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Amy Matzke-Fawcett

Old Dominion University, amatzkef@odu.edu

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Community Invited to Discuss King Tide Event

By [Amy Matzke-Fawcett \(amatzkef@odu.edu\)](mailto:amatzkef@odu.edu)

The King Tide flooding data has been collected: now what?

On Dec. 13, Old Dominion's Commonwealth Center for Recurrent Flooding Resiliency will host researchers and community members at the University to discuss flood data collected during the "Catch the King" Tide event in November.



The crowdsourcing-based research event collected data from more than 500 volunteers from Virginia Beach to Gloucester. Volunteers walked along the edges of flooded areas and recorded data points on a digital map using a locally-developed phone app. The data were then transferred to researchers, who have been using it to check the accuracy of flooding predictions, update maps and calibrate models, said Derek Loftis, assistant research scientist at the Virginia Institute of Marine Science, which is part of the Commonwealth Center partnership.

"Basically, our volunteers were able to walk along the water's edge during the high tide and drop GPS pins along their path as they traced floodwaters, and we were able to get their timestamp, along with latitude and longitude, sometimes accurate to within a foot depending on the user's phone model," Loftis said.

The information was then cross-checked with predictive flooding models, and mostly found to be vertically accurate within centimeters, Loftis said. The follow up event on Dec. 13 will share the full data collected, with explanations of its current and future uses.

"It was a great effort that raised awareness locally of sea level rise and its impacts by involving residents and helping them understand the science of flooding," said Michelle Covi, assistant professor of practice at ODU. Covi will speak on resident involvement in sea level rise during Wednesday's event.

A King Tide is a higher-than-normal flooding event triggered by tidal conditions (instead of a rain or storm event) and Nov. 5 was predicted to be the highest of those tides in 2017 if rain and wind were not considered.

The Nov. 5 event was a partnership of local media and community partners including the Virginian-Pilot, the Daily Press, WHRO Public Media, WVEC-TV, Wetlands Watch, and the Commonwealth Center for Recurrent Flooding Resiliency, many of whom will be in attendance at Wednesday's event and participating in a panel discussion about the data collected and its future uses. Volunteers collected data on their own private property, or in public spaces designated in advance by the media partners.

More than 53,000 data points were collected in 12 localities, mostly in Virginia Beach and Norfolk, Loftis said.

"We found that people know where it floods in the neighborhoods better than the city or county does, and we wanted to see if we could get that information through crowdsourcing means," said Skip Stiles, executive director of Wetlands Watch.

The app used on Nov. 5, Sea Level Rise, gives researchers and city planning officials the data needed for flood and transportation planning at a less-costly and quicker rate than traditional means, Stiles said.

Some of the discussion during the upcoming Catch the King Reflection Event will center on how to use the app for future crowdsourced data collection and other new projects as well as how to best communicate information back to users, Stiles said.

The Nov. 5 event also spawned other research opportunities, including "Measure the Muck" with Margie Mulholland, professor in Ocean, Earth and Atmospheric Sciences at ODU. Mulholland and laboratory assistants, including high school students, collected particulate pollutants to measure contaminant concentrations going back into local waters after flooding recedes.

The "Catch the King" reflection event is scheduled for Wed., Dec. 13 from 6 to 7:30 p.m. in the North Café of the Webb Center on the Old Dominion University campus. Due to limited space, RSVPs are required.

For more information about the King Tide, maps and data, visit http://www.vims.edu/people/loftis_jd/Catch%20the%20King/index.php

Contact

Public Affairs & News Bureau (/public-affairs)

1000 Koch Hall

Norfolk, VA 23529

757-683-3114 (office)

757-683-5501 (fax)

(mailto:)