

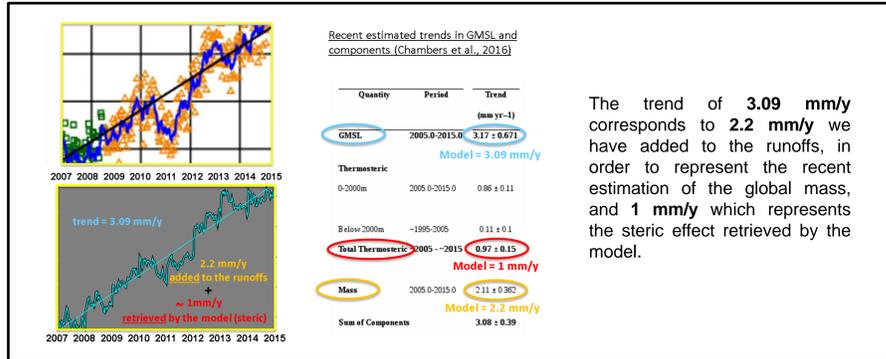
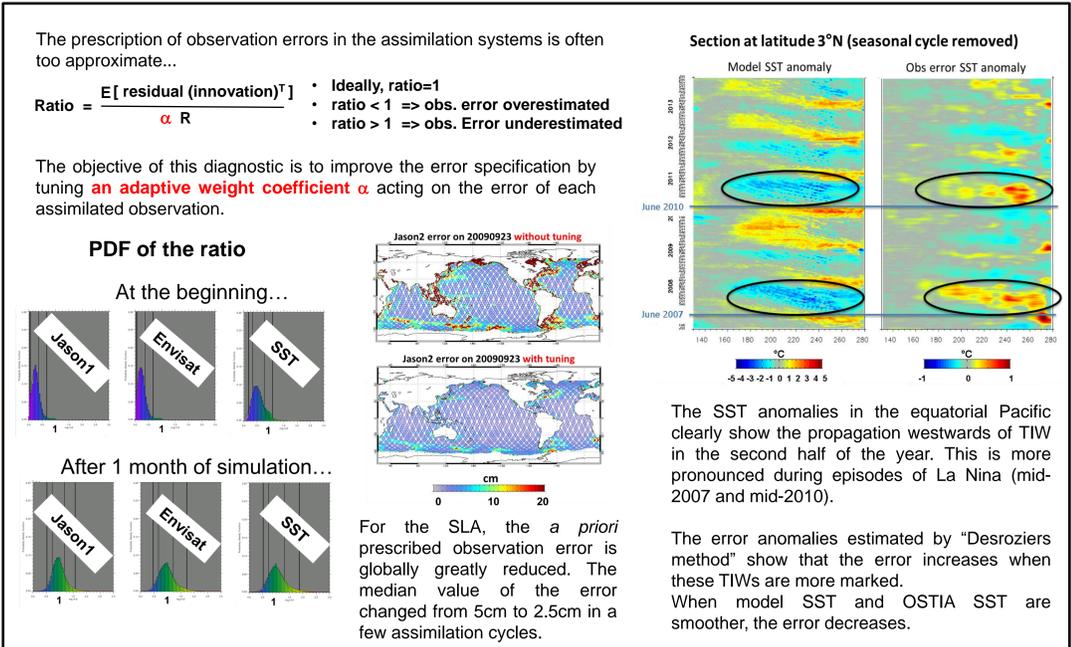
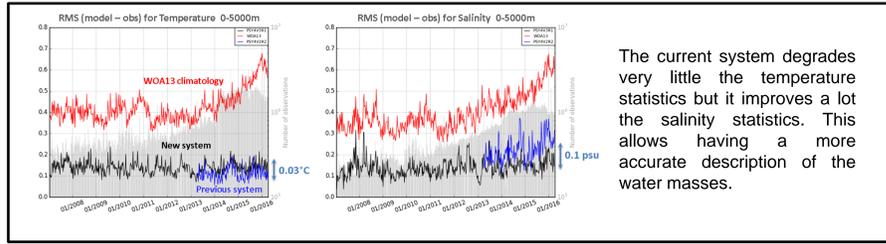
# Quality assessment of the current Copernicus Marine Service global ocean monitoring and forecasting real-time system since its operational implementation in October 2016

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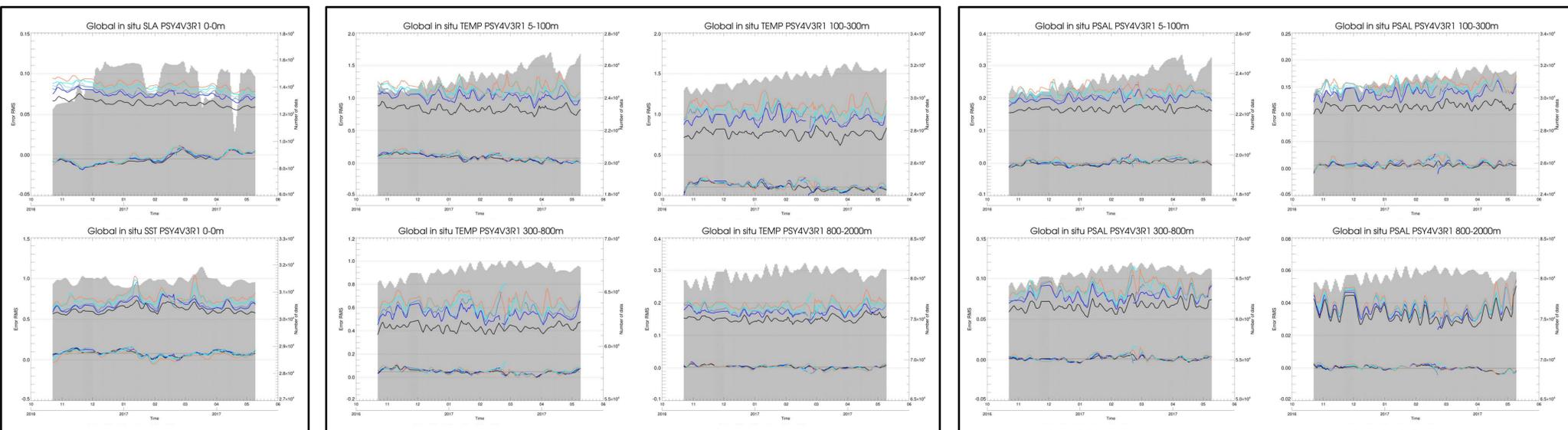
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## Main updates of the system

An assessment of the hindcasts (2007-2015) has been conducted last year and has highlighted improvements compared to the previous system thanks to the following updates: large-scale and objective correction of atmospheric quantities with satellite data, new freshwater runoff from ice sheets melting, global steric effect added to the model sea level, new Mean Dynamic Topography taking into account the last version of GOCE geoid, new adaptive tuning of some observational errors, new Quality Control on the assimilated temperature and salinity vertical profiles based on dynamic height criteria, assimilation of satellite sea-ice concentration, week constraint imposed on temperature and salinity in the deep ocean (below 2000 m) to prevent drift.



## Performance of the forecasts (Best F1 F3 F5 F7 F9)



## Comparisons PSY4free / PSY4bias / PSY4oper

OPERational PSY4V3R1 system was run over the October 2006 – October 2016 period, starting from 3D temperature and salinity initial conditions based on the EN4 climatology. Two other simulations over the same period have been performed. The first one is a **FREE** simulation (without any data assimilation) and the second one only benefits from the 3D-VAR large-scale **BIAS**es correction in temperature and salinity. The OPER simulation

