

The analysis of past climate and extreme events over North Sea

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The knowledge of the offshore wind resources in the North sea is crucial for the planning of expensive wind farms whereas the offshore measurements are scarce and expensive. To estimate the reliability of reanalysis wind data over the North Sea, two different sets of the sea level pressure (SLP) and wind speed (WS) data, ECMWF ERA-40 and NCEP/NCAR, are compared. Different statistical descriptors, such as occurrence of extreme values and empirical orthogonal functions, for 43 years ECMWF reanalysis period from 1958 to 2001 of 6 hourly data were calculated and compared. The possibility of using the winter North Atlantic Oscillation Index (NAOI) as a simplified descriptor of SLP and WS over the North Sea is also investigated.