

Floods: Predicting future damage

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to be able to predict water levels on several time scales.”

In the short term – such as a single localized storm – it can help officials make decisions about evacuations and road closures.

It's also critical to understand how flooding occurs across longer time scales, so planners have more information when deciding whether to develop a low-lying parcel of land.

The new computer model involves “emulation” and uses statistical techniques, as opposed to traditional models that try to directly reproduce the wide collection of physical processes at play when estuaries flood.

Direct reproduction requires a lot of time and processing power, Parker noted.

“The computational expense makes it difficult to study flooding at long time scales,” he said. “The key question we wanted to answer in this study is, ‘is there a better way to handle long simulation times for computationally expensive flooding models?’”

The research was part of Parker's doctoral program at OSU under professors David Hill of the College of and Engineering and Peter Ruggiero of the College of Earth, Ocean and Atmospheric Sciences.

“We reduced the complexity of the model by using statistical methods,” said Parker, now a Fulbright scholar at Universidad Técnica Federico Santa Maria in Chile.

“Once the statistical model, or emulator, is built – once we create a training dataset and train the emulator – additional use of it comes at essentially zero cost. It's nearly instantaneous.”

The emulator performed well reproducing the extreme water levels of recent flood-

ing events in Grays Harbor, Parker said.

Grays Harbor is a shallow bay with a deep-water navigation channel maintained by the United States Army Corps of Engineers.

“Our model is very useful since we can use it to explore an infinite variety of future flooding scenarios,” Parker said. “This allows us to better understand the risk of flooding in coastal communities as well as how this risk will change moving into the future.”

The National Oceanic and Atmospheric Administration supported this research, as did the Quinalt Treaty Area tribal governments.

Efforts to ‘flatten the curve’ could be working

Oregon's effort to flatten the COVID-19 curve appears to be producing positive results.

The coronavirus pandemic is projected to peak in the state on May 6, according to the latest information released by the Institute for Health Metrics and Education at the University of Washington.

May 6 is when the projected highest use of hospital resources occurs statewide.

Earlier projections had put the peak 13 days earlier.

It's good news for Oregon residents, as it means there is less chance local hospitals and other medical resources will be overwhelmed by a surge in patients needing care all at once, health professionals said.

County officials caution that

the university's projection of peak day is based on current known infection and hospitalization rates. However, if the projection proves to be accurate it would indicate that the social distancing and “stay at home” measures practiced in Clatsop County and around Oregon are beginning to work.

“We want to be cautiously optimistic since this is only a single model, and we don't wish to relax our efforts at social distancing,” said Mike McNickle, director of Clatsop County Public Health. “However, this information suggests that the efforts of our residents have not been in vain. We want to express our sincere gratitude to our citizens and urge them to keep at it.”

“Flattening the curve” is the

term for slowing the spread of illness so that the number of people infected at any one time – and the number needing medical attention – is spread over a longer period so limited medical resources aren't overburdened.

The key to slowing the spread of COVID-19 is social distancing – staying home as much as possible and keeping six feet away from other people when out in public, as well as following hand-washing and other hygiene guidelines.

Warrenton enacted an emergency ordinance March 21 closing hotels and campgrounds after an influx of spring break tourists descended on the coast. Other cities and the county followed suit.

Two companies to help with cleanup

Two corporations, McCall Oil and Chemical and Exxon Mobil, will contribute to the cleanup of contaminated soil at the Port of Astoria.

Oregon Department of Environmental Quality is expected to sign off on the cleanup plan by June 1.

The port is in charge of the cleanup and is organiz-

ing the planning, construction, operation and maintenance of DEQ's remedial action plan for the contamination area, which includes the port's shop building and Slip No. 2.

McCall will pay \$1.55 million in two installments into the cleanup fund and Exxon will pay \$1.35 million in a lump sum.

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Slowing the spread of COVID-19

In these extraordinary times, Columbia Memorial Hospital and its caregivers are proactively working to slow down the spread of COVID-19 in our communities. Some of these changes may affect you.

- Everyone entering a CMH facility **must be screened** for COVID-19.
- No visitors** are allowed for most hospitalized patients*.
- Patients **may not bring a companion to appointments**, except for minor or dependent patients.
- Check your symptoms with a nurse. Call the **CMH COVID-19 Community Hotline at 503-338-4699**.

* For the most recent information about the visitor policy, see columbiamemorial.org/visiting-a-patient.