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## Feature-based classification of European windstorms

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Scientific work on European windstorms mainly focused on local damages, location (tracks), temporal evolution or the overall severity, often measured by severity indices of different definitions. Each of the aforementioned windstorm properties is directly related to important characteristics within the windstorm itself, such as wind speed, duration, spatial extent or internal variability. Variation or changes within these characteristics are therefore defining aspects in the spatial and temporal evolution of windstorm. As a step towards a better understanding of such variations, we classify windstorms based on these characteristics using Quasi-Supervised K-Means clustering, a novel procedure that was specifically developed by us to cluster windstorm tracks based on a reference windstorm catalog. One of the resulting clusters, containing 300 out of more than 2000 storm tracks over the North Atlantic and Europe, includes the tracks of the 20 most severe storm events according to the XWS catalog. This cluster is further examined to identify common characteristics of the large scale situations that determine the cluster characteristics.