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Rogue Waves in the North Sea

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In the present study, rogue waves are defined as extreme events characterised by a wave height of at least twice the significant wave height. The study aims at finding out more about their frequency of occurrence. Hence, a rogue wave climatology for the North Sea was established. For this purpose, six years of high-resolution measurement data from wave buoys and radar devices were investigated. The amount of measured rogue waves was compared in space and time for the period from 2011 to 2016. A possible seasonality of rogue wave occurrence was examined. The amount of rogue waves found in the present study was compared to expected values from established theoretical distributions. Furthermore, it was investigated whether rogue waves are part of the normal distribution of wave heights or if they follow their own distribution.