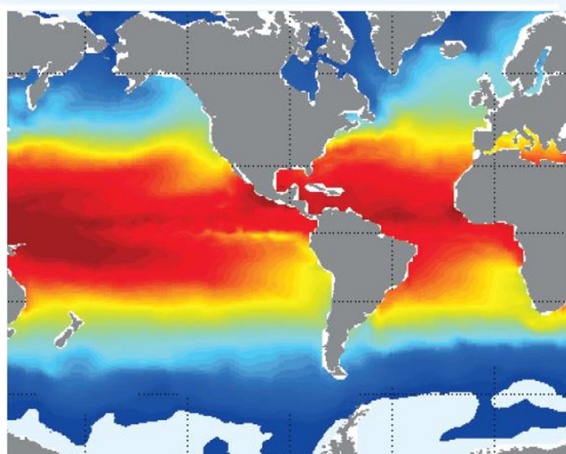


NATIVE GRID PRODUCT - REANALYSIS - GLOBAL OCEAN - PHY - 1/12°



This product contains the Global Ocean Physical Reanalysis at 1/12° (~9 km at the equator) covering the period 04/12/1991 – 25/12/2018– Monthly and daily Temperature, Salinity, Sea Surface Height, Mixed layer Thickness, Currents, Sea Ice thickness, Concentration and drift - with a yearly update. The numerical files are displayed on the native grid 1/12°. NetCDF CF1.4

Reference: GLORYS12V1

Variables	PHY	sea_water_potential_temperature (T)	°C
		sea_water_potential_temperature_at_sea_floor (bottomT)	°C
		sea_water_salinity (S)	1e-3
		sea_surface_height_above_geoid (SSH)	m
		eastward_sea_water_velocity (UV)	m.s-1
		northward_sea_water_velocity (UV)	m.s-1
		ocean_mixed_layer_thickness_defined_by_sigma_theta (MLD)	m
ICE		sea_ice_area_fraction (SIC)	1
		sea_ice_thickness (SIT)	m
		eastward_sea_ice_velocity (SIUV)	m/s
		northward_sea_ice_velocity (SIUV)	m/s
Geographical coverage	Global Ocean (180°W-180°E; 77°S-90°N)		
Grid and spatial horizontal resolution	1/12°~9km at the equator on ORCA12 Native Grid (ARAKAWA C, no interpolation)		
Spatial vertical resolution	50 vertical levels – partial steps - (from -5500.0m to 0.0m)		
Temporal resolution	Monthly and daily means		
Temporal coverage	04/12/1991 – 25/12/2018		
Update frequency	Yearly update		

	<p>Domain : Global Ocean (180°W-180°E ; 77°S-90°N)</p> <p>Physic or Biogeochemistry : Physic</p> <p>Code and Version : Nemo3.1</p> <hr/> <p>Grid and resolution : ORCA12 [1/12°; 50 levels]</p> <p>Grid size : 4320*2041*50 (partial steps)</p> <p>Data Assimilation: Yes/ Tide : No</p> <p>Sea Ice : Sea Ice model LIM2 EVP</p> <p>Bathymetry: ETOPO1 for the deep ocean and GEBCO8 on coast and continental shelf</p> <p>Time step : 1440s</p> <p>Update : yearly</p>
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Reference GLORYS12V1	
Forcing and Data Assimilation	
Data assimilation	Yes
Data assimilation scheme	SAM2 (SEEK Kernel) + FGAT + IAU and 3D-VAR T/S bias correction
Data assimilated	Reynolds 0.25° AVHRR-only SST, Delayed Time SLA from all altimetric satellites, in situ T/S profiles from CMEMS CORAv4.1 database, CERSAT Sea Ice Concentration
Atmospheric or Biogeochemical forcings:	3-h and 24-h atmospheric forcing from ERA-Interim, including precipitation and radiative fluxes (SW+LW) corrections
Runoff:	Climatological Runoff Dai et al (2009) + freshwater fluxes from icebergs for Greenland and Antarctica.
Open boundary conditions:	No
Initial Conditions and Relaxation	
Initial Conditions	December 1991 T/S regressed from EN.4.2.0
Surface relaxation	No
Water column (3D) relaxation	Temperature and salinity relaxation towards EN.4 data poleward 60°S and below 2000m depth and in Gibraltar and bab-El-Mandeb straits.
Convection	By increasing vertical mixing
Parametrisation	
Surface Physics parametrisation	Free surface formulation
Lateral friction	Partial slip (shlat = 0.5)
Vertical mixing	TKE 1.5 closure scheme
Advection of the tracers	TVD scheme
Tracer diffusion	Laplacian lateral isopycnal diffusion on tracers
Momentum diffusion	Horizontal laplacian + bilaplacian
Horizontal diffusion coefficient for tracers and momentum	ah _{t0} = 100 m ² /s ah _{m0} = -1.25 10 ¹⁰ m ⁴ /s
Vertical diffusion coefficient for tracers and momentum	av _{t0} = 1. 10 ⁻⁵ m ² /s av _{m0} = 1. 10 ⁻⁴ m ² /s