Geophysical Research Abstracts
Vol. 17, EGU2015-1426, 2015
EGU General Assembly 2015

Rogue run-up events at the North Sea coast

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On the 1st of January, 1995, the Statoil-operated “Draupner” platform located in the North Sea recorded the so-called "New Year wave". Since then, rogue waves have been the topic of active scientific discussions and investigations. Waves of extreme height appearing randomly at the sea surface have been measured in both deep and shallow waters and have been involved in a number of ship accidents. Nowadays rogue waves are frequently recorded all over the world with several different instruments (range finders installed on offshore platforms, deployed buoys, radars including SAR, etc.).
Rogue wave also occur at the coast, where they appear as either sudden flooding of coastal areas or high splashes over steep banks or sea walls. These waves are especially dangerous for beach users and lead regularly to human injuries and fatalities.
Despite numerous reports of human accidents, coastal rogue waves have not yet been recorded experimentally. In this paper we discuss the recording of rogue wave events at German North Sea coasts by using high-resolution beach cameras. The recorded rogue waves are observed during different tide levels and different weather conditions. Possible mechanisms of their generation are discussed.