MIDDLE TO LATE HOLOCENE STORMINESS RECORD, ON A ROCKY COAST BRITTANY.

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In order to have a better insight into the recurrence conditions for large storm event to assess coastal flooding risk, the record of storminess has been analysed along rocky coasts in Western Brittany, especially on the southern coast of Audierne's Bay. Drilling transects and stratigraphic works have been performed to constrain the chronology, the strength and the wind direction of the main events. New dating, with recalibration of older one at Audierne and along the coasts of Brittany allow to define the conditions of occurrence of at least centennial events. Most events seem linked with cooling episodes, a negative winter NAO in association with a warm sea (positive AMO) and a relative sea level close to the present one. Other storms are clearly connected with breaching, sand drift and dune building. Even storms exist at least since the Subboreal cooling, the storm frequency and intensity seem to rise by steps in the Late Holocene. The maximum efficiency is reached during the Little Ice Age, during and after the Maunder solar minimum, with clustered events and duration of several days. Millennial storms occurred immediately prior to the Middle Age thermal Optimum. This increase in storminess is in agreement with the orbital forcing and the Holocene glacial history but partly biased by the sea-level rise. The building of the recent coastal dunes from 1100 AD is a direct consequence of the restoral of beaches after major storms, often during dry and stormy negative NAO events despite a rising sea level.