



## **UK storm surge statistics for the last 45 years: observations versus the operational model forced with the ECMWF reanalysis**

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The ECMWF ERA-40 reanalysis provides 45 years of atmospheric forcing at 2.5 degree, 6 hourly resolution. We compare an integration of the Proudman Oceanographic Laboratory CS3X model, as used operationally in the UK, with hourly storm surge observations from the National Tidal and Sea Level Facility at POL.

This comparison examines whether the relatively coarse temporal and spatial resolution of the ERA-40 forcing affects the long-term surge statistics. The results of this hindcast and the lack of higher resolution decadal atmospheric reanalyses hold important conclusions for making statistically significant forecasts of storm surge climate.