Malta Council for Science and Technology 24th February 2023

DIVE - Simple Water Visibility Information for Dive Planning Darren Snee, **Peter Walker**, Simeon Wilkinson – Plymouth Marine Laboratory

he e-shape project has received funding from the European Union's Horizon 202r research and innovation programme under grant agreement 820852



e Overview

- Introduction to PML
- What is remote sensing?
- DIVE overview
- Future plans

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e-shape About PML

Plymouth Marine Laboratory

is an independent provider of policy relevant scientific research on the interactions between the marine environment and society.

PML's mission is to pursue research excellence to support our vision of a healthy and sustainable ocean, through the delivery of impactful, cutting-edge environmental and social science.

Our research is ultimately designed to:

1) Identify how marine ecosystems are fundamentally structured and how they function.

2) Quantify the impacts of multiple human-induced stressors on marine ecosystems.

3) Develop solutions and approaches to support the sustainability of marine ecosystems.

Aims:

- Understand and mitigate climate change
- Improve sustainability of fisheries and aquaculture
- Encourage cleaner seas for nature and society
- Combat biodiversity loss
- Develop marine autonomy, technology and digitization





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About PML

e-shape

- PML has been an independent marine research laboratory for 20 years. We have delivered pioneering world-class science for over 4 decades.
- We have more than 150 full time staff who have produced 160 peer reviewed papers in 2021.
- In the period 2017–2021, 4.6% of PML papers were in the top 1% of the most cited environmental science papers in the world
- PML researchers played key roles at the UN Framework Convention on Climate Change (UNFCCC) COP26 meeting in Glasgow in November 2021, highlighting the significant role the ocean plays in sustaining life on Earth, regulating climate and the consequences of a high CO2 world for the ocean and society.
- PML was a partner in the first Ocean Pavilion in the Blue Zone at COP27 hosting over 60 events.





e-shape The Centre for Geospatial Applications

The Centre for Geospatial Applications (CGA) spans the research and development side of PML group, as well as commercial aspects in PML Applications. Primarily focussing on Earth observation (EO), geographic information system (GIS), and data visualisation activities, the aim of the centre is to deliver products and services with unrivalled efficiency and precision.





The Centre for Geospatial Applications is responsible for developing GIS tools and web applications that are used by approx. 15 EU and Global projects.

- Data, derived from EO satellites
- Tools and software to allow users to draw relevant information from these data
- Training and support services to aid users' understanding







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Before DIVE e-shape

EU science programs such as Copernicus are producing a huge amount of data relating to the quality of sea water. These data are an invaluable resource for scientists but are not easy to use or understand for the non-scientific user.







https://www.metoffice.gov.uk > weather > forecast Valletta (Malta) weather - Met Office Valietta 7 day weather forecast including weather warnings, temperature, rain, visibility, humidity and UN

What is the rainy season in Malta

weather maita

https://www.bbc.com > weather Valletta - BBC Weather Day by day forecast. Last updated today at 06:12. Today. ,. Sunny and a gentle breeze Sunny Sunny High16° 61° Low9° 49°



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DIVE processes datasets provided by the EU Copernicus program (CMEMS) and presents them to the end user as a simple to understand visibility score for a selected dive site. Recreational divers can use this information when planning their day's dives.





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 Every day an instance of the DIVE system is started on the CREODIAS service.
DIVE queries the latest EO data from CMEMS (available directly through the DIAS) and builds visibility scores for all the sites in the database.

2. These scores are then uploaded to the DIVE server (hosted at PML).

3. A diver queries the latest visibility scores for their dive site using the DIVE app.















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e-shape Future plans

- Wind and wave data
- Higher resolution imagery
- Forecasts and gap filling
- Access to API for other app developers.





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Thank you!

Get the app:



Contact us: https://dive.eofrom.space



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