



A Historical European Windstorm Database from 1900 to 1940. The Windsurfer project

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Understanding the past variability of windstorms is crucial to quantify the current risk of extreme wind and wave events in Europe, detect trends and estimate how the risk of this kind of events might change in the future. Weather stations were not very numerous before 1940 and therefore observations dating back beyond that date are scarce. The scarcity of instrumental data also affects the quality of the reanalyses for the early part of the century; the ECMWF 20th century reanalysis, ERA-20C, the NOAA's 20CR and other simulations performed with various climate models present opposing trends in storminess in the North Atlantic region for the 20th century. Previous efforts to provide information about European windstorms such as the Windstorm Information Service (WISC) have covered the period from 1940 to present. In order to complete the information gap for the aforementioned decades, the WINDSURFER project has created a European windstorm database covering the period from 1900 to 1940. WINDSURFER is a European project that aims at advancing in the quantification of present and future risk of extreme wind and wave events and to provide localised climate information to specific user groups such as the forestry industry, the reinsurance and the offshore energy sectors. The Historical European Windstorm Database presented here is an overview document which contains a list of the most significant storms to affect Europe between 1900 and 1940, as well as a review of available instrumental data for the period from national meteorological services and other institutions. Besides, a discussion on the reanalysis that cover the period is presented, addressing known quality issues and the reason for the disagreement between them.