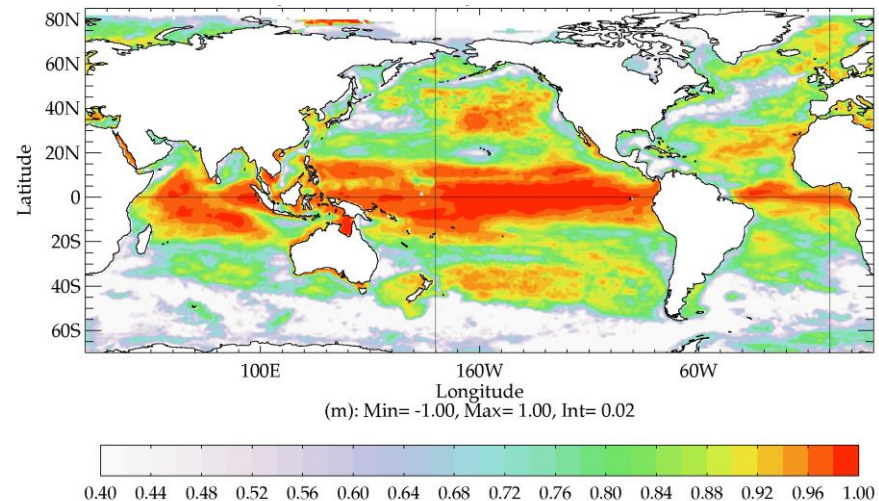


# ECMWF's contribution to the Sea-Level CCI phase II project

## Comparison of new SL-CCI2 product with

- SL-CCI1 (AVISO)
- ECMWF ocean model simulations
  - i.e. runs with different surface forcing
  - i.e runs with different ocean model resolution
- ECMWF ocean reanalysis
  - Eddy-permitting resolution (1/4 degree) product ORAP5 and/or ORAS5
  - 1 degree product ORAS4 and ORAP5 equivalent ORCA1 run

Figure 1. Correlation of monthly mean Sea Surface Height: ORAP5 vs AVISO-version4 (1993-2008)

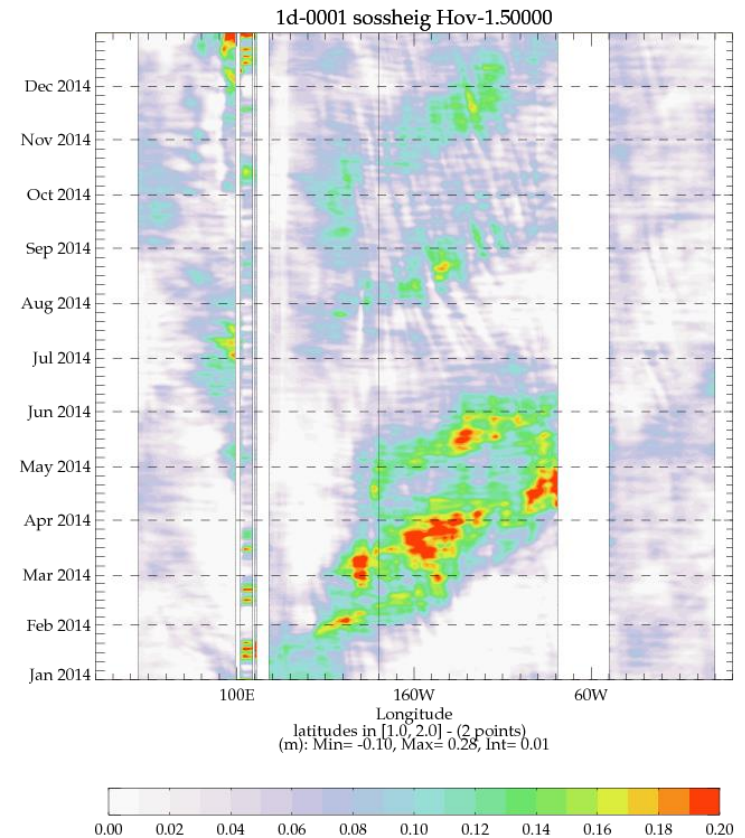


## Types of SL-CCI phase II product available for evaluation ?

- Monthly Mean data as gridded maps can be used for evaluation inter-annual variability of the sea-level trends as global map, against model simulation and reanalysis.
- Daily mean maps can be used to evaluate the sea-level instantaneous variability and tropical instability waves ?
- Along-track data: to be used in ECMWF's observation operator for offline diagnostics of statistics at observation space

Figure2. SSH from ORAS4 2014 at 1.5N.

How is the intraseasonal variability in the daily maps of ESACCI SL? Kelvin/Rossby waves, Tropical instability waves



## Focus studies (to be determined):

- Improvement in the Arctic sea-level from SL-CCI2, and validate against model (simulation and reanalysis), refer to the high correlation area in the Arctic in Fig. 1
- Indian Ocean
- Global sea-level changes and its attribution budget (SSH, steric-height from model/objective analysis, EBP from GRACE...)

Figure.3 Maps of sea-level trends (1993-2008) as derived from AVISO and two ECMWF ¼ degree model runs and reanalysis

