



“THE TOOLS AND STRATEGIES WE DEVELOPED AFTER 2008 HAVE LEFT IOWANS AND OUR COMMUNITIES IN A BETTER STATE OF READINESS FOR FUTURE FLOODS.”

IFC DIRECTOR WITOLD KRAJEWSKI



IFC UPDATE



AN UPDATE ON THE RESEARCH AND ACTIVITIES AT THE IOWA FLOOD CENTER

SPRING 2014



HESCO barriers surround Mayflower Hall in Iowa City, holding back the floodwaters that closed Dubuque Street.

From Flood to Drought:

A Year of **EXTREMES**

IN 2013, a severe drought followed spring floods and record rainfall. The Iowa Flood Center (IFC) was ready with online tools and information to help Iowans keep abreast of river levels and whatever nature had in store. “The public needs good, science-based information, and we want them to be aware of the flood-information tools we’ve made available,” says IFC Director Witold Krajewski.

IFC expertise made a difference for Iowans in flood-threatened areas; online tools such as the Iowa Flood Information System’s real-time stream-sensor data and flood inundation maps offered reliable information about flood conditions hours or days in advance. In addition, IFC researchers were called upon to provide expertise at county-level emergency operations meetings and city council meetings, and to help communities understand the possible inundation scenarios they could face.

“Flood preparedness is an investment that pays off,” Krajewski says. “The tools and strategies we developed after 2008 have left Iowans and our communities in a better state of readiness for future floods.”

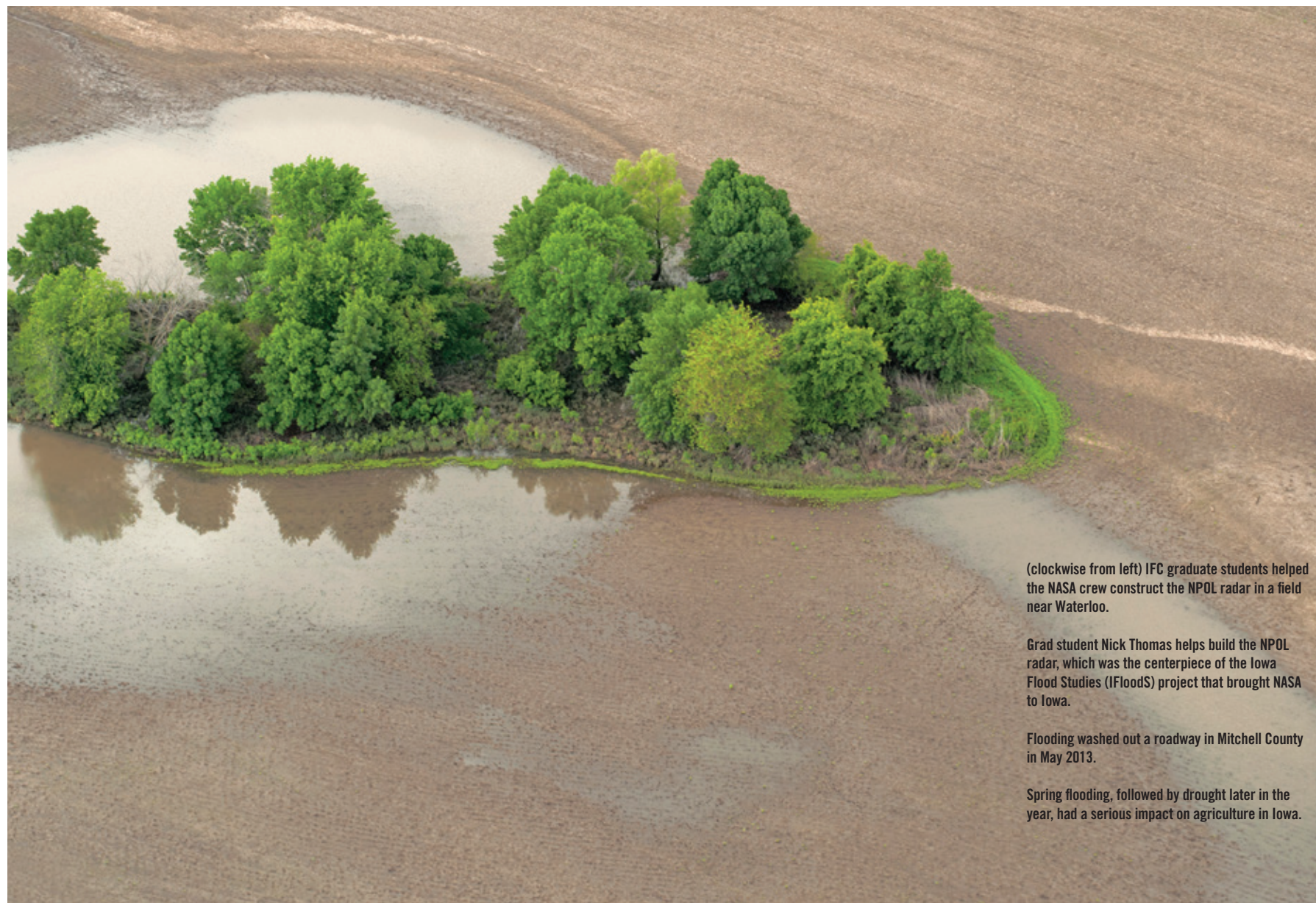
IFloods

The Iowa Flood Studies (IFloodS) project brought NASA to Iowa last spring to collaborate with the Iowa Flood Center (IFC).

The project deployed state-of-the-art instruments throughout the Turkey and Cedar River watersheds in Eastern Iowa to collect ground measurements of precipitation events. The IFloodS project was the ground validation part of NASA's Global Precipitation Measurement Mission, an international satellite operation focusing on global precipitation measurements from space.

Scientists wanted to understand how well satellites estimate rainfall. The study collected space-borne and ground-based observations and placed them in a modeling framework to improve flood prediction. The results will mean a better interpretation of the raw rain data and improved rainfall estimates worldwide from the new satellite.

The IFloodS campaign collected "a gold mine of data," says IFC Director Witold Krajewski. He hopes the information will help researchers improve flood forecasting models. Students also benefitted from opportunities to work in the field, setting up and maintaining the instruments. "I think that was a great adventure for them," Krajewski says.



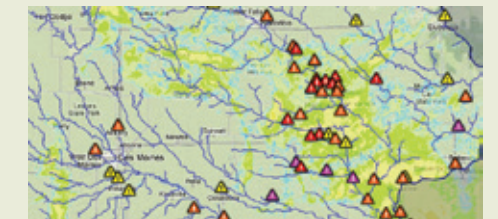
(clockwise from left) IFC graduate students helped the NASA crew construct the NPOL radar in a field near Waterloo.

Grad student Nick Thomas helps build the NPOL radar, which was the centerpiece of the Iowa Flood Studies (IFloodS) project that brought NASA to Iowa.

Flooding washed out a roadway in Mitchell County in May 2013.

Spring flooding, followed by drought later in the year, had a serious impact on agriculture in Iowa.

NEWSFLASH



Iowa Flood Information System (IFIS)

The Iowa Flood Center developed IFIS after the 2008 floods to help Iowans be better prepared for flooding. IFIS is an easy-to-use online application that allows users to find their watersheds, view stream levels in real-time, check local rainfall, and see predicted flood levels.

In 2013, thousands of Iowans took advantage of IFIS to better understand their flood risks and check local conditions. During the week of May 26, when some areas received record rainfall, IFIS got more than 27,000 visits; the highest one-day total 7,391 visits occurred on May 30.



Iowa Congressman Proposes National Flood Center

U.S. Representative Dave Loebsack recently proposed legislation to create a national flood center. In August, Loebsack and IFC Director Witold Krajewski met with the media to discuss the legislation, and the need to be proactive in the face of future flooding. The National Flood Research and Education Act would bring together the resources of federal and state agencies with the expertise of academic experts, such as those at the Iowa Flood Center.

www.iowafloodcenter.org

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IExploreSTEM Fest

Living with Floods

A series of events in 2013 marked the five-year anniversary of the 2008 Iowa floods, celebrating the strength and resiliency of Iowans in the face of repeated floods. Several University of Iowa partners, including the Iowa Flood Center and Hancher, collaborated to sponsor the events statewide.

“Living with Floods” culminated with seven free outdoor concerts by New Orleans’ Preservation Hall Jazz Band. These lively concerts got Iowans out of their lawn chairs to dance and celebrate as part of the “second line,” a New Orleans tradition. An Interdisciplinary Flood Workshop brought together teachers to learn how to incorporate environmental subjects in the classrooms. Living with Floods also sponsored community forums, as well as science, technology, engineering and mathematics (STEM) festivals for K-12 students.



Living with Floods celebrated the resilient spirit of Iowans in flood-impacted communities with seven free outdoor concerts by New Orleans’ Preservation Hall Jazz Band.



IFC graduate student Matt Wunsch shows kids how water moves through the floodplain at an IExploreSTEM festival sponsored by Living with Floods.

More than 500 people turned out for the IExploreSTEM Festival on May 4

at the Lucille A. Carver Mississippi Riverside Environmental Research Station (LACMRERS) on the banks of the Mississippi River near Muscatine. K-12 students had fun trying out hands-on science, technology, engineering, and math (STEM) activities. These included an interactive flood model from the Iowa Flood Center (IFC) and the National Weather Service, an opportunity to build a robot with the Iowa State Extension Office of Muscatine County, and the chance to run through a pit filled with gooey, oozy glop called “oobleck” (a fluid made of cornstarch and water), sponsored by Grain Processing Corp. The festival was part of “Living with Floods,” sponsored by the IFC, Hancher, and other departments at the University of Iowa.

Right: Herky loves science — the popular University of Iowa mascot was one of about 500 who attended a STEM festival at the Lucille A. Carver Mississippi Riverside Environmental Research station (LACMRERS) in May.

