

MERCATOR OCEAN

Mercator Ocean International OPOS Yann Drillet

Jean Michel Lellouche and Moi collaborators

mercator-ocean.eu/marine.copernicus.eu



Status and on going development System description



Operational forecasting systems

Phase I (2023-2025)

Phase II (2026-2028)

GLO12v4 Assim 4D, Sea Ice multi cat assimilation cycle, forcings	\rangle	Regular upgrades, NEMO, observations
BIO4v2 Ocean color assimilation	\rangle	BIO4v3 Regular upgrades, PISCES, observations
GLOensv2 DEMO PHY/BGC ¼° ensemble analysis and forecast	>	Hybrid PHY/BGC 1/12° and ¼° ensemble analysis and forecast
		High resolution deterministic analysis and forecast
NEATL36v1NEATL36v2 IMMERSE version, extended domain, BGC coupling/nudging	5	AGRIF zoom at 1/108°
www.cksc.version, extended domain, boc coupling/hudging		Ensemble analysis and forecast



DONE in 2024

New products available :

- Extension of HF 3D forecast to 10-day
- Delivery of SST map errors

ON GOING

New products :

- Surface Current (already done) and Sea Surface Height high frequency products combining tides and inverse barometer
- SST anomaly
- Zooplankton concentration

Systems :

- Update to fix some issues in global 1/12° forecast
- GLO12 : Assimilation of SWOT, update of assimilation scheme
- Global Ensemble analysis and forecast at 1/4°
- Deterministic Global Forecast at 1/36°



Ocean Reanalysis

Phase I (2023-2025)	> Phase II (2026-2028)
GLORYS12v1GLORYS12v Vertical resolution, Assim 4D, Sea Ice multi cat	ABL, ensemble analysis hybrid resolution for error covariance
WAVERYSv1WAVERYSv High resolution	v2WAVERYSv3 Stream 3
GREPv1GREPv Updated NEMO, assimilation and observation (stream2)	v2GREPv3 Stream 3
	GREPv4 Multi ensemble reanalysis
BIORYS4v3BIORYS4v4 Ocean color assimilation	v4BIORYS12v1 Ocean Color and Insitu assimilation
	BIORYSensv1 Ocean Color and Insitu ensemble assim
NEARYS12NEARYS36	v1NEARYS108v1
Wave forcing, Assim 4D	High resolution reanalysis including AGRIF zoom



DONE in 2024

 Interim production of global reanalysis including biogeochemistry

ON GOING

- Time extension in the past of global wave reanalysis (starting in 1980
- 2nd version of global wave reanalysis
 higher resolution (10km), model and data assimilation upgrade
- Global 1/12° physical reanalysis 2nd version : production not started
- Physical and biogeochemical data assimilation in BGC reanalysis
- North East Atlantic High resolution (1/36°) reanalysis physics and biogeochemistry : production not started