

# IFC UPDATE

## IFC Testimonials

“The Iowa Flood Center is a tremendous asset that is helping fill gaps in the ability to predict impacts of floods on local communities.”

■ Louis Uccellini  
*Director, National Weather Service*

“They’re doing a lot of great work here in Iowa. I think a lot of what has been learned here in Iowa can be applied to the rest of the country.”

■ U.S. Representative Dave Loebsack

“The Iowa Flood Center has much more detailed information that we’re able to see in real-time ... It’s our eyes and ears.”

■ Sandy Pumphrey  
*Cedar Rapids engineer*

“We’d be lost without the flood center.”

■ Rick Wulfekuhle  
*Buchanan County Emergency Management*



## Celebrating a Decade of Service to Iowans

**In just 10 years**, the Iowa Flood Center (IFC) has transformed Iowa’s approach to management of our water resources. During this time period, we’ve experienced devastating floods nearly every year. In the last 30 years, Iowa has received almost 1,000 flood-related presidential disaster declarations. The IFC is arguably one of the best investments the state has ever made; the center has multiplied \$13.8 million of state funding to secure nearly \$127 million for flood-first projects directly benefitting Iowans.

Thanks to the vision of our state legislators, Iowans have access to innovative tools, cutting-edge technologies, and reliable information to help them understand their flood risks and be prepared for flood events. The Iowa Flood Information System (IFIS) platform has had more than 3 million page views since its public launch in 2011. Popular features include a dense network of over 250 stream sensors monitoring river levels in real-time; statewide flood map

coverage that aids in pre-disaster flood mitigation and planning; and flood forecasts for 1,000 communities.

Our world-renowned research facility and team of experts help keep Iowans safe from the impacts of heavier, more widespread rainfall events. We’re proud to have worked alongside our many state, federal, and local partners and look forward to expanding and enhancing our services to Iowans, including fulfilling requests for an additional 100 stream sensors!

**ABOVE:** The IFC’s Dan Ceynar (on ladder) and Ray Hammond install a stream-stage sensor on the side of an Iowa bridge in Monroe County on Cedar Creek.

**BELOW:** The IFC’s stream-stage sensors have proven tough enough to withstand being overtopped by floodwaters, resuming their work when the water recedes.





# Changing Flood Trends

**Floods in Iowa are changing.** We have entered a period of more widespread extreme rainfall, with storms projected to double in intensity by 2050.

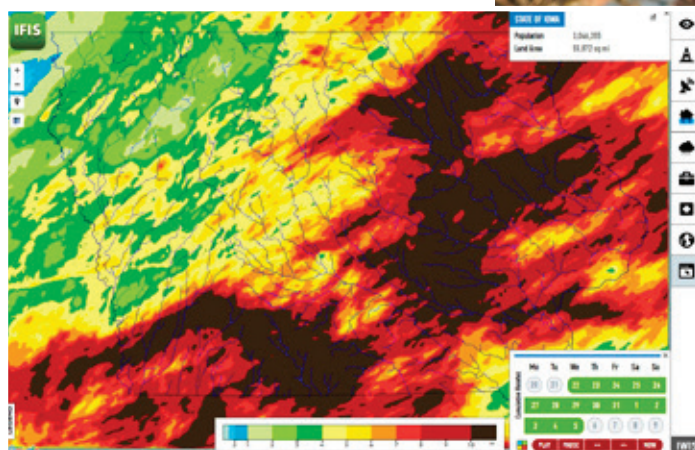
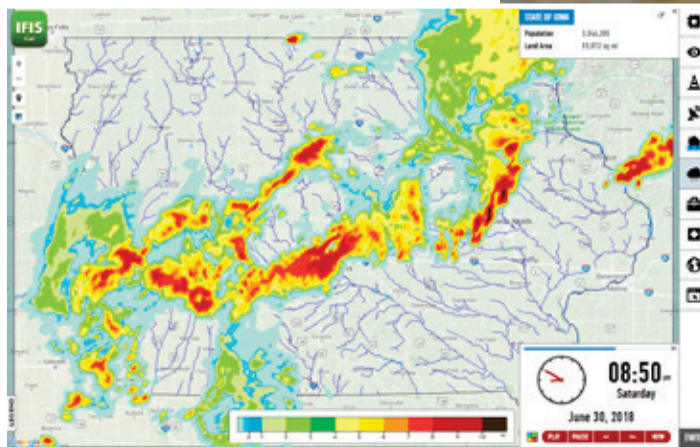
Last year was Iowa’s second wettest since such records have been kept. Statewide average precipitation was almost 10 inches above normal, and 27 counties across northern Iowa experienced their wettest year on record. From the end of August through October, Iowans dealt with repeated rainfall and ongoing flood threats for weeks, ranking as the third wettest fall (2018 Water Summary, IDNR). “2018 was an exceptional rainfall year, but these types of flood events can happen anytime and anywhere in Iowa,” says IFC Director Witold Krajewski.

Iowa Flood Center experts are helping Iowans adapt to a changing flood season by providing creative, innovative solutions to help us prepare for the next flood.

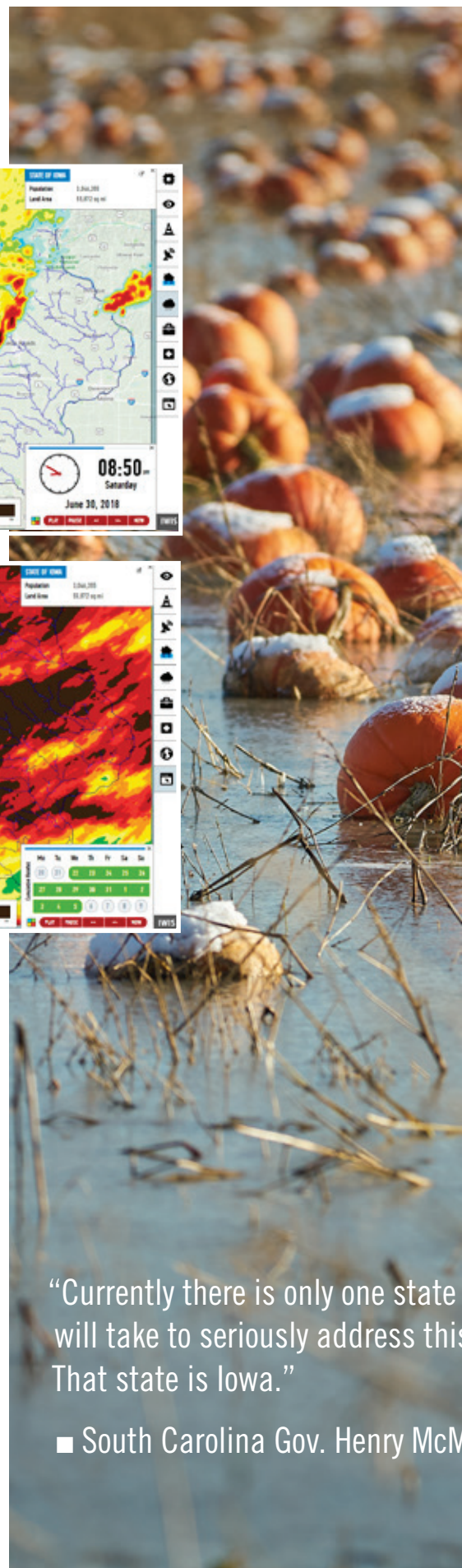
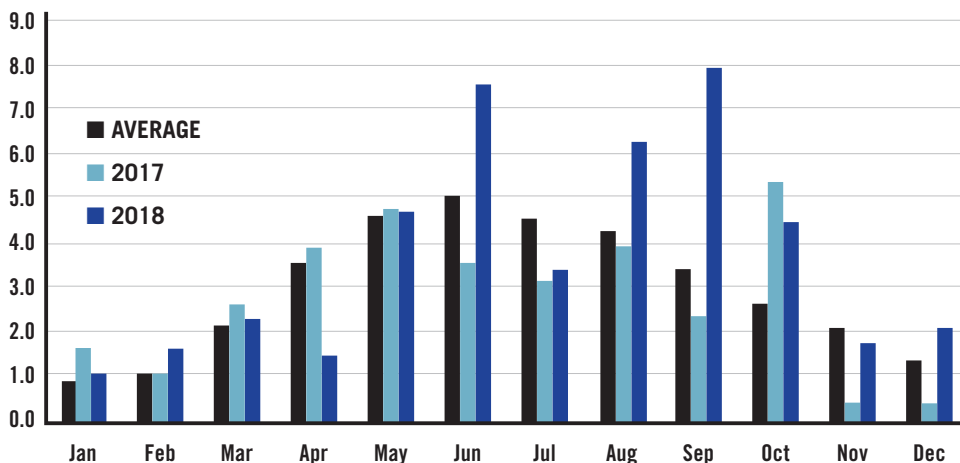
**LARGE PHOTO:** Unseasonable fall flooding affected much of Iowa in 2018.

**TOP MAP:** On June 30, 2018, Polk County received 8+ inches of rain in less than 24 hours, damaging more than 1,000 properties.

**BOTTOM MAP:** Extreme rainfall recorded on the Iowa Flood Information System Aug. 22—Sept. 5, 2018.



## STATEWIDE MONTHLY PRECIPITATION (INCHES)



“Currently there is only one state that will take to seriously address this. That state is Iowa.”

■ South Carolina Gov. Henry McMaster





that has taken the step that I hope our state  
s floodwater problem that we must tackle.

Master

## Iowa Watershed Approach Gains Momentum

In 2018, IFC staff and researchers travelled more than 11,000 miles, crisscrossing Iowa to share the Iowa Watershed Approach (IWA) vision at 75 events, conferences, and meetings statewide.

IWA has now entered year three of the five-year project. By spring 2019, IFC researchers will have completed hydrologic assessments in each watershed—a significant achievement that will guide local watershed planning and decision-making activities for many years. With this information in hand, project coordinators will engage with volunteer landowners (who are eligible for 90 percent cost-share assistance) to strategically site conservation practices such as ponds, terraces, and wetlands designed to reduce downstream flood impacts. Currently, the project coordinators are working with 125 landowners to identify sites for nearly 480 practices across the eight participating rural watersheds.

**For more information, resources, and upcoming events, visit the Iowa Watershed Approach website ([www.iowawatershedapproach.org](http://www.iowawatershedapproach.org)).**



IWA partners gather for a project management event in Decorah, Iowa.

## Partnerships Abound

Scarce radar coverage and limited real-time stream monitoring has left communities in the Upper Wapsipinicon River Watershed with unreliable information, making them more vulnerable during times of flooding. A pilot project with the Silver Jackets, a team of interagency partners, has taken on the task of working together to share resources and identify solutions to improve flood forecasting capabilities and expand data collection.

The Iowa Flood Center provides technical expertise to the project and has contributed two stream-stage sensors to monitor river levels. The IFC also maintains a suite of valuable flood-related tools via the Iowa Flood Information System (IFIS) online platform. Partners include the Iowa Flood Center, Iowa Homeland Security & Emergency Management, U.S. Geological Survey, Iowa Department of Natural Resources, U.S. Army Corps of Engineers, and local county emergency management coordinators.



**ABOVE:** Partners assess 2018 aerial flood impacts near Columbus Junction at the confluence of the Iowa and Cedar rivers.



**FROM LEFT TO RIGHT:** IFC Associate Director Nate Young, National Weather Service Hydrologist Jessica Brooks, Louisa County Emergency Manager Staci Griffin, and UI Operator Performance Laboratory Director and Pilot Tom Schnell.





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## Iowa Flood Information System (IFIS)

[ifis.iowafloodcenter.org/ifis/en/](http://ifis.iowafloodcenter.org/ifis/en/)

### Reliable Information

IFIS is a free, user-friendly online application that helps Iowans prepare for flooding. IFIS displays up-to-the-minute community-specific information on rainfall, stream levels, and more, including:

- Real-time stream levels at nearly 250 locations in Iowa;
- Flood alerts and forecasts for more than 1,000 Iowa communities;
- Weather conditions including current and past rainfall accumulations;
- Statewide flood map coverage for 85 counties; and
- Scenario-based flood inundation maps for dozens of communities.

### New and Upcoming:

- IFIS artificial intelligence and voice recognition;
- Growing hydrologic network;
- Additional stream sensors; and
- IFIS widget generator for stream sensors and flood maps.

**ABOVE:** The IFC's advanced artificial intelligence system helps students visualize and understand flood impacts.

**RIGHT:** Fifth-grade students from St. Joseph Community School in New Hampton and the IFC's Breanna Shea (center) are all smiles at the Norman Borlaug Boyhood Farm.

**FAR RIGHT:** According to Breanna Shea, kids love the IFC's watershed model.



# Educating the Future!



**Ponds and flooded fields dotted the countryside** around the Norman Borlaug Boyhood Farm near Cresco in northeast Iowa on Sept. 25, 2018, after record-breaking rainfall earlier in the month.

It was the perfect day to learn about flooding.

IFC staff and students participate in dozens of outreach events each year, ranging from STEM (science, technology, engineering, and math) festivals to K-12 classroom presentations to professional meetings and conferences.

"Inspire Day" brought a small army of fifth graders to the Borlaug Farm to learn about Norman Borlaug's efforts to alleviate world hunger, as well as lessons in history, math, and science. Students crowded around the Iowa Flood Center's (IFC) tabletop watershed model for a demonstration on watersheds and flooding. According to IFC's Breanna Shea, kids love the model. "The model offers a fun way to help students realize that everyone lives in a watershed — the first step to understanding how flooding works," Shea explained.

"I definitely learned about all the work the flood center does," said Landon Marr, a fifth-grade student from New Hampton. "I think it's really cool!"

In 2019, IFC representatives will participate in even more outreach events statewide, including the Iowa State Association of Counties annual conference, the Iowa League of Cities annual meeting, and many more. Watch for the IFC at an event near you!

