**Ensemble forecast system for TC storm surge**

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The Bureau of Meteorology has recently implemented a new dynamical system to provide forecasts of storm surge driven by Tropical Cyclones (TCs). Surface forcing is derived from the Bureau of Meteorology’s Official Forecast Track and its associated ensemble tracks. These are produced using the ‘DeMaria’ method (DeMaria et al., 2009) which takes into account historical TC track and intensity errors. Surface stress and pressure are used to force a 200-member ensemble of storm surge models, implemented using the Regional Ocean Modelling System (ROMS) model. Wave set-up and astronomical tides are linearly combined with the ROMS storm surge to provide 72-hour ensemble forecasts of coastal sea-level at a spatial resolution of approximately 2 km around the Australian coastline.

The storm surge component of the system has been described and verified for seven TC case studies using 'Best Track' forcing in Greenslade et al (2018). This presentation will provide an overview of the ensemble component of the system, including verification of the probabilistic forecasts, where possible.

# References

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