

College of Engineering lowa Flood Center

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New Missouri River Flood Information System



Figure 1: Satellite image of 2011 Missouri River floods. Photo courtesy of NASA

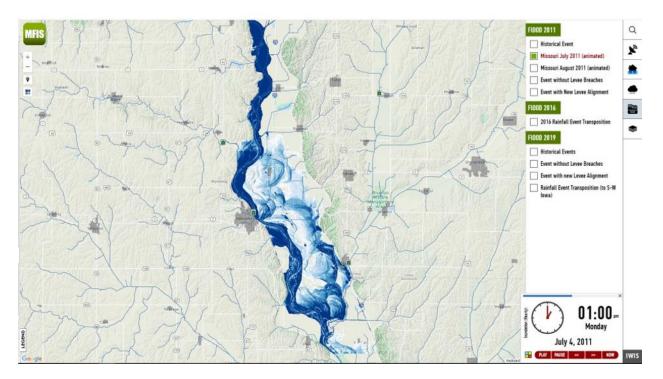
After devastating flooding in 2011 and 2019 in southwest Iowa, the Iowa Flood Center (IFC) at the University of Iowa has developed the interactive Missouri River Flood Information System (MRFIS) to help the people of this region prepare for and reduce future flood risks.

The 2019 Missouri River floods brought devastating inundation to areas that had never flooded before. Damage to crops was estimated at over \$2 billion, and more than 460 businesses were affected. In 2011, historic flooding caused five deaths and flooded more than 4,000 homes. These events damaged or destroyed critical infrastructure, such as levees, and left the region vulnerable to increasing flood threats.

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"It's not a matter of if the region will have another flood like in 2011 or 2019, it's a matter of when," says IFC co-founder Larry Weber. "It's critical for people in this area to have access to the information in MRFIS to be able to make informed decisions to reduce their flood threats, now and in the future."

The dynamic and comprehensive MRFIS is capable of estimating flood impacts based on historical, forecasted, and hypothetical flow scenarios, including levee breaches. The system provides state agencies, communities, and individuals with enhanced, reliable, and timely information to help them improve decision-making and floodplain management. The interactive system is freely accessible; it displays the inundation and propagation of floodwaters visually through a Google Maps-based web environment.



MRFIS animation showing flood inundation during the July 2011 flood.

MRFIS provides critical information to assist with long-term planning and redevelopment strategies focused on helping bring vitality and economic stability back to southwest lowa. The system is part of a larger project designed to develop a comprehensive assessment and resiliency plan for Mills and Fremont counties. This collaborative effort involves many federal, state, and local partners. The project is funded by the U.S. Department of Commerce Economic Development Administration and administered by the Iowa Economic Development Authority.

"It's been an incredibly rewarding experience for our team to collaborate with such an amazing team of partners who are so committed to improving flood resiliency in the region," says Weber.



MRFIS builds on the award-winning Iowa Flood Information System (IFIS) that provides real-time flood alerts and forecasts, river levels, weather conditions, and more for the entire state of Iowa. To view MRFIS, go to www.iowafloodcenter.org. For more information, contact Kate Giannini (<u>kate-giannini@uiowa.edu</u>).

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