**Methodology**

The General Ocean Turbulence Model (GOTM) is a 1D high vertical resolution turbulence model. In SOSSTA, GOTM is run over the high vertical resolution model to properly capture the SST diurnal amplitude. Validation is also performed w.r.t. to SST observed in real-time satellite data (i.e. SEVIRI, AMSR-E, AVHRR) for different IR/MW sensors. DINEOF is used to fill the spatial data gaps.

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**Scientific References**

- Pimentel, S., G. Korres, and N. K. Nichols (2008): The assimilation of satellite-derived sea surface temperatures into a diurnal cycle model. J.

**Preliminary Results**

GOAL: The use of SOSSTA operator provides improved skill scores w.r.t. to the bare use of first model-level SST as model-equivalent. Preclinical results in the Greek POSEIDON system (a SEER regional analysis scheme, Korres, et al. 2010).

Routinely computation of SST diurnal range-maps for the whole Med Sea from SEVIRI.

**Impact on CMEMS**

- All MFCs may benefit from the developments of SOSSTA for:
  - Optimal data assimilation of L2 SST data assimilation of L2 is not necessary part of CMEMS, mostly for operational forecasts.
  - Better use of available satellite data.
  - Skill SST diagnostics (e.g. model validation, Earth system models, skin SST prediction).
  - Providing reliable estimates of diurnal cycle.
  - Use of CCA for multi-variate data assimilation.
  - Providing methods for non-linear data assimilation.

**R/D uptake**

- Through the public release of:
  - CCA software (Python)
  - Canonical correlations data (NetCDF)
  - Observation operator routines (Fortran)

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