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Iowa Flood Center develops web-based flood map for Des Moines

One of the greatest flood-related challenges facing Iowans is the lack of information relating predicted flood peaks to the potential impacts on homes and businesses.

However, a new flood-prediction tool developed by the Iowa Flood Center (IFC) at the University of Iowa can now help Des Moines residents better understand their flood risks and anticipate the impact of future projected floods.

Iowa Flood Center researchers are developing high-resolution, flood inundation maps. They use bathymetric surveys, supplemented by aerial LiDAR (laser radar) data of the riverbed, to determine the shape of the channel and the flood plains. With this information, researchers can create detailed maps of river corridors to illustrate where floodwaters will go under different upstream flow conditions.

The information is available to the public via an interactive Google Maps-based online application, so Des Moines homeowners, business owners and others can see how predicted flood levels might affect their property and make informed decisions.

IFC Director Witold Krajewski said the Des Moines maps presented a unique challenge.

"Local flooding in Des Moines is impacted by two rivers -- the Raccoon and the Des Moines," Krajewski says. "So we prepared three sets of maps to include scenarios in which both rivers contribute equally, and others in which greater flow occurs in one river or the other."

Nathan Young, IFC associate director, said improving flood preparedness is one of the IFC's key goals.

"This is an opportunity for us to produce research that is useful and meaningful for Iowans," he said. "Our maps demonstrate not just a 100-year flood or a 500-year flood, but also the extent of the flooded landscape with every six-inch rise in the flood level. We believe this information will empower communities and individuals to make informed decisions about their flood risks."

Bill Stowe, director, Des Moines Public Works, said the maps are very important to the safety of Des Moines.

"Making sophisticated flood maps generally available to Des Moines residents is an invaluable ingredient in helping each of us to be informed about our specific flood risks and the need to seek out flood insurance and take other protective steps," Stowe said. "Additionally, these maps are vital to the city's flood-fighting preparations and early warning responses to protect our citizens."

Detailed flood inundation map libraries are available online for Cedar Rapids, Charles City, Des Moines, Hills, Iowa City and Waterloo. More communities will be mapped in the future.

To use the interactive online maps, visit http://www.iowafloodcenter.org/ and click on "Flood Maps" under the Iowa Flood Information System.

The IFC is part of IIHR—Hydroscience & Engineering, a unit of the UI College of Engineering, and is located in the C. Maxwell Stanley Hydraulic Laboratory. Now in its second year of operation, the IFC is supported by state appropriations to improve flood monitoring and prediction in the state of Iowa.

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