Southampton & Liverpool
500 NERC staff – scientists, technologists and data scientists.
£60 million budget.
Host UK National Marine Facilities, including two ocean class research ships.

Research expertise in:
- Sea level changes and impacts
- Basin-scale observing of global ocean change
- Global & shelf ocean modelling
- Heat, carbon penetration into deep ocean
- Deep-sea frontier – ecosystems, resources, hazards
- Autonomy & sensor technology
Research infrastructure and data assets for oceanography

Ships and National Marine Facility
Platforms and Sensors
High-powered ship-based systems for deep-sea mapping and observation
Long-endurance platforms for multi-month missions
Science and Technology

Basin and decadal scale

Making sense of global scale change and variability

Role of coastal and continental shelf seas in the global system

Sustained observations
High resolution
global ocean
model
development

The ocean model
in Met Office
climate and
seasonal weather
prediction
systems
Underpinning National Capability:
Providing the methodology for investigating basin-decadal scale change & variability

Sustained ocean observations

Community ocean modelling systems

Transformative technology development

Global data synthesis and integration
Climate Linked Atlantic Sector Science - Hydrographic sections and Global climate
Supporting the UK contribution to global ocean observations

GO-SHIP Hydrographic Sections
ICOS stations & transect
Surface marine climate data records
ARGO
GLOSS tide gauges

CPR contribution to GACS

26° N
57° N
24° S
AMT Transect
Caribbean-UK
UK Argo Float
SATGN Tide Gauge

Darwin Mounds
Haig Fras
WCO
Canyons
Whittard

ICOS long time series FPOs
MPAs
Academic Engagement
Supporting the academic community and developing the next generation of marine scientists

Access to resources – ship time, model outputs and training
Training graduate students & early career researchers
Internships
Marine Science Summer School
Enhanced collaboration
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The ocean environment is changing and variable.

Increased pressure from human impacts and natural causes:

- Pollution
- Sea Ice
- Increased demand for ocean resources
The ocean is changing and variable – at basin and global scale

- Changing physics (AMOC, heat content)
- Changing biogeochemistry (CO₂ flux, primary production)
- Changing ecosystems (surface plankton)

Major impacts on society and economy
What is the current state of the hydrological cycle and how will changes in ocean salinity impact it into the future?

How physical and biological uptake, transfer and storage of carbon in the deep ocean interact to determine the North Atlantic CO2 sink and how this will change in the future.

How the natural and anthropogenic drivers of basin and decadal changes are altering the Atlantic ecosystem, and consequences for ecosystem functioning and services.

How the structure, diversity and productivity of biological communities are changing in response to abrupt or episodic disturbance events compared to natural change.