Operational Wave and Water Level model
Impact Case Study #2

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I've worked as a Flood and Coastal Project Engineer at Dorset Council for over a year and half, also as a Duty Engineer responding to out of hours flood/coastal incidences. Before that, I worked in similar roles related to flooding at Plymouth City Council and the Environment Agency.

I have been signed up to the OWWL forecast for the last 18 months and use it during predicted storm events.

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

Storm Eunice brought the risk of high waves and wave overtopping in a number of areas. It also posed a threat to beach level changes and undermined flood risk assets.

The OWWL beach profiles cover the Western area from Lyme Regis to Portland and these were areas considered at risk from wave overtopping during Storm Eunice

What was the benefit of the OWWL forecast to you before, and during, Storm Eunice?

In conjunction with EA Flood Warnings and guidance from the EA incident room, we used the OWWL reports to decide to deploy temporary flood barriers to prevent wave overtopping at West Bay's West Beach. These were deployed a night before and the OWWL report was key in justifying this decision.

The barriers are designed to deflect wave overtopping back into the harbour and away from low lying areas of West Bay and early deployment the night before the event gave us more breathing room to respond more effectively to possible problems during the event.

What are the most valuable features of the OWWL model and forecast?

I'd say the fact that it arrives in an easy-to-use format, 3 days in advance providing us with sufficient time to review options and actions, and that it is specific to our area.

Unlike other sources of information that just offer flood warnings, OWWL provides us with a locally appropriate and accurate wave overtopping hazard forecast which gives us the confidence to implement our defences.

What are the main benefits of the OWWL forecast to you and your work?

- It increases our confidence, and accuracy, to make the right decisions about predicting and managing coastal overtopping, disruption and damage at our sites
- It provides important additional overtopping risk information that contributes to more efficient targeting of resources and ultimately cost savings
- The OWWL reports are most useful on large swell events that are often not forecast as accurately as large storm events.
- We will provide the OWWL forecasts to any projects being undertaken on the coast within Dorset Council area to help improve health and safety decision making.

How would you like the OWWL model to develop so it can better support you?

We find the OWWL model incredibly useful and would love to see it further expanded to provide:

- A 5-day in advance forecast for the whole of Dorset, rather than just from Lyme to Portland. We'd particularly like profiles and alert reports at Weymouth and Swanage as these areas, although not exposed to as many storms, see much more damage in the less frequent easterly storms.
- Potential overtopping flood water levels at adjacent sights, or a risk category of events that cause inundation at the site, would be helpful for making decisions on the deployment of men and equipment.
- Yearly statistics on risk alerts to help justify getting new projects off the ground.