

“Virtual Storms”™ for Design of Coastal Flood Warning Systems and Defence



A project has kicked off in London, UK, that will create artificial storms to predict worst-case scenarios for coastal flooding. Using computer models to make real storms more extreme this project, led by the National Oceanography Centre (NOC), will help to inform the planning of coastal defences and emergency response.

Alongside the NOC, the Universities of Southampton and Reading and the Met Office will work together to use these ‘virtual storms’ to create data that will fill in the gaps in the storm surge and wave record – and therefore improve our confidence in our statistics of coastal flood risk.

Protect Communities

After London and Hull, Portsmouth is the city most at risk from coast flooding in the UK. The Eastern Solent Coastal Partnership are planning up to 100 million pounds of coastal defence schemes in the next decade, this project could help better inform defences, such as these, to ensure they are able to protect communities from worst-case flooding scenarios.

Professor Kevin Horsburgh from the NOC said the worst case of coastal flooding in the UK in the last 100 years was in 1953, where 307 people were killed. Since tide gauge records are not very long, there isn’t a consistent record telling whether a storm was one we might experience every 50 years or every 500 years. This project will draw on the expertise in coastal flooding at the NOC to help address the problem of estimating the probability of such an event happening again, or of a worse event occurring in our life time.

This project is funded by the Natural Environmental Research Council (NERC) and forms part of the NOC’s on-going commitment to produce world-class science with a social and economic impact.

More Information

- [Details of past storm surges in the UK](#)