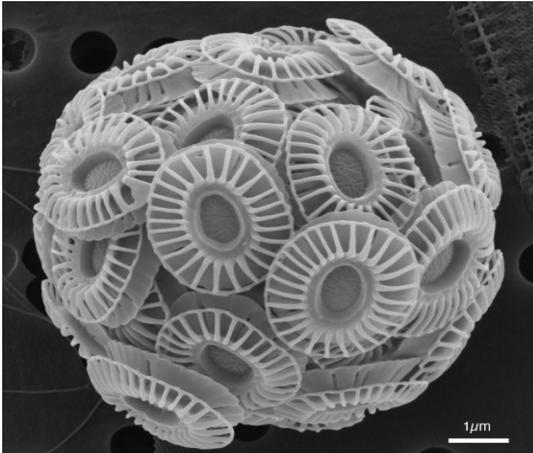


# UK Ocean Acidification



The term ocean acidification is used to describe the ongoing decrease in ocean pH caused by human CO<sub>2</sub> emissions, such as the burning of fossil fuels. It is a little-known consequence of living in a high CO<sub>2</sub> world. The 2009 United Nations Climate Change Conference (COP15) called it the “evil twin of climate change”.

The five-year UK Ocean Acidification (UKOA) Research Programme is the UK’s response to growing concerns over ocean acidification. It is jointly funded by Department for Environment, Food and Rural Affairs (Defra), the Natural Environment Research Council (NERC) and Department of Energy and Climate Change (DECC).

## UKOA aims:

To reduce uncertainties in predictions of carbonate chemistry changes and their effects on marine biogeochemistry, ecosystems and other components of the Earth System.

To understand the responses to ocean acidification and other climate change related stressors by marine organisms, biodiversity and ecosystems and to improve understanding of their resistance or susceptibility to acidification.

To provide data and effective advice to policymakers and managers of marine bioresources on the potential size and timescale of risks, to allow for development of appropriate mitigation and adaptation strategies.



Calcifying organisms - particularly at risk?



UKOA brings together scientists from a broad range of disciplines, with the skills to address these aims, from a large number of research centres and universities.

Ocean-based fieldwork includes four dedicated research cruises involving scientists from 11 institutions across the UK. Cruises will take place in shelf seas, Arctic and Southern Oceans. Data from instruments onboard UK research vessels will provide continuous measurements of surface and atmospheric carbon dioxide levels in UK seas and the Southern Ocean.

Laboratory-based mesocosm experiments are being run at durations up to 18 months for a range of benthic habitats by researchers from 12 institutions across the UK.

Investigations of past acidification events recorded in the geological record will elaborate on rapid acidity changes in the Earth’s past.

## Data Management for UKOA

UKOA data are centrally managed by BODC as NERC's designated marine data centre. The data centre is responsible for providing data management support to the UKOA research activities, and acts as a central hub for data access and submission.

The UKOA data management pages at BODC provide descriptions of the activities of the research consortia. Information relating to the status of UKOA data sets is also available from the data set inventory, along with details of each of the UKOA projects and planned and complete data sets.

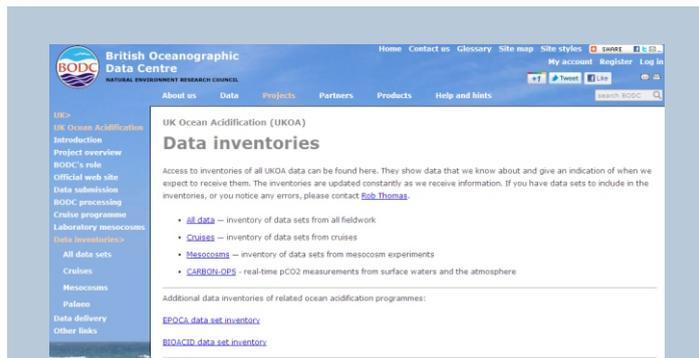
BODC are involved with UKOA data from the project planning phase, right through to its long-term curation. Our extensive experience of data management gives us insight into the logistics of data collection. We give guidelines to programme participants detailing our expectations and requirements for data submission.

This ensures all UKOA data comply with metadata standards at both the national and international level, such as those required by MEDIN and INSPIRE.

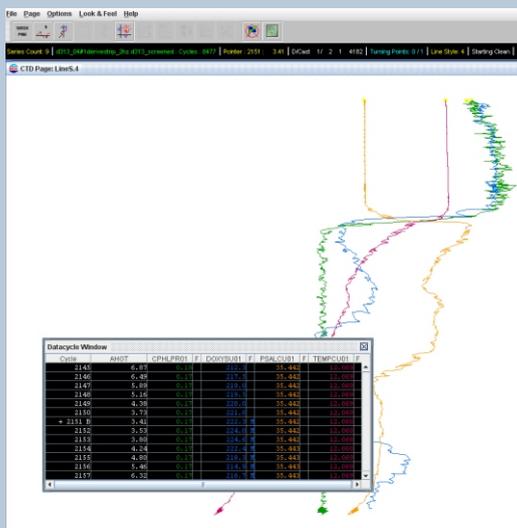
Access to UKOA data is controlled according to principles laid out in the UKOA Data Management Policy. The policy supports data sharing, while protecting the intellectual property of project participants. Access to the data is restricted to UKOA researchers for up to two years after data acquisition. Once in the public domain the data will be released under a data licence agreement.

By the end of the programme the UKOA datasets will be available to interested parties searching the National Oceanographic Database at BODC or through SeaDataNet (a portal serving a partnership of European IOC Data Centres).

The web pages also offer guidance on data submission for our partners in UKOA, advice for other parties interested in UKOA data and links to other ocean acidification programmes.



UKOA data management at BODC



Quality control of CTD data



UKOA programme website

[www.bodc.ac.uk/projects/uk/ukoa](http://www.bodc.ac.uk/projects/uk/ukoa)

