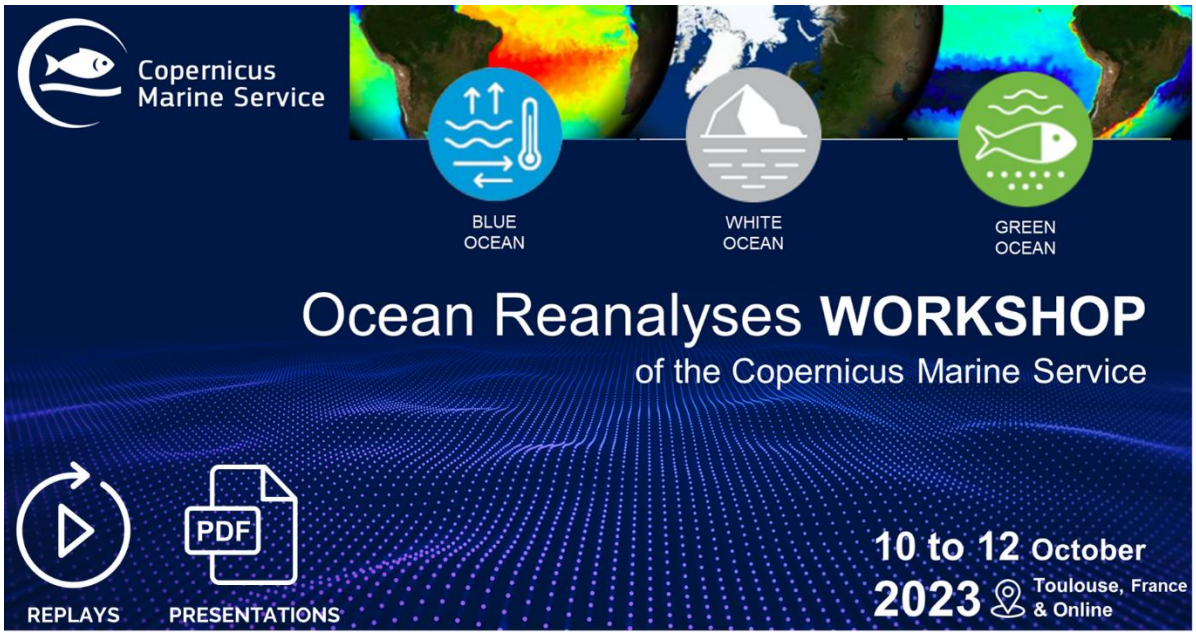

DAY1 - 10 October 2023

Objectives

To better characterize the user need, and gaps in terms of service (variables, output frequencies, time series lengths, formats, physical/biogeochemical processes need to be captured etc.), to discuss current limitations for some user's applications, and future possible uses and prospective users.

Welcome to the ocean reanalysis workshop	Marie Drevillon Chunxue Yang Romain Bourdallé-Badie	MOi CNR MOi
Copernicus Marine Service reanalyses and multi-year ocean products	Marie Drevillon	MOi
Session 1: Applications for current and future ocean reanalyses	**Chairs:** Valentina Giunta Tony Candela	 MOi MOi
Reanalysis User feedback	Valentina Giunta	MOi
Use Cases of the Copernicus Ocean Reanalysis at Ireland's Marine Institute	Tomasz Dabrowski	Irish Marine Institute
Understand juvenile sea turtle behaviors and dispersal	Tony Candela	MOi
The coastal applications and limitations of the Scottish shelf water-reanalysis service	Benjamin Barton	NOC
Applications for physical and biogeochemical modelling	Anouk Blauw	Deltares
Use of global, regional and nearshore historical wave reconstructions	Melisa Menéndez	IH Cantabria
Leveraging ocean reanalyses for improving ocean models and prediction systems	Julien Le Sommer	IGE - CNRS
Marine heat waves in the Mediterranean Sea - Lessons learnt from multi-platform observations and needs for ocean reanalysis	Mélanie Juza	SOCIB
The roles of reanalyses in monitoring and forecasting marine heatwaves (MHWs)	Ronan McAdam	CMCC
Evaluating the Performance and Potential Utility of Ocean Reanalyses in the Near-Shore Environments of North America	Dillon Amaya	NOAA
Wrap-up of session 1	Chairs & organizing committee	

DAY2 - 11 October 2023

Objectives

To better characterize the need in terms of quality, which physical/biogeochemical processes need to be captured and what are the strengths and weaknesses and current limitations. Producers and users will describe of current and future products, their strengths and weaknesses. The strategy/complementarity with respect to earth system reanalyses developed by other groups will be discussed as well as the specific needs of the longer-term forecast / climate / earth system model users.

Session 2: Evaluation of ocean reanalyses		
Description of current offer and future plans	**Chair:** Chunxue Yang	CNR
Simple Ocean Data Assimilation - SODA	Jim Carton	Uni. Maryland
Estimating the Circulation and Climate of the Ocean - ECCO	Gaël Forget	MIT
Impacts of Four-Dimensional Variational (4DVAR) Method on Ocean Reanalysis Systems in JMA	Yosuke Fujii	JMA
Copernicus Marine Global Ocean Reanalyses	Romain Bourdallé-Badie	MOi
BLUE OCEAN Regional Reanalysis Overview and evolutions	Ali Aydogdu	CMCC
Sea Ice in reanalysis	Gilles Garric	MOi
Wave reanalysis global and regional	Lotfi Aouf	Météo France
Biogeochemical Reanalysis: Global and regional	Annette Samuelsen	NERSC
MICRORYS12 : Ocean low and mid-trophic levels products for the Copernicus marine catalogue	Olivier Titaud	CLS
Strengths and weaknesses *Description on strengths and weaknesses of different ocean reanalysis components*	**Chairs:** Marie Drevillon Gaël Forget	 MOi MIT
Global reanalysis-based wave products, their extremes and uncertainty	Joao Morim	UCF
Blue ocean uncertainty: Ensemble approaches	Andrea Storto	CNR-ISMAR
Atmospheric forcings and sea-ice data assimilation: source of challenges for ocean reanalysis	Eric de Boisséson	ECMWF
Uncertainty assessment of a biogeochemical reanalysis of the Mediterranean Sea in terms of ocean processes	Gianpiero Cossarini	OGS
Discussion/exchanges about blue, green, white and waves	Marie Drevillon Gilles Garric Julien Lamouroux Joao Morim	MOi MOi MOi UCF
Link with climate community *How the ocean reanalyses products are used? What are the strengths and the limitations and of RAN for the climate community?*	**Chair:** Jim Carton	Uni. Maryland
Coupled Model Intercomparison Project and Ocean Reanalyses	Lee de Mora	PML
Coupled community: decadal prediction	Dario Nicolì	CMCC
Using ocean reanalysis for seasonal prediction at Météo-France	Damien Specq	Météo France
Wrap-up of session 2	Chairs & Lecturers	

DAY3 - 12 October 2023

Objectives

To draft recommendations for future ocean reanalyses, complementary from recommendations previously issued for earth system reanalyses and to launch new ocean reanalyses intercomparison exercises starting in 2024

Session 3: Future improvements of ocean reanalyses			
Presentations from atmospheric reanalyses: *Description of their pathway, dialogue with the climate community*		**Chair:** Gilles Garric	MOi
	Centennial Reanalysis: How the 20th century reanalysis (20CR) captures 200 years of weather using surface observations	Laura C. Slivinski	CIRES - NOAA
PDF	**Status and plans for ERA reanalysis at ECMWF**	Hans Hersbach	ECMWF
Presentations of reprocessed observations for being assimilated in reanalyses: *Current observations, future observations (not yet taken into account), past periods (1900 or 1950) not yet taken into account.*		**Chair:** Karina von Schuckmann	MOi
PDF	**Copernicus Marine Service Reprocessed Satellite Observations**	Antonio Reppucci	MOi
PDF	**In situ physics**	Tim Boyer	NOAA
PDF	**BGC Observations for future improvements of green ocean reanalyses**	Raphaelle Sauzede	IMEV
Presentations focusing on different component to improve future ocean reanalyses.		**Chair:** Romain Bourdallé-Badie	MOi
PDF	**BLK-MFC BGC MY - Current and future data-assimilative MY system**	Luc Vandenbulcke	Uni. Liège
PDF	**Leveraging Deep learning for ocean reanalyses. Why? How? When?**	Ronan Fablet	IMT
PDF	**Potential for model improvements to benefit reanalyses and methods for correction of biases by data assimilation**	Mike Bell Matt Martin	Met Office Met Office
PDF	**An overview of EFAS v5.0 and GloFAS v4.0**	Stefania Grimaldi	JRC
	Wrap-up of session 3	Romain Bourdallé-Badie Marie Drevillon Chunxue Yang	MOi MOi CNR