



The Iowa Flood Center Real-Time Streamflow Forecasting System

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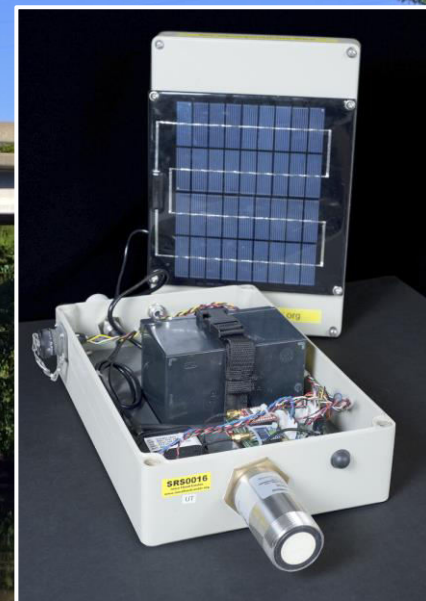


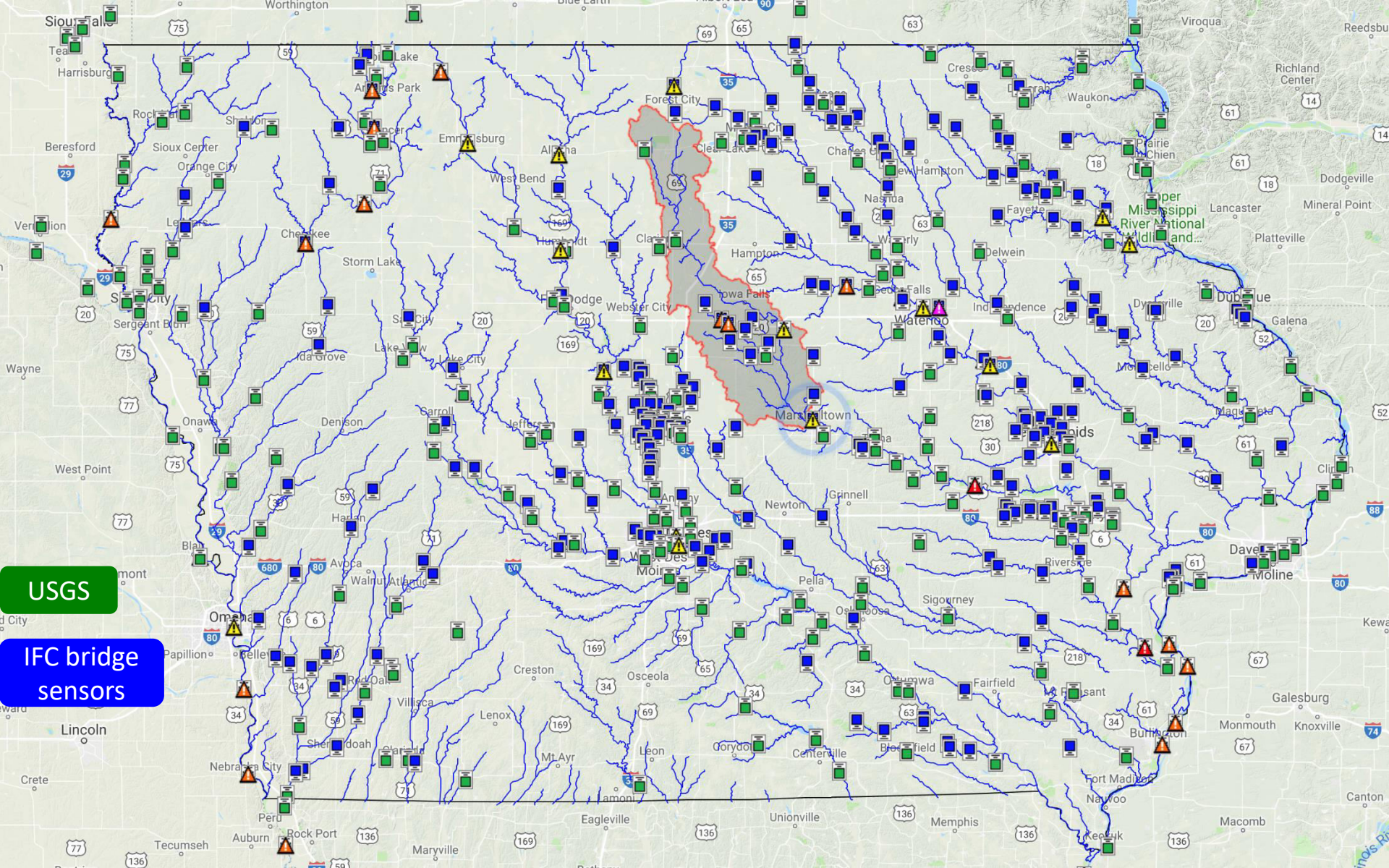
DIVISION VI

Sec. 15. NEW SECTION. 466C.1 IOWA FLOOD CENTER

1. The state board of regents shall establish and maintain in Iowa City as a part of the state university of Iowa an Iowa Flood Center. In conducting the activities of this chapter, the center shall work cooperatively with the department of natural resources, the department of agriculture and land stewardship, the water resources coordinating council, and other state and federal agencies.
2. The Iowa flood center shall have all of the following purposes:
 - a. To develop hydrologic models for physically based flood frequency estimation and **real-time forecasting of floods**, including hydraulic models of **flood plain inundation mapping**.
 - b. To establish community-based programs to **improve flood monitoring** and prediction along Iowa's major waterways and to support ongoing flood research.
 - c. To **share resources and expertise** of the Iowa flood center.
 - d. To assist in the **development of a workforce** in the state, knowledgeable regarding flood research, prediction, and mitigation strategies.

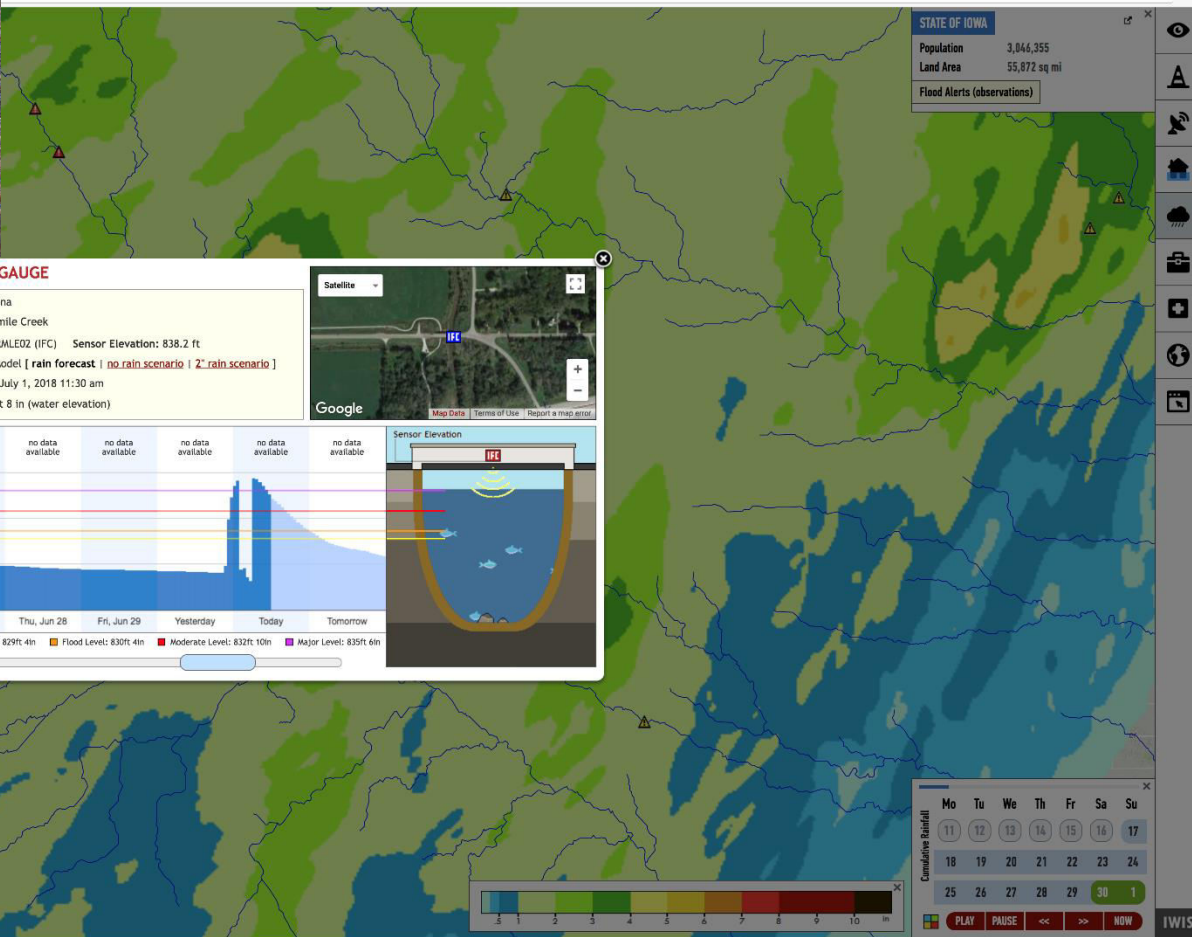
IFC developed and deployed 250 “bridge sensors”



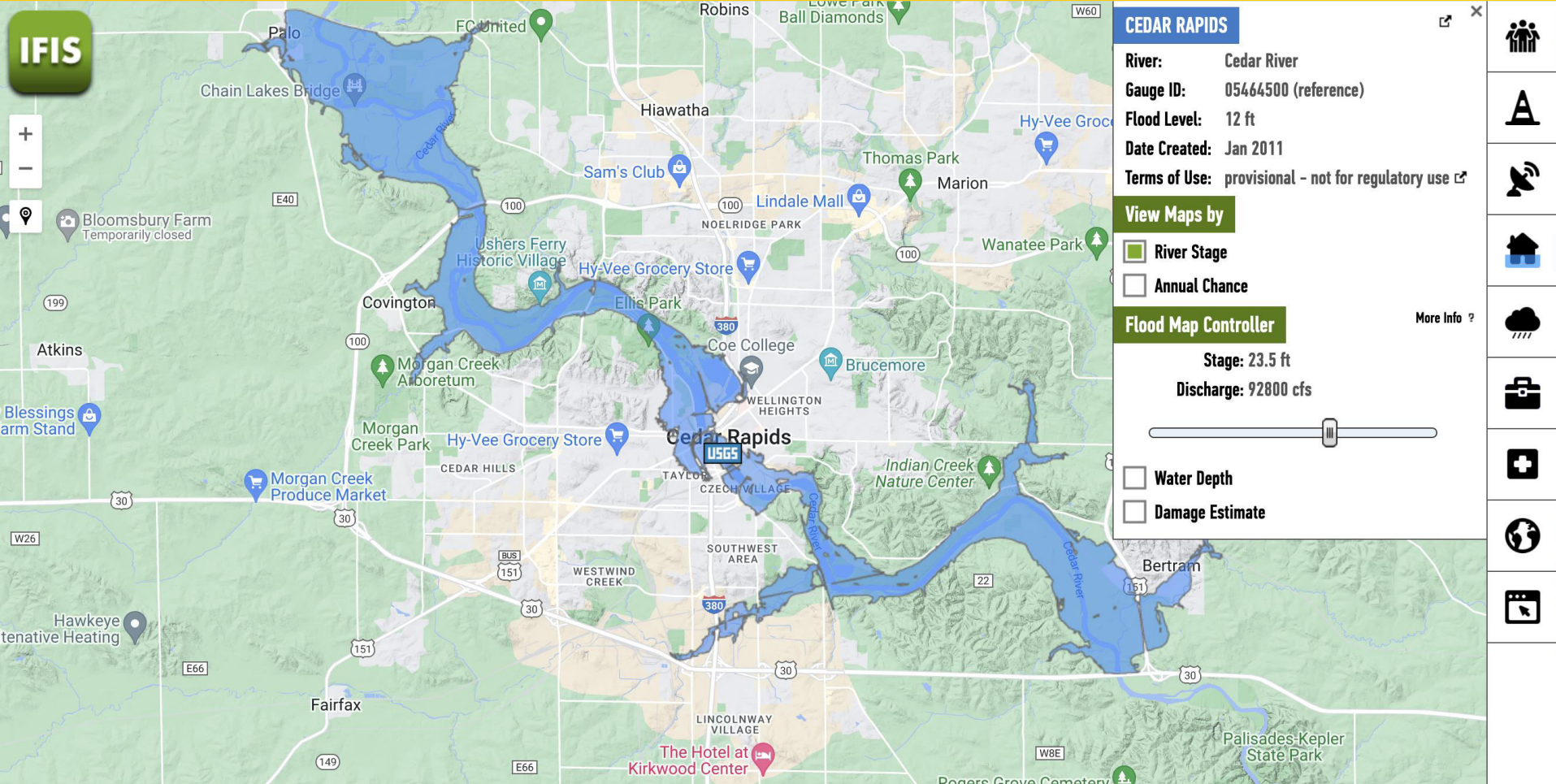


USGS

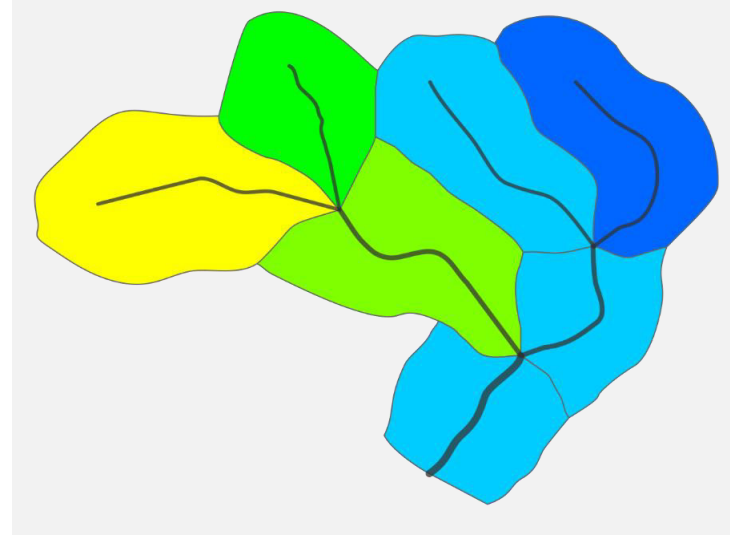
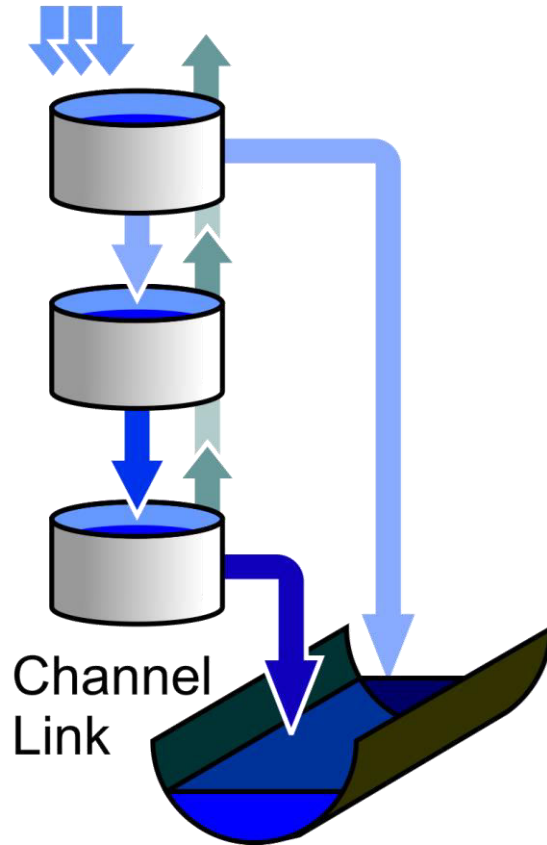
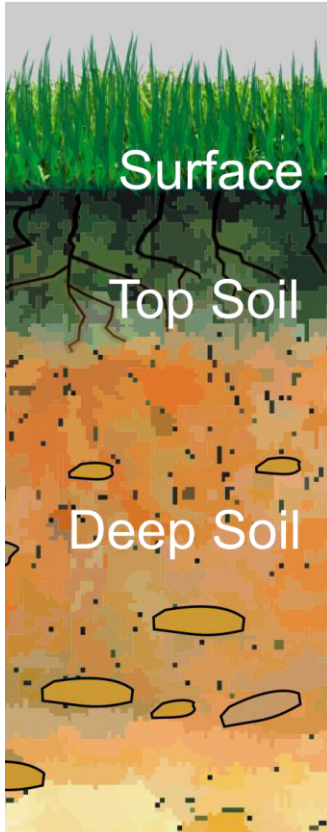
IFC bridge sensors



Flood inundation maps

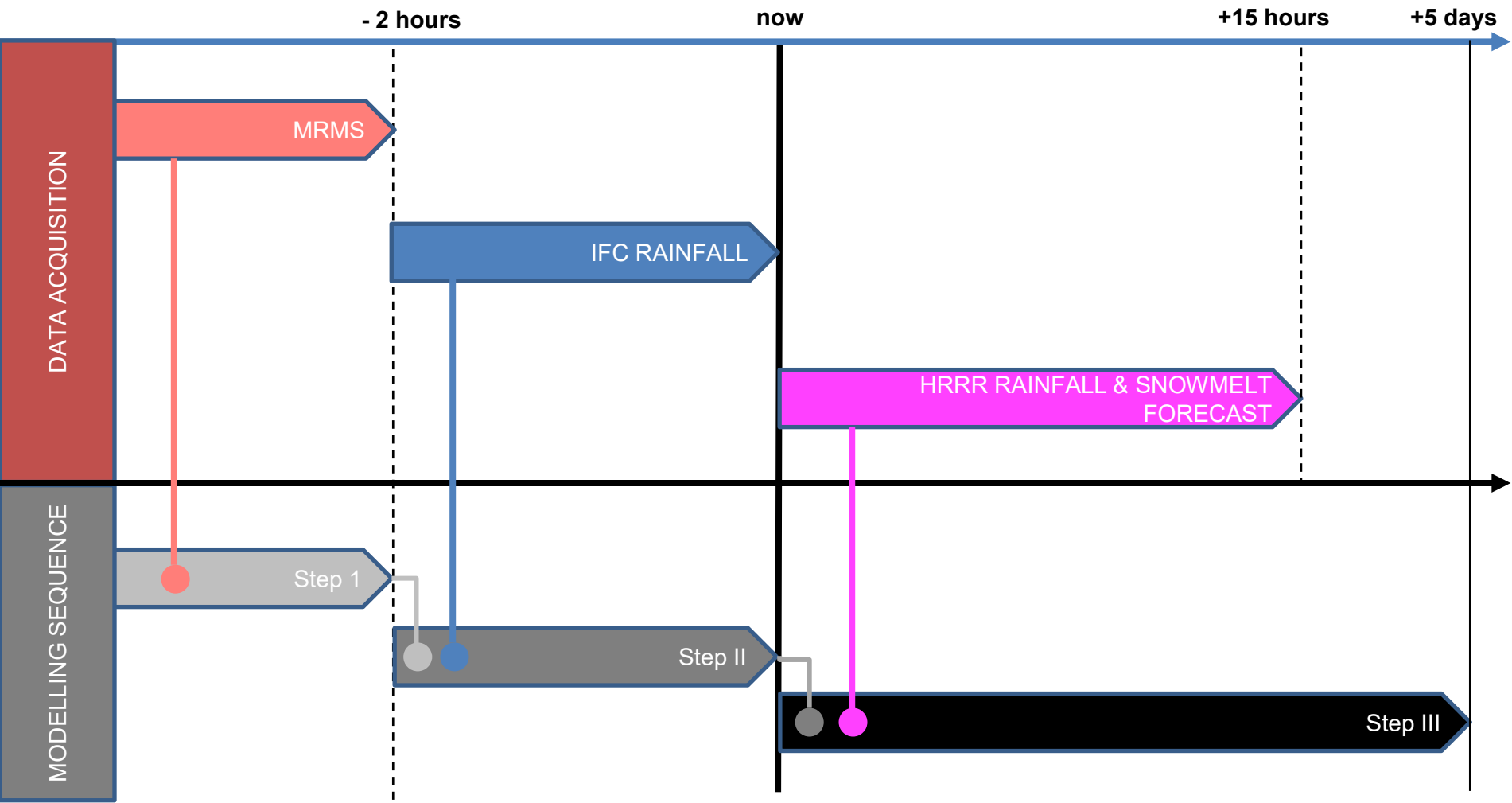


The Model

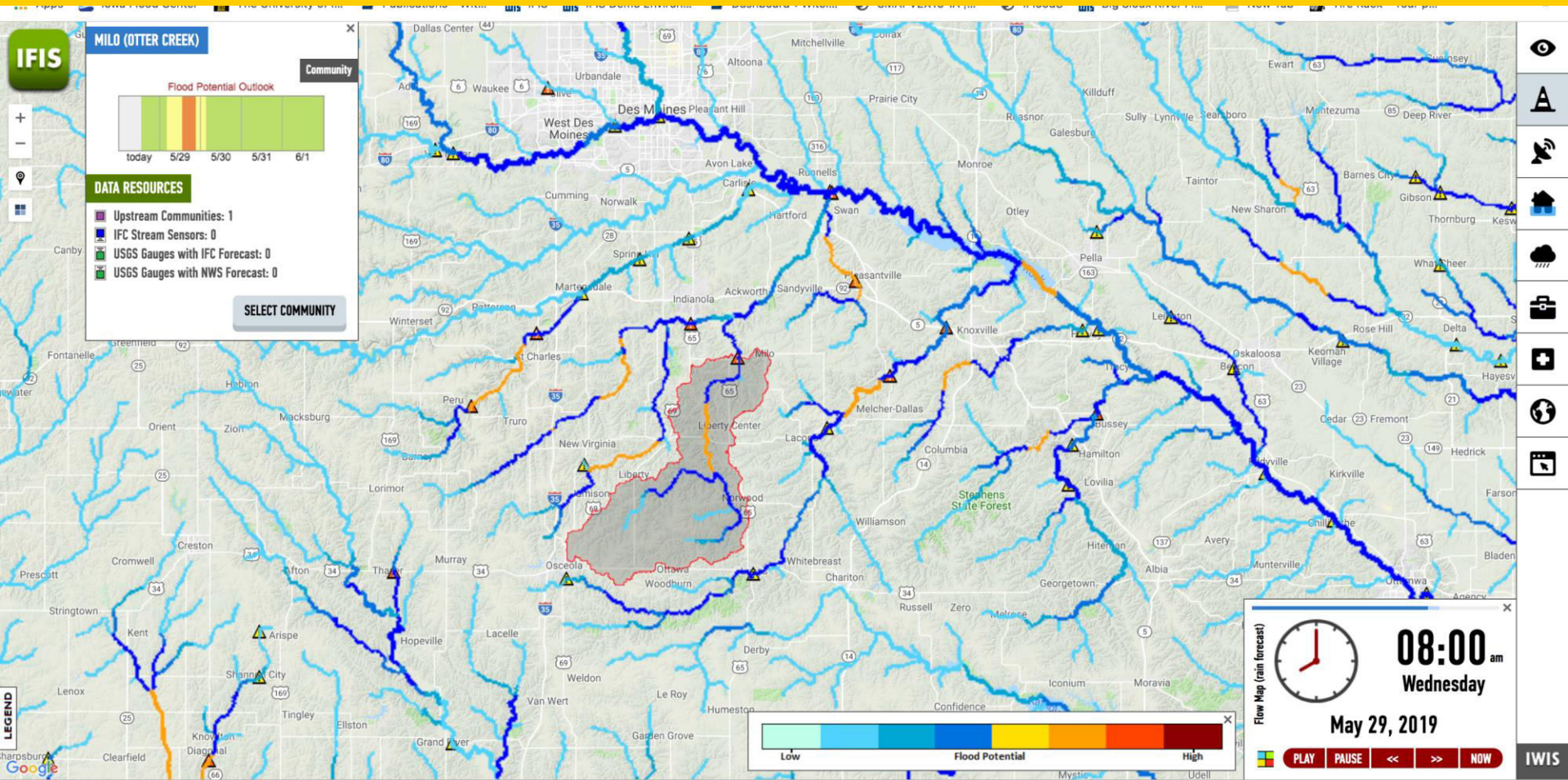


For Iowa the system of
~2,000,000 equations

Forecasting System Cycle (Deterministic, repeats every 1h)

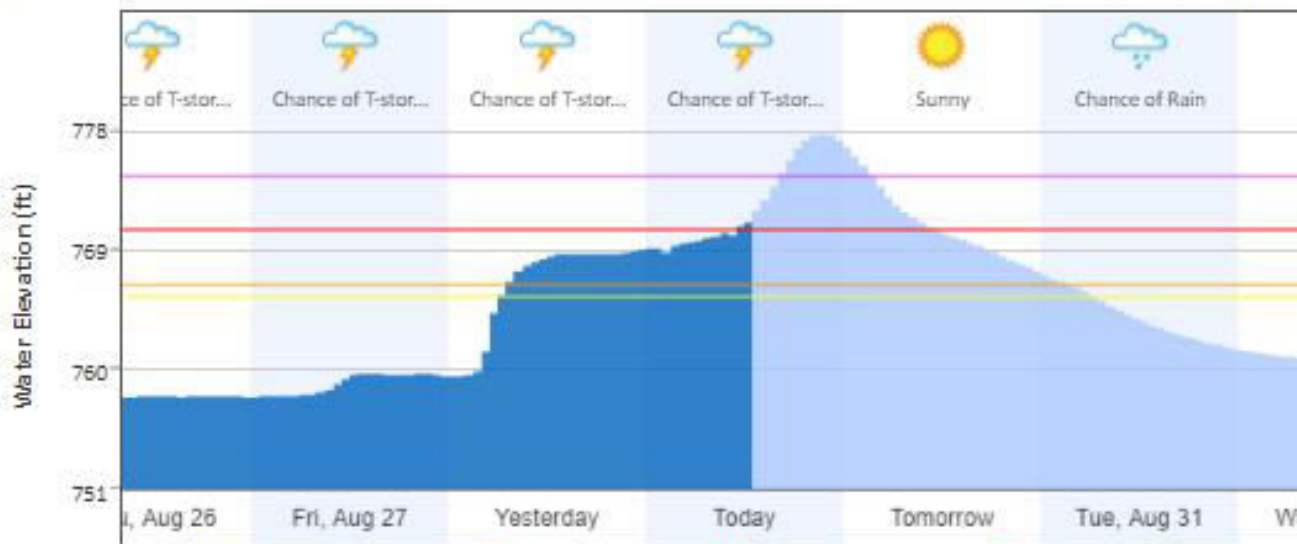
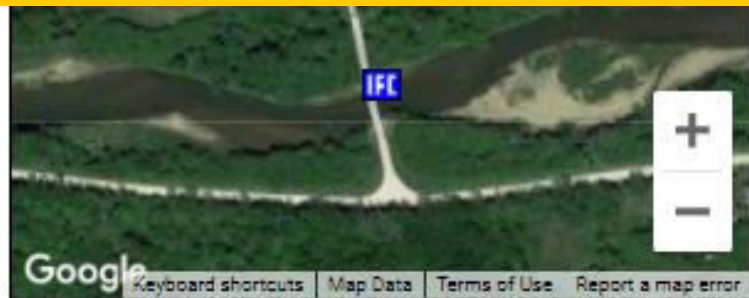


Forecast at unengaged locations

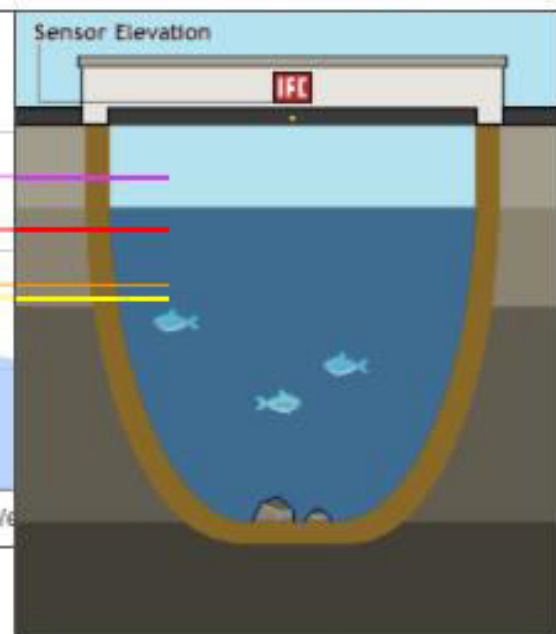


Forecast at gaged locations

River: Turkey River
Station ID: TKYRV02 (IFC) Sensor Elevation: 778.4 ft
Forecast: IFC Model [[rain forecast](#) | [no rain scenario](#) | [2" rain scenario](#)]
Last Reported: Sun, August 29, 2021 1:00 pm
Last Reading: 771 ft 4 in (water elevation) Switch DataView: [[elevation](#) - [depth](#)]



■ Action Level: 765ft 4in ■ Flood Level: 766ft 4in ■ Moderate Level: 770ft 7in ■ Major Level: 774ft 6in



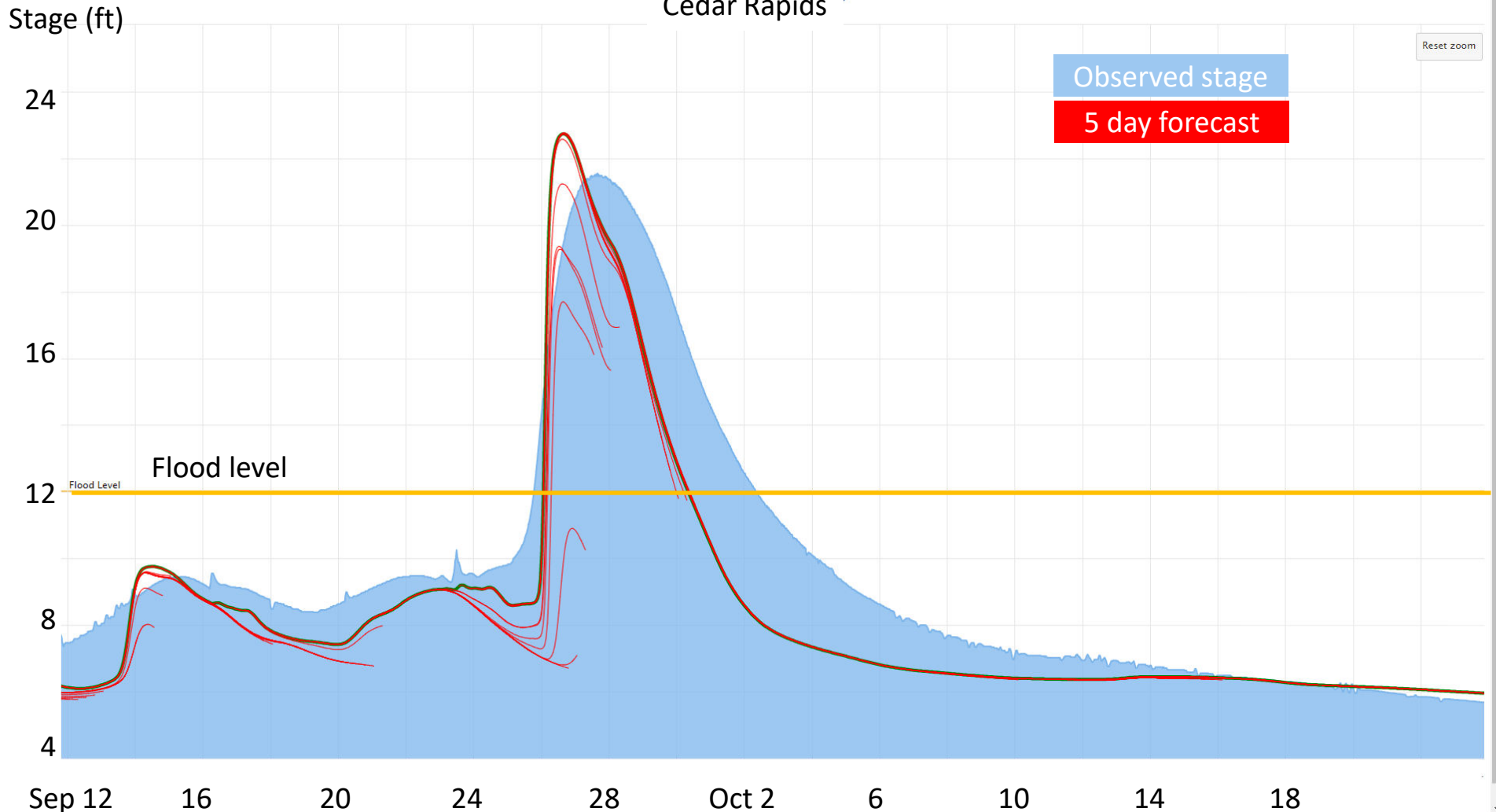
No rainfall forecast, no streamflow assimilation

Cedar Rapids

Reset zoom

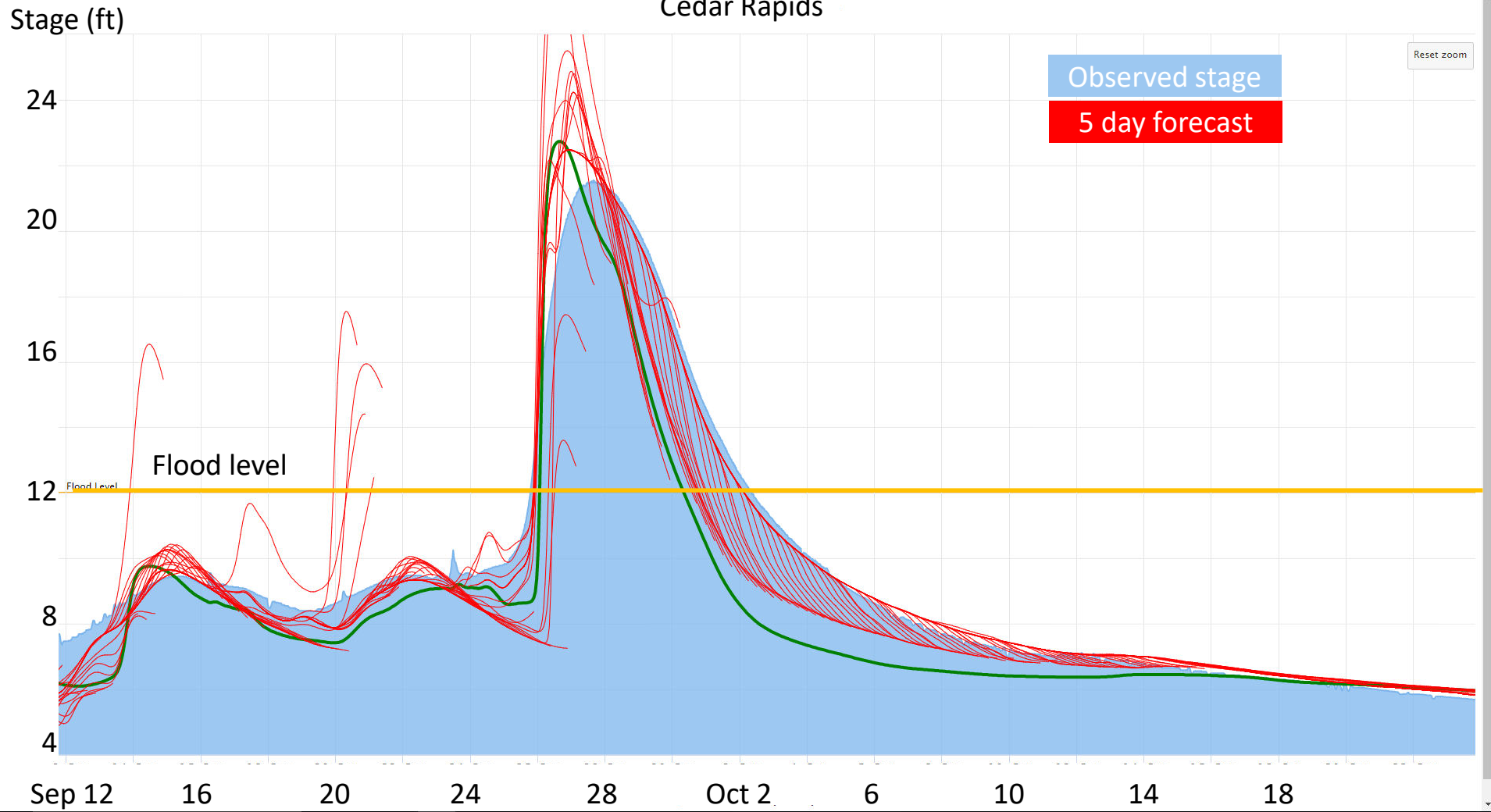
Observed stage
5 day forecast

Flood level

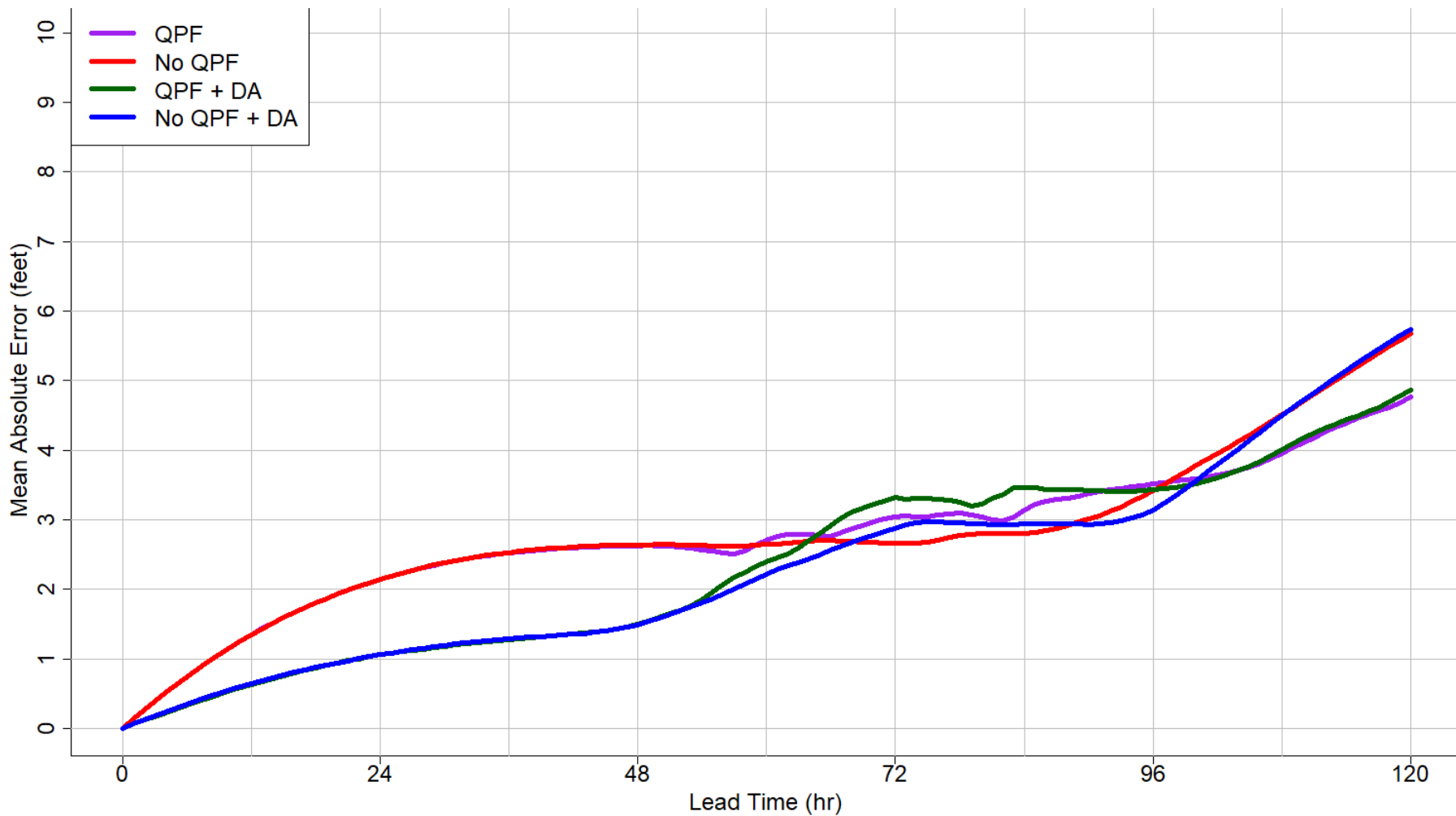


Rainfall forecast and streamflow assimilation

Cedar Rapids



Only above flood level



Thank you!

