

## Continental Shelf Model (CS3 and CS3-3D)

### Details

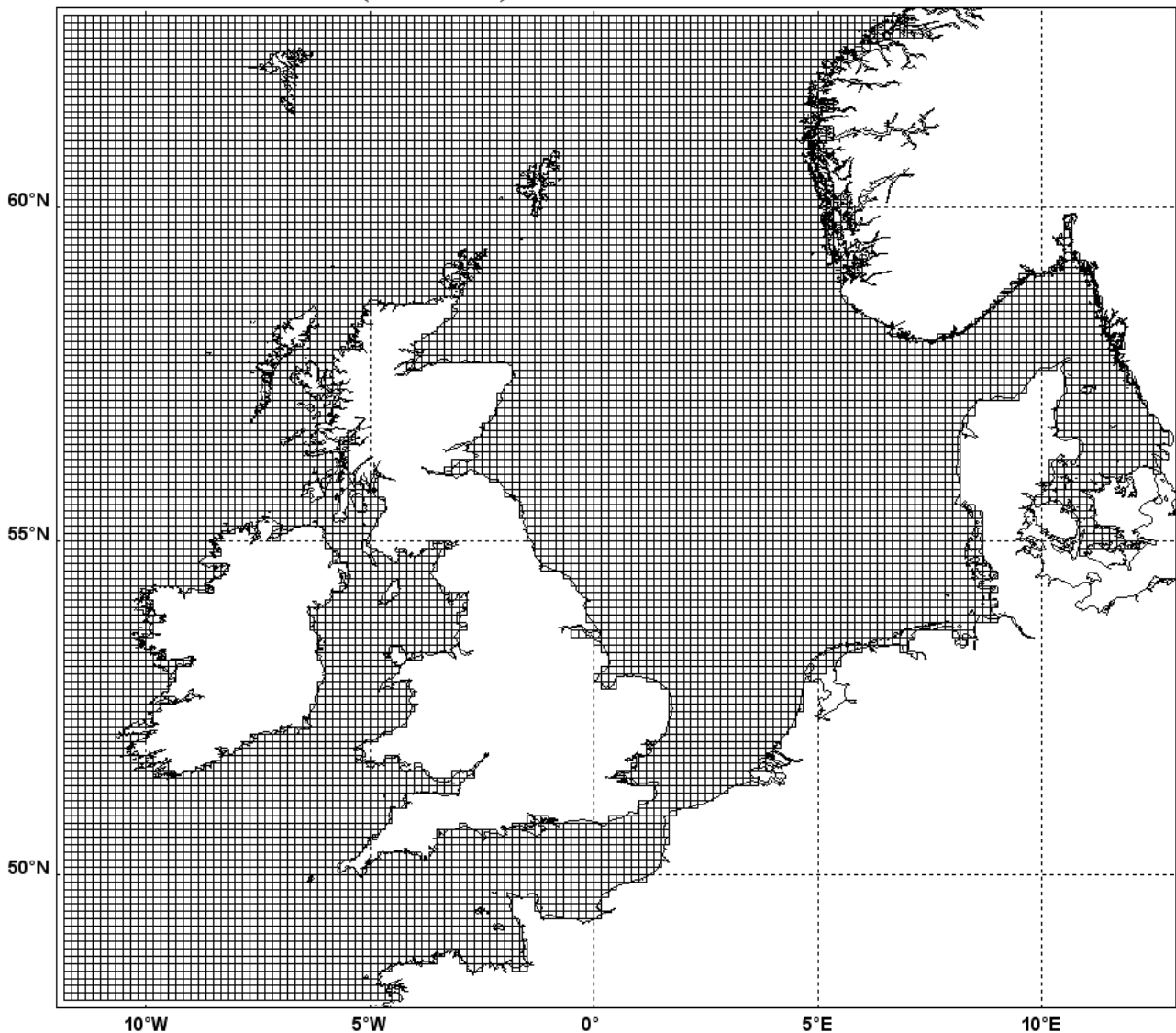
1/9° latitude by 1/6° longitude (resolution approximately 12km)

Area covered: 48° 07'N to 62° 53' N, 11° 50'W to 12° 50'E

Tidal currents: depth-averaged (CS3) ; 6 vertical sigma levels (CS3-3D)

### Model grid

Continental Shelf Model (CS3-10HC)



# National Oceanography Centre Marine Data Products

## References

Smith, J. A. (1994). The Operational Storm Surge Model Data Archive. POL Report, No 34, 34pp.

Flather, R. A. and J. A. Williams (2004). Future development of operational storm surge and sea level prediction. Proudman Oceanographic Laboratory, Internal Document, No 165.

Flather, R. A., R. Proctor, I. D. James, J. E. Jones, J. A. Smith, A. M. Davies, S. C. M. Kwong, M.W. Holt and J. Davies (1998). "Status of UK operational storm surge forecasting for the NW European Shelf." *Annales Geophysicae*, 16, Supplement II: p.C779.

Williams, J. A. and R. A. Flather (2004). The Operational Storm Surge Model: maintenance, performance and development, January 2003 - March 2004. Proudman Oceanographic Laboratory, Internal Document, No 164, 65 p.

Williams, J. A. and R. A. Flather (2003). The operational storm surge model: development, performance and maintenance during 2002. Proudman Oceanographic Laboratory, Internal Document, No 155, 36 p.

Williams, J. A. and R. A. Flather (2000). Interfacing the operational storm surge model to a new mesoscale atmospheric model. Proudman Oceanographic Laboratory, Internal Document, No 127, 13pp.

## Other data available from the CS3 model

Tidal data (elevation and depth-averaged currents) available for any time period (past or future).

Hindcast of hourly level and current simulations from the NOC CS3 Model are available for total (tide and surge) and surge residuals for the years 1992 onwards.

The model makes use of meteorological data from the UK Met Office Operational Storm Surge Local Area Model (1992 to 1998) and the Mesoscale model (1999 onwards). The data being hindcast from the NOC CS3 Model using a combination of measured and modelled meteorological data. Surge residual (also known as residual) and total (tide+surge) both have levels and currents (in component form)

## Data available from the CS3-3D model

The model uses up to 26 tidal harmonic constants to provide tidal elevation together with current speed and direction at six different depths (sigma levels) deduced from the depth-averaged currents using a set of vertical current profiles. The six sigma levels for the currents are at the depths 0% (surface), 25%, 50% (mid-depth), 75%, 90% (near-bottom) and 100% (bottom).

