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The European Space Agency Ocean Cluster for enhancing satellite-based ocean science

Roberto Sabia¹, Marie-Hélène Rio¹, Javier Concha², Jamie Shutler³, Nicolas Gruber⁴, Gemma Kulk⁵, Robin Fraudeau⁶, Sonia Ponce de Leon⁷, Kim Knauer⁸, and Diego Fernández-Prieto¹

¹European Space Agency (ESA), Frascati, Italy

²SERCO S.p.a. for ESA, Frascati, Italy

³University of Exeter, Exeter, UK

⁴ETHZ, Zurich, Switzerland

⁵PML, Plymouth, UK

⁶Magellium, Ramonville saint agne, France

⁷CENTEC-IST-University of Lisbon, Lisbon, Portugal

⁸EOMAP GmbH, Seefeld, Germany

Within the broader scope of scientific exploitation of satellite assets, the European Space Agency (ESA) is funding a critical mass of scientific activities aimed at enhancing the observation and understanding of the Ocean from space.

The ESA Ocean Science Cluster consists of a portfolio of several research opportunities and networking actions promoting synergistic research and fostering European and international scientific collaboration.

About 40 projects are currently belonging to the Ocean Science Cluster, further regrouped into six main topics, namely: Ocean Health, Ocean Extremes, Coastal Ocean including Land-Sea interactions, Ocean Carbon, Upper-ocean Dynamics including air-sea interactions, and the Ocean's role in the Earth and Climate System.

This presentation will showcase results and outcomes of a sub-selection of the Cluster projects, with special emphasis on those aspects deemed relevant to this Session, namely: Ocean carbon cycle and its related pools and fluxes, Ocean Acidification, Ocean extremes and Ocean Heat Content. Also, specific attention will be devoted to recent projects highlighting satellite capabilities to provide valuable information in the marine renewable energy context.

The projects' products are all freely and openly available to the community, providing a unique dataset allowing to further monitor open and coastal oceans in a changing environment.