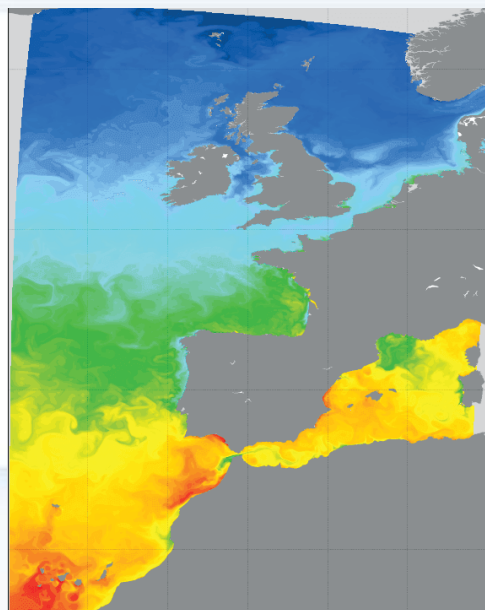


NATIVE GRID PRODUCT - REANALYSIS



NORTH ATLANTIC OCEAN AND WESTERN MEDITERRANEAN SEA - PHY - 1/12°

This product contains reanalysis (01/01/1992-> 27/12/2016) of the North East Atlantic Ocean and Western Mediterranean Sea physics at 1/12° (~7.5km at Gibraltar) - daily mean Temperature, Salinity, Sea Surface Height, Currents, as well as hourly mean barotropic Surface Currents and Sea Surface Height - with no update of the latest ocean fields. The numerical files are displayed on the native grid and are sorted into various files: gridT, gridS, gridU, gridV, gridW.

Reference: IBIRYS12

<ul style="list-style-type: none"> Variables 	<div style="border: 1px solid black; padding: 5px; display: inline-block;">PHY</div>	<ul style="list-style-type: none"> Sea water salinity (3D-daily) Sea water potential temperature (3D-daily & 2D-hourly) Sea surface height above geoid (2D-daily & hourly) Sea water x velocity (3D-daily & 2D-hourly) Sea water x barotropic velocity (2D-hourly) Sea water y velocity (3D-daily & 2D-hourly) Sea water y barotropic velocity (2D-Hourly) 	<ul style="list-style-type: none"> psu °C m m/s m/s m/s m/s
<ul style="list-style-type: none"> Geographical coverage 	North East Atlantic Ocean and Western Mediterranean Sea (20°W-8°E; 26°N-58°N)		
<ul style="list-style-type: none"> Grid and spatial horizontal resolution 	1/12°~7.5km at Gibraltar on ORCA12 Native Grid (ARAKAWA C, no interpolation)		
<ul style="list-style-type: none"> Spatial vertical resolution 	75 vertical levels (from -5500.0m to 0.0m)		
<ul style="list-style-type: none"> Temporal resolution 	Yearly, Monthly and Daily-mean (and Hourly mean for surface fields only)		
<ul style="list-style-type: none"> Temporal coverage 	Reanalyses (01/01/1992 -> 27/12/2016)		
<ul style="list-style-type: none"> Update frequency 	No Update		

Mercator Ocean – Latest update: April 2017

	<p>Domain : North East Atlantic Ocean and Western Mediterranean Sea (20°W-10°E; 26°N-64°N)</p> <p>Physic or Biogeochemistry : Physic</p> <hr/> <p>Grid and resolution : ORCA12 [1/12°; 75 levels]</p> <p>Grid size : 567*294 *75 (partial steps)</p> <p>Code and Version : Nemo3.1</p> <p>Data Assimilation: Yes/ Sea Ice : No/ Tide : No/ Update : No</p> <p>Bathymetry: GEBCO30 and regional bathymetries (IFREMER, SHOM, NOOS, ...)</p> <p>Free run configuration name: IBI12-T00</p> <p>Time step : 450s (baroclinic) and 15s (barotropic) and 450s (tracers)</p>
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Reference IBIRYS

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