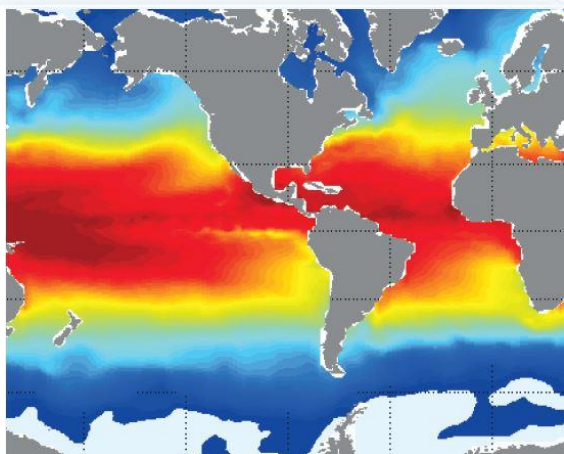


NATIVE GRID PRODUCT - ANALYSIS AND FORECAST - GLOBAL OCEAN - PHY - 1°



This product contains analysis and forecast of the Global Ocean Physics at 1° (111 km at the equator) – Temperature, Salinity, Sea Surface Height, Mixed layer Thickness, Currents, Sea Ice thickness, Concentration and drift - with a daily update of the latest ocean fields. The numerical files are displayed on the native grid 1/4°.

Reference: GLO1V4R1

• 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
Mixed layer thickness (temp)	m
Mixed layer thickness (turbocline)	m
Amplitude of SST diurnal cycle	°C
Amplitude of mldr10_1 diurnal cycle	m

ICE

Sea ice thickness	m
Sea ice fraction	[0;1]

• Geographical coverage	Global Ocean (180°W-180°E; 77°S-90°N)
• Grid and spatial horizontal resolution	1°~111km at the equator on ORCA Native Grid (ARAKAWA C, no interpolation)
• Spatial vertical resolution	75 vertical levels (from -5500.0m to 0.0m)
• Temporal resolution	Daily-mean
• Temporal coverage	Analyses (01/01/1992) up to 7 day-forecast
• Update frequency	Daily update

	<p>Domain: Global Ocean (180°W-180°E ; 77°S-90°N) Physic or Biogeochemistry: Physic Code and Version: Nemo3.6</p> <hr/> <p>Grid and resolution: ORCA [1°; 75 levels] Grid size: 362*294 *75 (z-coordinates) Data Assimilation: No Sea Ice: GELATO7 Tide: No Bathymetry: ETOPO2 Time step: 1800s Update: weekly</p>
--	--

Reference GLO1V4R1	
Forcing and Data Assimilation	
Data assimilation	No
Data assimilation scheme	No
Data assimilated	No
Atmospheric or Biogeochemical forcings:	<ul style="list-style-type: none"> - 1993-2015 : 3 hours ECMWF ERA-interim forcings or 24 hours for radiative flux; - 2016-now : 3h ECMWF IFS - Bulk formulation: CORE
Runoff:	Dai and Trenberth monthly climatology (2009)
Open boundary conditions:	No
Initial Conditions and Relaxation	
Initial conditions	Strong relaxation to SST (of Glorys2v4/PSY3v4r2, first ocean level) (231.5W/m2/K)
Surface relaxation	SST Reynolds
Deep relaxation	Anomalies nudging: nudging to interannual anomalies of GLORYS2V4 or PSY3V4R2 for T and S.
Convection	By intensification of vertical mixing (diffusion term)
Parametrisation	
Surface Physics parametrisation	Free surface (explicit+filtering)
Bottom friction	No linear (constant bottom friction)
Lateral friction	Free slip (shlat = 0)
Vertical mixing	TKE 1.5 closure scheme
Advection	TVD 2 nd order centered scheme
Tracer diffusion	Isopycnal laplacian
Momentum diffusion	Horizontal laplacian
Horizontal diffusion coefficient for tracers and momentum	aht0 = 1000 m ² /s ahm0 = 20000 m ² /s
Vertical diffusion coefficient for tracers and momentum	avt0 = 1.2 10 ⁻⁵ m ² /s avm0 = 1.2 10 ⁻⁴ m ² /s