**1. OPTIMAL INTERPOLATION SCHEME**

At the INGV/CMCC, the OI scheme is used for SST assimilation. It is based on a 3DVAR analysis with horizontal correlation lengths of temperature and salinity (Belo Pereira et al., 2006). It is used for long-term (1983-2009) studies of the Global Ocean variability, and the continuous re-fitting of all observational data and processing part of the assimilation system. The OI scheme is used for SST assimilation, which contains in inter-alia, defining the weight matrix of the two diagonal elements for SST assimilation (Belo Pereira, 2005).

**2. THE 2-DEGREE RESOLUTION 3DVAR**

To enable assimilation of satellite data, we have used a 3DVAR assimilation system, to better correlate the satellite data with the model. The OI scheme is used for SST assimilation (Belo Pereira, 2006). The OCMC model is a 3.2 km resolution model, coupled with the 3DVAR sea-surface temperature (SST) assimilation system. The OCMC model is used for long-term climate variability studies at inter-annual and decadal scales and has been continuously improved by means of observation tuning and observation selection.

**3. TUNING OF VERTICAL CORRELATION LENGTH-SCALES**

Vertical correlation lengths have been used for SST assimilation (Belo Pereira, 2006). The OCMC model is used for long-term climate variability studies at inter-annual and decadal scales and has been continuously improved by means of observation tuning and observation selection.

**4. PARALLELIZATION**

The OCMC model is a 3.2 km resolution model, coupled with the 3DVAR sea-surface temperature (SST) assimilation system. The OCMC model is used for long-term climate variability studies at inter-annual and decadal scales and has been continuously improved by means of observation tuning and observation selection.

**5. CONFIGURATION AND SELECTED RESULTS**

The OCMC model is a 3.2 km resolution model, coupled with the 3DVAR sea-surface temperature (SST) assimilation system. The OCMC model is used for long-term climate variability studies at inter-annual and decadal scales and has been continuously improved by means of observation tuning and observation selection.

**References**


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