Operational Wave and Water Level model
Impact Case Study #6

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How are you using the OWWL forecast?

HR Wallingford is a not-for-profit HR organisation that delivers smart solutions where water interacts with people, infrastructure and the environment.

I work as part of the specialist research and consultancy service helping to protect vulnerable communities, improve lives and create resilience in the built and natural environments and am involved with coastal safety at Carolyn Bay beach near St Austell on the south coast of Cornwall.

The Carlyon Bay beach site management has been receiving the SWEEP-OWWL forecast since the end of 2021. They use it regularly to support their management of the site as it offers me an easy to use daily alert for potential overtopping and the risk of coastal flooding.

What threat did Storm Eunice pose to you, and your area of the coast?

As with other large storm events, Storm Eunice posed a threat to the management of Carlyon Bay Beach (a bay and a set of three beaches near St Austell on the south coast of Cornwall). It's the site job to assess the level of risk from overtopping and recommend precautionary measures to be put in place when risks are high.

What is the value of the OWWL forecast to your work?

The SWEEP-OWWL forecast provides a timely and accurate overview of local HS (significant wave height) and Tp (wave period) data. As an easily digestible and locally applicable service, it is very useful to the site planning on a daily basis.

When the alerts arrive, the site staff review these to assess whether there is a risk to beach users. During Storm Eunice there was a heightened risk and the beach was closed.

The SWEEP-OWWL model and forecast alerts that we receive benefit us in several ways. They help:

- To increase our confidence in predicting and managing coastal overtopping, enabling the site management to make better decisions to reduce disruption and damage at the coast. Over time we plan to refine the level at which we trigger alerts. We anticipate this will enhance our operating procedures ensuring we respond more effectively to beach safety threats from storm events, thus improving safety for beach users. This would ultimately extend to evacuation alerts for very severe storms.
- With more efficient targeting of resources to reduce coastal flooding and improve resilience, which helps us to make cost savings. This is difficult to quantify, however, the ease of the alerts makes the management processes easier.
- Improve health and safety of coastal workers, public, property, businesses, leading to life and business preservation. This will become even more important and useful over time as new development planned in the area (the Beach at Carlyon Bay) will lead to a greater number of users in close proximity to the sea.