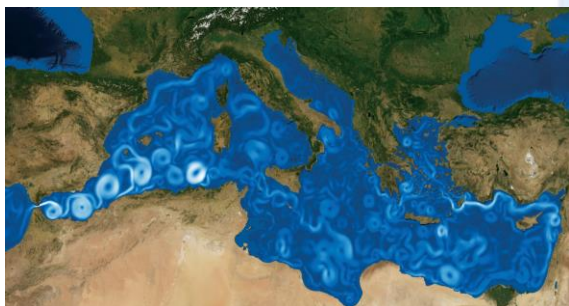


NATIVE GRID PRODUCT - REANALYSIS - MEDITERRANEAN SEA - PHY - 1/12°



This product contains reanalysis (30/09/1992-> 25/06/2013) of the Mediterranean Sea physics at 1/12° (~7.5km at Gibraltar) – daily mean Temperature, Salinity, Sea Surface Height, Currents, with no update. The numerical files are displayed on the native grid and are sorted into various files gridT, gridS, gridU, gridV, gridW.

Reference: MEDRYS12

• Variables

PHY

Sea water salinity	psu
Sea water potential temperature	°C
Sea surface height above geoid	m
Sea water x velocity	m/s
Sea water y velocity	m/s
Mixed layer thickness (sigma theta)	m

• Geographical coverage

Mediterranean Sea (11°W-37°E; 30°N-46°N)

• Grid and spatial horizontal resolution

1/12°~7.5km at Gibraltar on ORCA12 Native Grid (ARAKAWA C, no interpolation)

• Spatial vertical resolution

75 vertical levels (from -5500.0m to 0.0m)

• Temporal resolution

Yearly, Monthly and Daily-mean (and Hourly mean for some surface fields only)

• Temporal coverage

Reanalyses (30/09/1992 -> 25/06/2013)

• Update frequency

No Update

Mercator Ocean – Latest update: September 2018

	<p>Domain: Mediterranean Sea (11°W-37°E; 30°N-46°N)/ No Black Sea</p> <p>Physic or Biogeochemistry : Physic</p> <p>Code and Version : Nemo3.1</p> <hr/> <p>Grid and resolution : ORCA12 [1/12°; 75 levels]</p> <p>Grid size : 567*294 *75 (partial steps)</p> <p>Data Assimilation: Yes</p> <p>Sea Ice : No/ Tide : No</p> <p>Bathymetry: MERCATOR-LEGOS bathymetry v10 (GEBCO-08, MEDIMAP, IFREMER)</p> <p>Free run configuration name: MED12-T02</p> <p>Time step : 720s</p> <p>Update : No</p>
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Reference MEDRYS12

Forcing and Data Assimilation	
Data assimilation	Yes
Data assimilation scheme	SAM2v1 (Kalman filter with SEEK formulation) with incremental Analysis Update and bias correction
Data assimilated	<ul style="list-style-type: none"> - Sea Surface Temperature (Reynolds AVHRR-AMSR ¼°), - Reprocessing of Sea Surface Height (Jason1, Jason2, Envisat, T/P, GFO, ERS1-2), - Reprocessing of InSitu temperature and salinity vertical profiles from Coriolis Center (CORAv4). - CNES-CLS MSSH (Rio 2009)
Atmospheric or Biogeochemical forcings:	<ul style="list-style-type: none"> - 3-Hourly ALADIN-CLIMAT forcings; - FLUX Formulation
Runoff:	For River Runoff: Ludwig et al. 2009; For Black Sea: Stanev and Peneva, 2002
Open boundary conditions:	Bufferzone from ORAS4 reanalysis (T S SSH) in the Atlantic part of the domain
Initial Conditions and Relaxation	
Initial conditions	MEDATLAS 1979
Surface relaxation	No
Deep relaxation	Relaxation towards T S SSH from ORAS4 within buffer zone (11° W-7°W)
Convection	- By intensification of vertical mixing (diffusion term)
Parametrisation	
Surface Physics parametrisation	- Free surface (filtering)
Bottom friction	- No linear (constant bottom drag) with spatially varying bottom turbulent kinetic energy
Lateral friction	- No slip (shlat = 2)
Vertical mixing	- TKE 1.5 closure scheme
Advection	- TVD 2nd order centered scheme and energy/enstrophy conserving scheme
Tracer diffusion	- Iso neutral laplacian
Momentum diffusion	- Horizontal bilaplacian
Horizontal diffusion coefficient for tracers and momentum	<ul style="list-style-type: none"> - aht0 = 60 m2/s - ahm0 = -1.25 e 10 m2/s
Vertical diffusion coefficient for tracers and momentum	<ul style="list-style-type: none"> - avt0 = 1.0 e-5 m2/s - avm0 = 1.0 e-4 m2/s