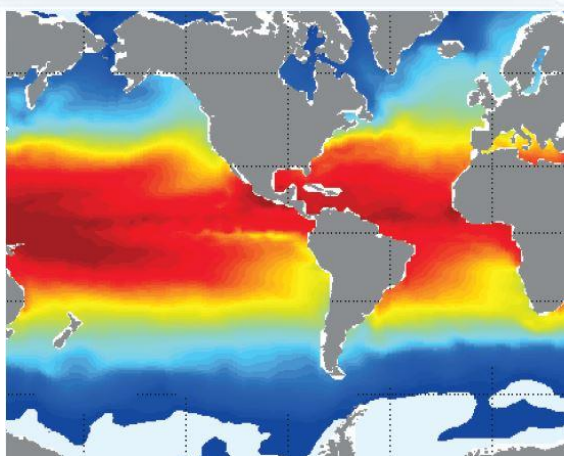


NATIVE GRID PRODUCT – REANALYSIS - GLOBAL OCEAN - PHY - 1/4°



This product contains the Global Ocean Physical Reanalysis at 1/4° (~28 km at the equator) covering the period 01/01/1993 – 31/12/2015– 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 1/4°.

Reference: GLORYS4V4

• Variables	PHY	sea_water_potential_temperature (T)	K
		sea_water_potential_temperature_at_sea_floor (bottomT)	K
		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	1/4°~28km at the equator on ORCA025 Native Grid (ARAKAWA C, no interpolation)		
• Spatial vertical resolution	75 vertical z-levels (from -5500.0m to 0.0m)		
• Temporal resolution	Yearly, Monthly and daily means		
• Temporal coverage	01/01/1993 – 31/12/2015		
• Update frequency	Yearly update		

	<p>Domain : Global Ocean (180°W-180°E ; 77°S-90°N) Physic or Biogeochemistry : Physic Code and Version : Nemo3.1</p> <hr/> <p>Grid and resolution : ORCA025 [1/4°; 75 levels] Grid size : 1442*1021*75 (partial steps) Data Assimilation: Yes/ Tide : No Sea Ice : Sea Ice model LIM2 EVP Bathymetry: ETOPO1 for the deep ocean and GEBCO8 on the shelves (<200m) Time step : 1080s Update : yearly</p>
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Reference GLORYS4V4	
Forcing and Data Assimilation	
Data assimilation	Yes
Data assimilation scheme	SAM2 (SEEK Kernel) + IAU + 3D-Var bias correction (3 months time window)
Data assimilated	Sea Level from CMEMS SLA TAC & Mean Dynamical Topography - In-Situ TS Profiles from CMEMS In Situ TAC- SST1/4° AVHRR – IFRIMER/CERSAT Sea Ice Concentration
Atmospheric or Biogeochemical forcings:	- ERA-Interim reanalysis atmospheric forcing : 3 hours (surface air quantities) with large-scale correction of 24h surface fluxes - Bulk formulation : CORE
Runoff:	Dai et al. (2009)
Open boundary conditions:	No
Initial Conditions and Relaxation	
Initial Conditions	EN.4.2.0 for T & S IFRIMER/CERSAT for Sea ice concentration.
Surface relaxation	None
Water column (3D) relaxation	Relaxation at depths toward EN.4.2.0 1) at Gibraltar and Bab-el-Mandeb straits and 2) poleward 60°S below 2000m.
Convection	By increasing vertical mixing
Parametrisation	
Surface Physics parametrisation	Free surface formulation
Lateral friction	Partial slip
Vertical mixing	TKE 1.5 closure scheme
Advection	TVD 2nd order centered scheme
Tracer diffusion	laplacian lateral isopycnal diffusion on tracers
Momentum diffusion	Horizontal bilaplacian
Horizontal diffusion coefficient for tracers and momentum	aht0 = 300 m2/s ahm0 = -1 1011 m4/s
Vertical diffusion coefficient for tracers and momentum	avt0 = 1. 10-5 m2/s avm0 = 1. 10-4 m2/s