| | Consistency Assessment | Quality Assessment |
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| Ocean surface elevation | - Using Class 1 gridded files compare the 3-month average (February-March-April) to equivalent mean SSH deduced from AVISO altimeter maps.<br>- Using Class 1 gridded files, compare monthly averaged SSH to equivalent mean SSH deduced from AVISO altimeter maps. | - Using Class 1 gridded files, compute daily differences to AVISO SSH, then map statistics of differences (mean, RMS).<br>- Using Class 2 mooring, compute daily differences to tide gauge sea level measurements, then map time series and corresponding statistics (mean, RMS and correlations). |
| Ocean circulation (both wind driven and thermohaline, at the surface and at depth) and mesoscale activity | - Using Class 1 files, compare the Mean Kinetic Energy over the three month period to equivalent of OSCAR or SURCOUF averaged surface current.<br>- Using Class 1 gridded files and Class 2 sections, compare the Mean Kinetic Energy to known values at depth.<br>- Using Class 3 volume transport sections, compute the averaged over the three-month period and compare to known values at different ocean locations.<br>- Using Class 3 MHT and OSF compute the average over the three-month period and compare to known values for the world ocean and in the different basins.<br>- Using Class 1 gridded files, compare the 3-month EKE statistics (February-March-April) to equivalent mean SSH deduced from AVISO altimeter maps. | - Using Class 1 gridded files, compare the surface currents to OSCAR or SURCOUF equivalent products (at least weekly).<br>- Using Class 1 gridded files, compare at a weekly rate large-scale current meandering with AVISO satellite altimetry maps.<br>- Using Class 1 gridded files and Class 2 sections (e.g., equatorial sections), plot Hovmöller diagrams of sea level changes (i.e., identify wave propagation over the three-month period).<br>- Using Class 3 volume daily transport sections, compare time series of transport with observations (statistics of the differences: mean, RMS, correlation). |
| Water masses | - Using Class 1 gridded files, compare the monthly averaged temperature and salinity fields at the different depths to WOA monthly climatological values. | - Using Class 2 sections and moorings, compare to available data (XBT lines, WOCE/CLIVAR sections etc…).<br>- Using Class 2 moorings (like TAO moorings), |

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| | - Using Class 2 sections, compare the monthly averaged temperature and salinity fields at different depths to WOA monthly climatological values.<br>- Same diagnostics can be performed using other regional climatologies. | plot Hovmöller diagram of temperature and salinity fluctuations from GODAE products, and observations.<br>- Using Class 4 metrics T/S files, compare hindcasts every week, for each basin, for the same depth average as Class 4 diagnostics. Compare also q-S diagrams whenever possible (when both temperature and salinity profiles are available). |
| Surface conditions | - Using Class 1 gridded files, compare the monthly averaged MLD to climatology [*D'Ortenzio et al.*, 2005; *de Boyer Montégut et al.*, 2004].<br>- Using Class 1 gridded files, compare the monthly averaged SST to NCEP/Reynolds climatology.<br>- Using Class 1 gridded files, plot vs. latitude, globally and in each basin, and for each month: a) the zonally average surface net heat flux (including restoring terms); b) the zonally average SST; c) the zonally average surface net fresh water fluxes (including restoring terms); d) the zonally average SSS; e) the zonally average MLD | - Using Class 1 gridded files, compare the daily SST to observed SST products from GHRSST, at global or regional scales. Compare SST time series averaged in boxes (Nino boxes etc.…). |
| Sea Ice | - Using the Class 1 gridded files, compare the monthly averaged sea-ice concentration to equivalent mean values from SSM/I sea-ice concentration products. | - Using the Class 1 gridded files, compare daily sea ice concentration and drift with values from SSM/I sea-ice products. |