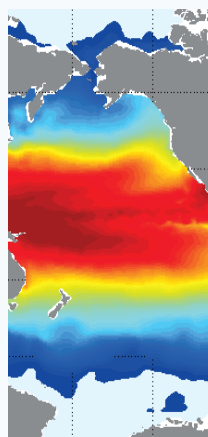


SYSTEM FOR MEDITERRANEAN SEA PHYSICAL REANALYSIS AT 1/12°



Geographical coverage : Mediterranean Sea (11°W-37°E; 30°N-46°N)- No Black Sea
 Physics or Biogeochemistry : Physics
 Grid and Resolutions : ORCA12 [1/12°; 75 levels]
 Grid size : 567x264x75 (partial steps)
 Code et Version : Nemo3.1
 Data assimilation : Yes
 Sea Ice Modeling : No
 Tides : No
 Bathymetry : MERCATOR-LEGOS bathymetry v10 (GEBCO-08, MEDIMAP, IFREMER)
 Free run configuration name : MED12-T02
 Time step : 720 s
 Update : None

Reference : MEDRYS

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 :	- Sea Surface Temperature (Reynolds AVHRR-AMSR 1/4°), - 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 forcings	- 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
• Water column (3D) relaxation :	Relaxation towards T S SSH from ORAS4 within buffer zone (11°W-7°W)
• Convection :	By intensification of vertical mixing (diffusion term)

Parameterisation

• Surface physics parametrisation :	Free Surface (filtering)
• Bottom friction :	Non 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 :	ah _{t0} = 60 m ² /s ah _{m0} = -1.25 e10 m ² /s
• Vertical diffusion coefficient for tracers and momentum :	av _{t0} = 1.0 e-5 m ² /s av _{m0} = 1.0 e-4 m ² /s