![sweep]

Operational Wave and Water Level model
Impact Case Study #8

OWWL

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Despite only using the OWWL forecast for a couple of months I'm already seeing the benefits of this for my work. Storm Eunice highlighted these benefits, as we faced a flood alert along Weston-super-Mare with advice from the Environment Agency to shut flood gates and, two days later, a flood warning for the coast at Clevedon.

Wave overtopping at Western-super-Mare

Tell us a bit about your work

I've been Flood Risk Manager at NSC for just over a year. As part of my job I provide information to operational staff at Weston-super-Mare to help enable them to make effective decisions that minimise damage and disruption from coastal flooding e.g. by closing the sea front flood gates.

What are some of the difficulties you face?

Previously, this gate closure has happened in response to an operational alert from the Environment Agency. The problem with this, is that the operational alert doesn't provide any indication of the potential magnitude of the event, and also appears to be overly cautious. This means that in the vast majority of cases where gates have been closed, it has proved unnecessary. Understandably, this isn't popular with local businesses who are directly affected.

These alerts also don't provide us with sufficient information on the predicted weather to help us make decisions in relation to the different options we have around *which* gates to close.

In what ways are you benefitting from the OWWL forecast?

In contrast to the EA alerts, the OWWL forecast offers us a more nuanced understanding of what the impacts of any storm event are likely to be. This allows us to make better decisions in response to the potential risk of coastal flooding, allocate resources more appropriately, and act more effectively, particularly around flood gate

closures. These are often closed unnecessarily, due to inaccurate overtopping predictions, adversely impacting local businesses and infrastructure.

The forecasts are easy to use, arriving directly to me via email before being automatically forwarded to the seafront team at Western-super-Mare. They helpfully provide overtopping data which allows us to better understand the risk to individual parts of our coast.

Our flood risk team is small and not able to monitor all locations for potential impacts. The OWWL forecast allows us to raise concerns and suggest that operation staff concentrate resources in certain areas and not in others.

Any road closure is unpopular. During Storm Eunice I was onsite and able to advise the highways team on the length of the closure, based upon what was happening on the ground and the OWWL model predictions. This helped to minimise disruption.

Without the OWWL forecast I wouldn't have been able to feedback on the potential magnitude of the impact to the operational staff or known where to prioritise undertaking post storm inspections on North Somerset Council sea walls.

How do you see yourself, and your team, using OWWL going forward?

I see the OWWL forecast as a reliable source of information the team can have confidence in to make the right decisions. As such, I'm currently working to raise awareness of the OWWL forecast and embed it within our operations teams.

It is still early in a change of practice away from an overly precautionary approach, but the benefits of doing so are obvious. More accurate gate closure will not only benefit us in being able to be more efficient with our resources, but it will be popular locally as access to businesses (the Grand Pier, Revo and numerous cafés) and car parking is impacted by any gate closure.

We would love to see the model extended to cover others areas of concern to us. For example, in Portishead/Portbury where public and property safety is a concern in, and near to, a well-used nature reserve only separated from the sea by an earth bund and therefore liable to flooding.