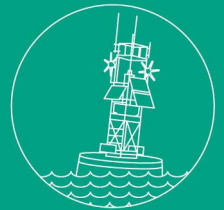


# WESTERN CHANNEL OBSERVATORY (WCO)



## Managing a globally unique concept observing the whole ecosystem on an unparalleled timescale

Maintained by PML, the Western Channel Observatory (WCO) aims to understand the complex coastal and open-shelf ecosystem within the western English Channel on timescales from hours to centuries. The WCO time-series stations at L4 and E1 comprise some of the longest, most comprehensive observations of the coastal and open-shelf ecosystem in Europe, with high (weekly) frequency sampling routines.

The WCO has supported over 58 scientific papers during the last five years and over 105 ISI listed papers since 1974, in addition to a WCO focus in a special issue of the Journal of Plankton Research (12 papers). WCO has contributed to 36 PhD and 18 MSc/MRes/Undergraduate dissertations over the past 20 years.

### Services provided:

- An accessible, cost effective, study site from which scientists can undertake ecological and biogeochemical experiments with access to a suite of additional supporting data;
- A platform for oceanographic instrument development;
- Supporting operational oceanography in assessments of forecast skill;
- Providing a platform of opportunity for commercial applications such as the biodiversity of phytoplankton and microbes. Projects total £1.5m thus far with customers including TSB, BBSRC, NERC, Shell and the Carbon Trust.

### Research priorities:

- To unravel short-term variability from long-term climate driven changes in a semi-pristine/non-eutrophic environment;
- To address multiple issues, from environmental change to operational oceanography, using multiple techniques and platforms;
- To integrate long-term *in situ* measurements made at L4 and E1, ecosystem modelling studies, and satellite Earth Observations (EO).

## Role in society

Contributes to ICES international working groups on Ocean Climate, Zooplankton and Phytoplankton and report cards produced for policy makers such as the Marine Climate Change Impacts Partnership;

Contributes to public outreach programmes in schools and on the Brittany Ferry line; ensures data is available to the wider public through the WCO website;

Contributed to Defra's Charting Progress 2, the Marine Environmental Change Network; the European Commission Marine Strategy Framework Directive and the EU Water Framework Directive through the UK Environment Agency.

## Essential platform for the UK and beyond



WCO is a contribution to, and is funded through, the UK NERC's National Capability;

WCO is incorporated within a wider framework of UK Sustained Observatories;

Contributes to the Marine Environmental Change Network (MECN);

The UK scientific user community includes HEIs (Bangor, Bournemouth, Bristol, Essex, Galway, Leicester, Plymouth, Royal Holloway and Southampton), NERC centres (CEH, NOC and SAMS) and government (Defra, UK Met Office, Cefas and AFBI Northern Ireland).



Contributes to European activities Marinexus, MeDON, CHARM, EuroMarine (Integration of European Marine Research Networks of Excellence) and the SENSEnet advanced training network;

The MarBEF project LargeNet (Large-scale and long-term networking on the observation of Global Change and its impact on Marine Biodiversity project);

The Ocean Observatory Initiative with links to GEO-BON (Global Earth Observation - Biodiversity Observation Network) and EMBOS (European Marine Biodiversity Observation System).

## Data access and management

- WCO partners include PML, Marine Biological Association (MBA), Sir Alister Hardy Foundation for Ocean Science (SAHFOS) and the NERC Earth Observation Data Acquisition and Analysis Service (NEODAAS);
- A list of the data sets available and link to the data portal are given on the WCO website, with the relevant support contact details;
- Data is primarily from the marine monitoring stations at L4 (50° 15'N; 4° 13'W) and E1 (50° 02'N; 4° 23'W). These stations have been measuring key physical, chemical and biological parameters over decadal and centennial time periods (E1 - since 1903; L4 - since 1988);
- All data are made freely available at point of delivery.

### Contact details:

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