

Present and future statistics of extreme European storms

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Abstract

In December 1999, three extreme storms devastated northern Europe, causing unprecedented damage and loss of life. How do such storms arise? What are the chances of such a storm hitting Ireland on any given winter? Will such storms occur more often in future? We will study these questions by generating a very large number of 'virtual' storms using a numerical atmosphere model, allowing us to build a robust and realistic picture of typical storm features and controlling conditions. We will generate a large (1000-year) ensemble of high-resolution simulations of the North Atlantic storm track spanning present and future climate conditions, providing an unprecedented combination of statistical accuracy and simulation realism.