

Tropical Atlantic ocean & weather forecast

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ECMWF - Météo-France

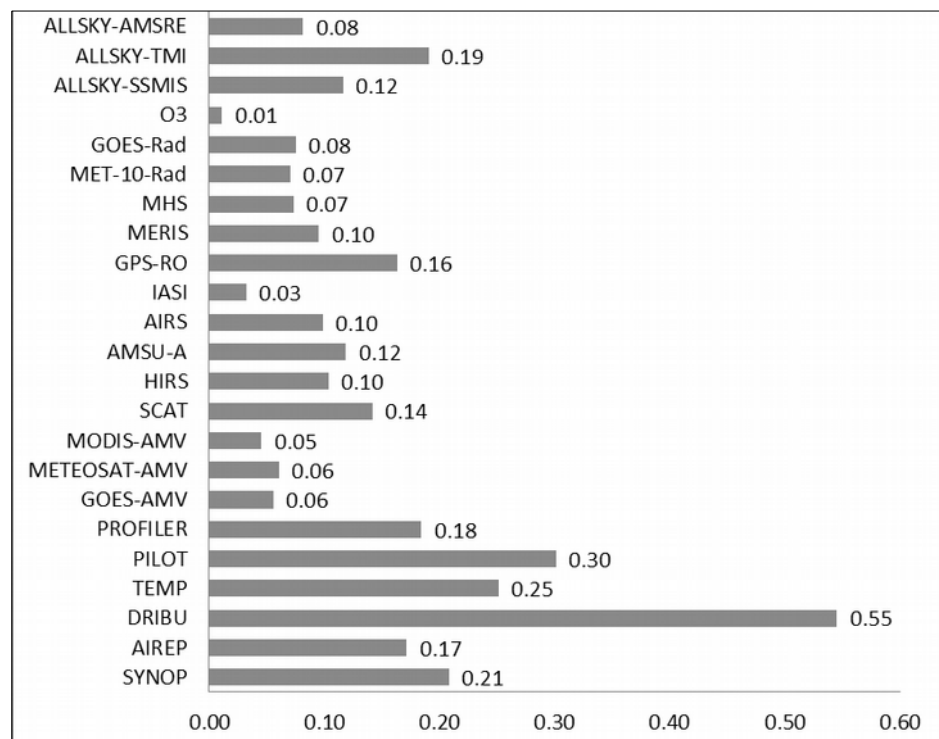
Marseille, TAOS review, Oct. 2018

Observation Influence results in 2 global systems

Paul Poli, Météo-France (Eumetnet E-Surfmar programme manager)

ECMWF (IFS)

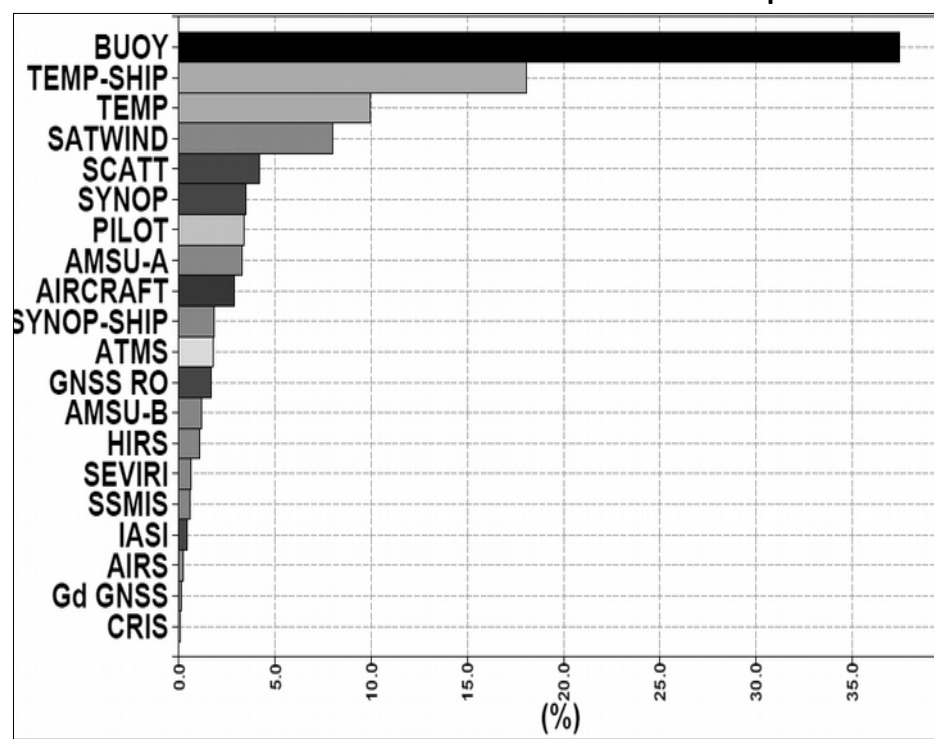
Nov-Dec 2010



Horányi, A., C. Cardinali, and L. Centurioni, 2017: The global numerical weather prediction impact of mean-sea-level pressure observations from drifting buoys. *Q.J.R. Meteorol. Soc.*, DOI:10.1002/qj.2981.

Météo-France (Arpège)

Sep 2013

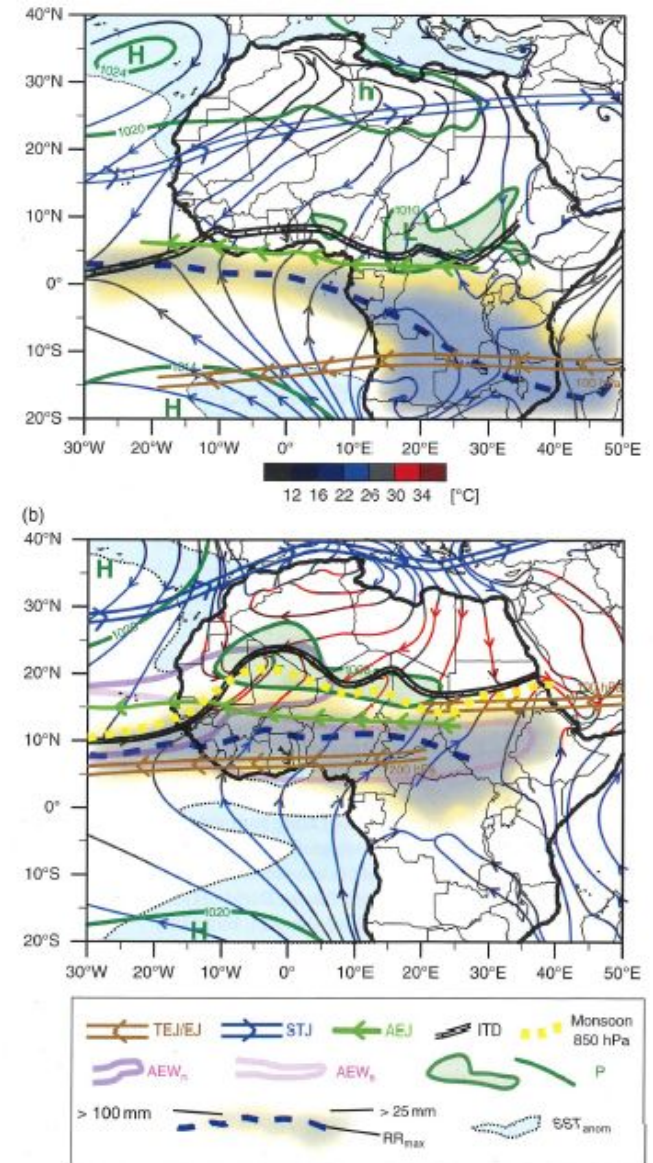


Doerenbecher, A., J.-F. Mahfouf, N. Boullot, 2014: E-SURFMAR impact study, presented to EUMETNET Observation Programme Scientific Expert Team.

Weather forecast

- Extremes, sub-seasonal variability, climate and other aspects are addressed in depth in the other sub-chapters
- Mainly based on Numerical Weather Prediction, seen from Europe. Earth system target (→ km).
- Western Africa (AMMA)
- Key importance of data assimilation, and satellite operational missions.
- Significant impact of in situ observations (see Paul Poli)
- Long term monitoring is also critical (reanalysis and comparison of forecast to climatology)
- Short term previsibility linked to slowly varying components (eg W African weather and the AMOC)

- Complex topography, model resolution and spatial scale
- The realm of salinity
- Cross-equatorial ocean flow
- Meridional and equatorial asymmetric modes in atmosphere and ocean variations (and monsoon circulations)
- The Caribbean warm caldron, source of Rossby waves, interaction with MJO, cyclones, Gulf Stream
- Interbasin variability
- And so on... including Western Boundary currents, marine stratocumulus...



The current review has a benefit for operational forecasters, the guys we must not forget, who are there to compensate for the weaknesses of the numerical suites...



Thanks