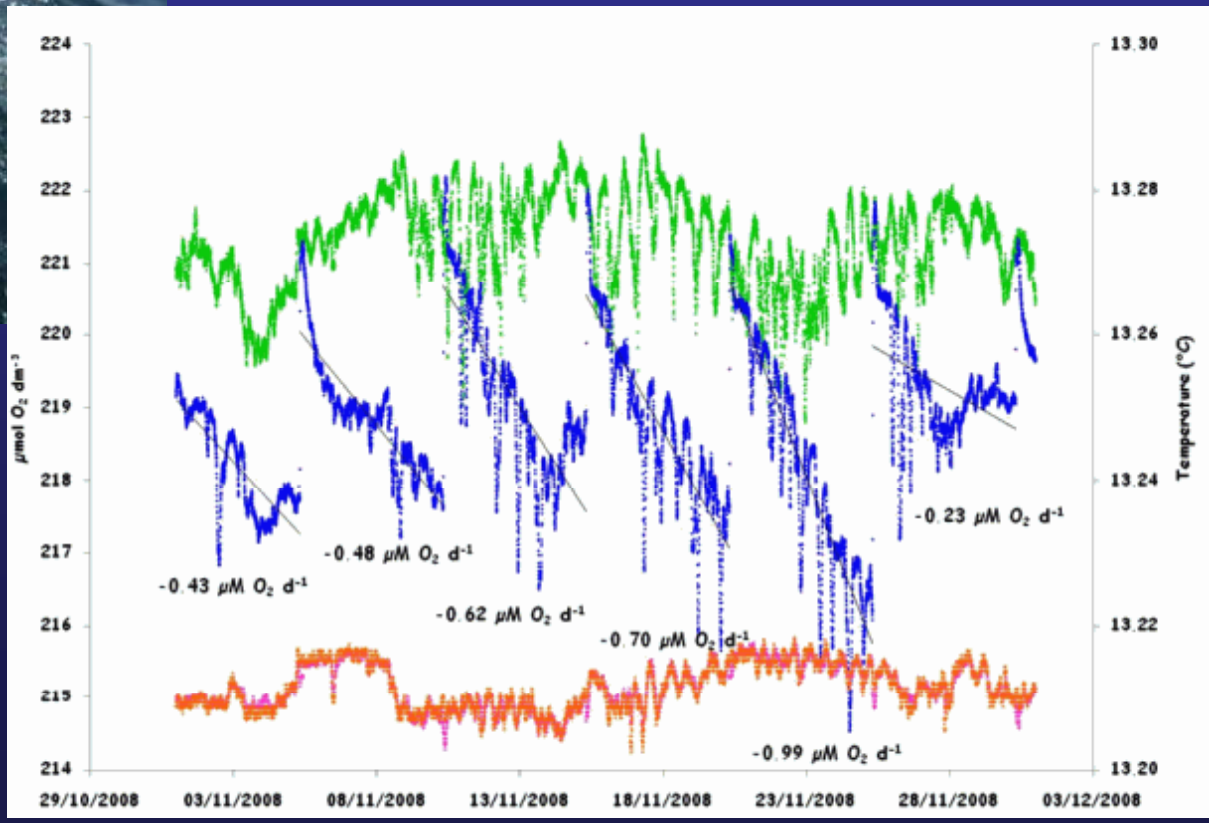
- Links with EPOCA and CARBOOCEAN



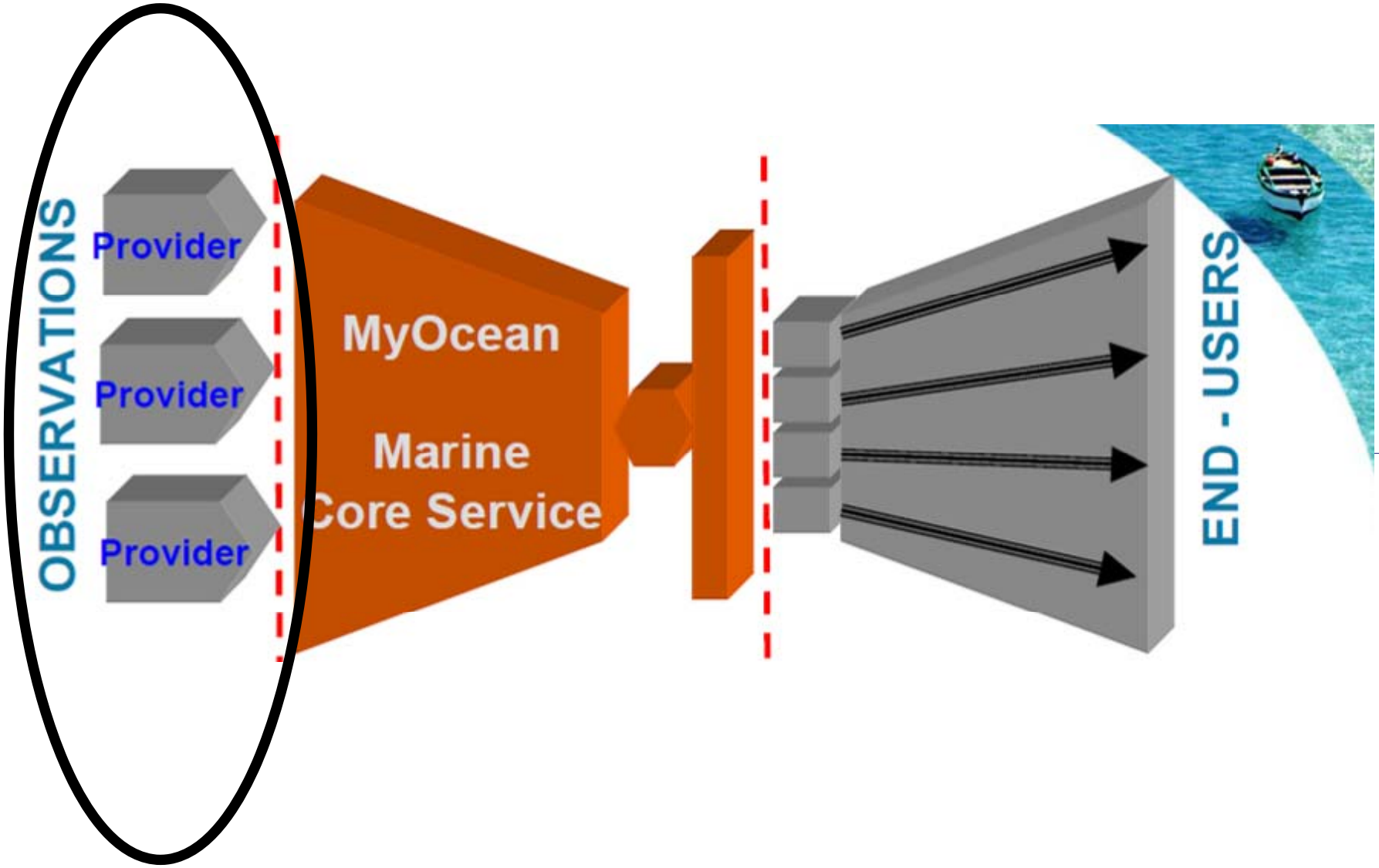
Western Mediterranean

Deep ocean oxygen consumption
- *in situ* measurement





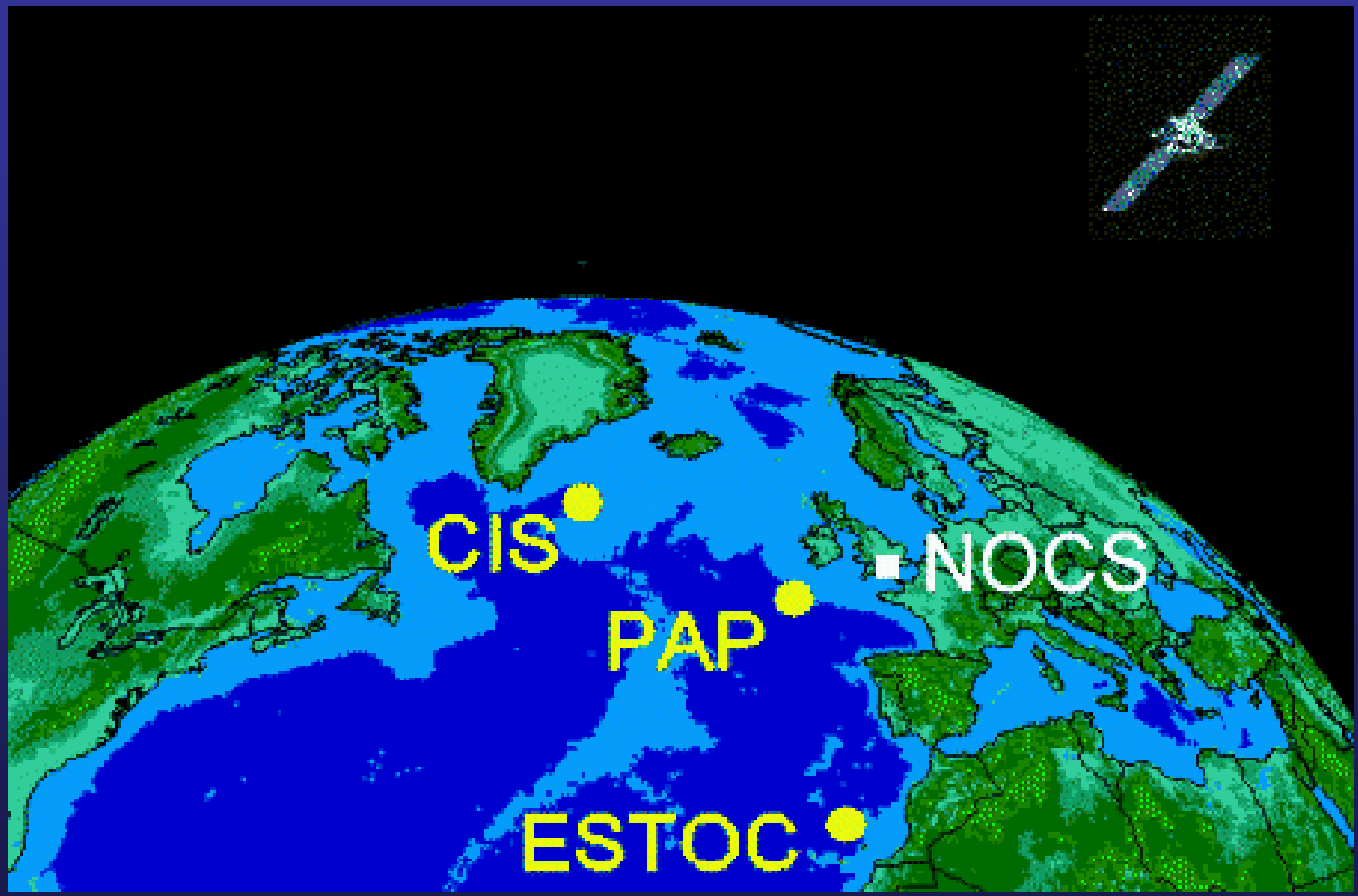
O_2 concentration inside and outside of IODA chamber



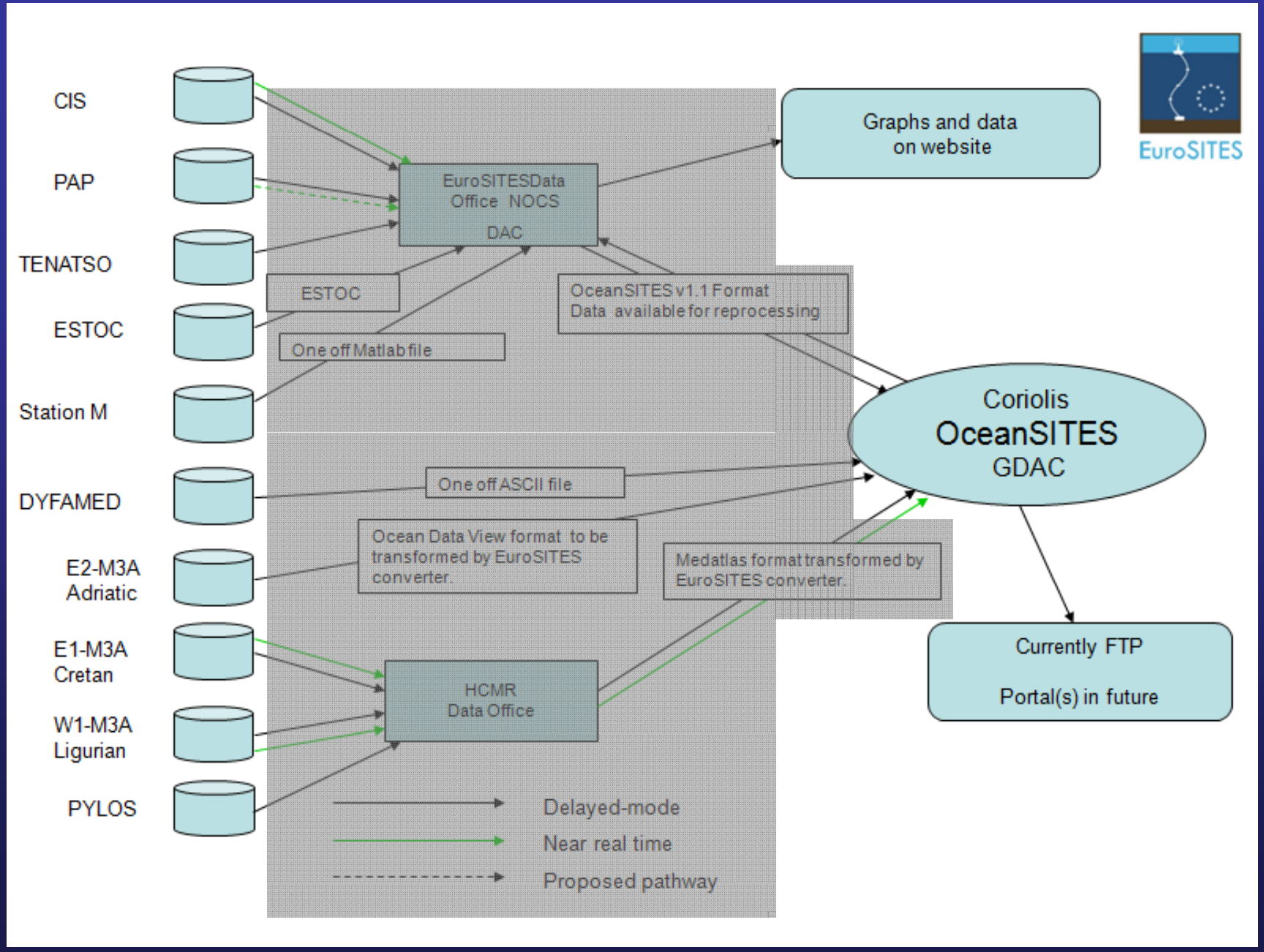
The vision of MyOcean

Data:

- freely available to all immediately after collection and QC (Website, ftp & GTS)
- Associated metadata
- Using internationally agreed protocols and formats



Real-time and delayed-mode



Data Processing

EuroSITES dissemination:

Outreach and Knowledge Transfer

- Website
- Fact Sheets
- On-line Cruise diaries
- Film

www.outreach.eurosites.info

What are the plans?

1. Satellite remote sensing
2. Gliders
3. Floats
4. Ships of Opportunity
5. Research cruises
6. Eulerian observatories
7. Computational models

Global Ocean Observing System

EMODNET
The European Marine Observation and Data Network

Global Monitoring
for Environment and Security

myOcean

European Environment Agency

European Environment Agency

GMES In-Situ Coordination

http://gisc.ew.eea.europa.eu/

Objective of GISC:

To stimulate open access to in-situ data for operational GMES.

The Future

EMODNET
The European Marine Observation and Data Network

Immediate action to prevent destruction of the EuroSITES network.

Urgent requirement to develop a coordinated and sustained network from the lower atmosphere to the seafloor.

The "Sustained Open Ocean Frontier Initiative"

Requirement to expand the EMSO PP in order to develop the infrastructure for an integrated lower atmosphere, water column and seafloor observatory network.

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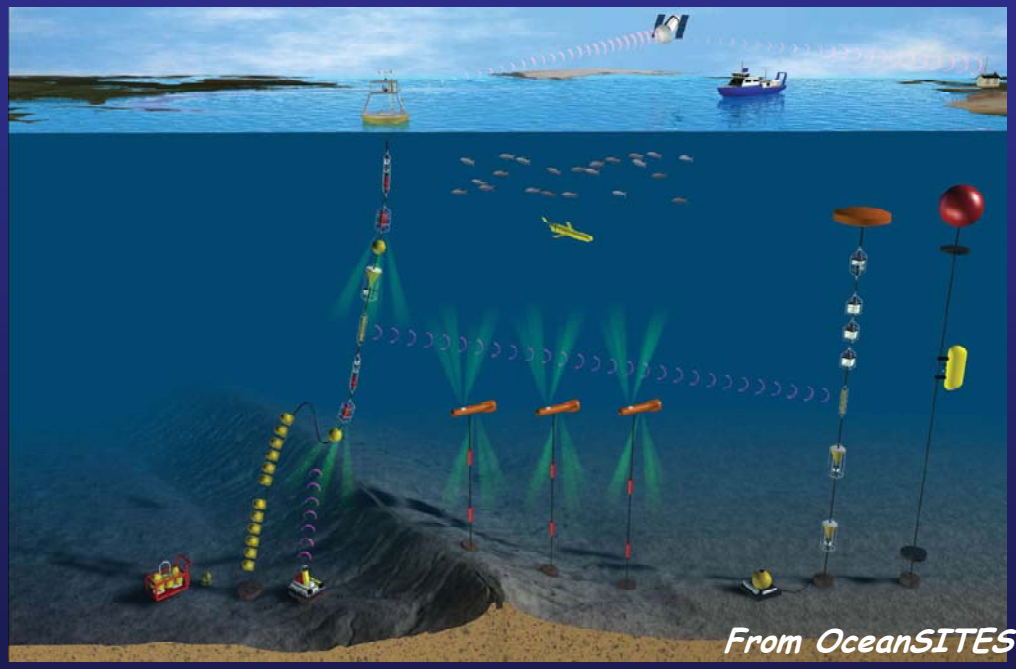

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