

Topographic signals in the QuikSCAT extreme wind climate in European coastal waters and the Mediterranean Sea

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QuikSCAT data is used to explore the climatology of extreme winds around Europe, reaching from the Baltic Sea through the North Sea, the Atlantic Ocean west of the UK, Ireland, France and Spain and the entire Mediterranean Ocean. As expected, there is a strong topographic and wind-direction dependent signal in the northern Mediterranean Sea and windstorms are by far more frequent in the N-Mediterranean than in the S-Mediterranean Sea. There is also a topographic signal in the frequency of strong windstorms at the coast of Galicia and in the Bay of Biscay. This Atlantic signal of local enhancement of winds appears to be associated with deformation of cyclones through orography and thus of a nature different from Mediterranean mountain jets such as the Tramontane and the Mistral.