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Caroline Herschel Framework Partnership Agreement
for



Copernicus User Uptake

Using Earth Observation for Water Quality Monitoring Thematic Workshop

Overview

Products derived from Copernicus satellite data have many applications for monitoring water quality in freshwater, estuarine and marine environments. Examples include seabed mapping, predicting species distribution, detecting eutrophication and toxic algal blooms, tracking oil spills, quantifying plastic pollution and helping predict responses to climate change. JNCC ran a workshop to raise awareness of how these products may be accessed and used. The workshop aimed to increase uptake of Sentinel data, services and products, with particular emphasis on supporting UK public sector environmental applications.

Work Involved

JNCC held a 2-day online workshop on 13-14 October 2020. The programme comprised presentations, question and answer sessions, and a panel discussion. On both mornings, there was a training session delivered by Plymouth Marine Laboratory on how to select, access and process marine data made freely available under the Copernicus programme.

Speakers introduced the environmental and policy context for water quality monitoring, outlined the technology and products available, showcased current marine and freshwater applications, and discussed future potential.

Plymouth Marine Laboratory, Centre for Environment, Fisheries and Aquaculture Science, University of Stirling and the Scottish Environment Protection Agency provided expert input to planning and delivery, ensuring the workshop met user needs and covered a wide range of interests.

Key Outcomes and Expected Impact

The workshop attracted 174 participants from 20 countries, representing 62 different organisations from the public and private sectors, academia and NGOs. The training sessions were attended by 33 attendees from 20 organisations.

The workshop report, presentations and videos are available on the [workshop resource page](#), and training materials on the [training session resource page](#).

Feedback was overwhelmingly positive, with 75% stating they would be more likely to use Copernicus data or services as a result of the workshop. One participant said:

"The most valuable thing was the case study approach, always good to see what has been done, hear problems and limitations, rather than just generic theory."

The workshop identified key issues and made recommendations for future work. These are documented in the [workshop report](#) and were presented at a meeting of the Defra Earth Observation Centre of Excellence.

Policy relevance

Earth observation (EO) solutions support policy delivery in areas including marine spatial planning, sustainable use of resources, biodiversity conservation, disaster resilience and climate change adaptation. It is an important part of the evidence base for determining 'good environmental status' under the EU Water Framework Directive and Marine Strategy Framework Directive.

Future work

The workshop identified the need for more information and support on accessing and using data and services, and the need to facilitate knowledge-exchange and sharing of case studies. Innovative use of citizen science and new sensor technology to generate *in situ* data should be explored, and EO-derived water quality products should be harmonised and standardised where possible.

Country: United Kingdom

Main driver: To raise awareness of Copernicus data, products and services for water quality monitoring to meet UK policy requirements.

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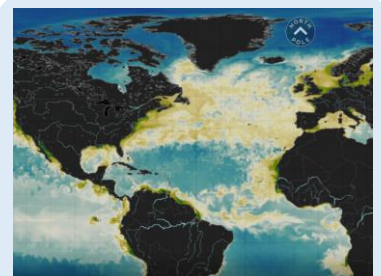
Partnerships: Plymouth Marine Laboratory, Centre for Environment, Fisheries and Aquaculture Science, University of Stirling, Scottish Environment Protection Agency, Brockmann Consult



Sentinel-3 satellite © ESA



Sentinel-2 satellite © ONDA



Chlorophyll-a concentration in seawater © Copernicus Marine Environment Monitoring Service

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