

An aerial photograph showing a large area of flooding. The water is a muddy brown color, surrounding a cluster of houses and trees. The houses have various colored roofs, and the trees are dark green. The flooding appears to be quite deep, covering most of the land area shown.

Introduction to Flood Inundation Mapping

Derek Giardino

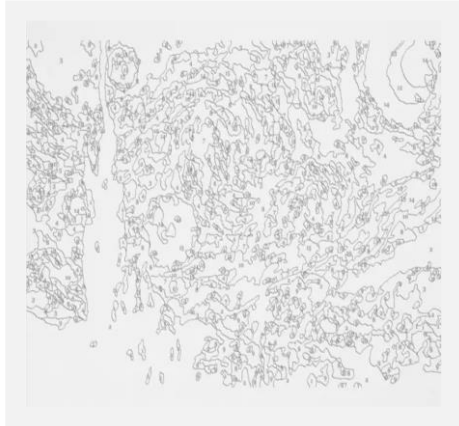
Hydrologist

West Gulf River Forecast Center

Temporary FIM Program Lead

National Water Center

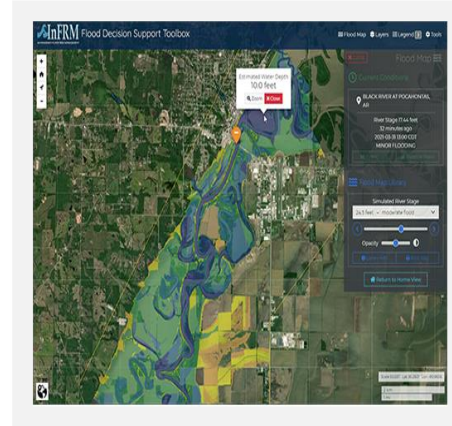
Today's Presentation



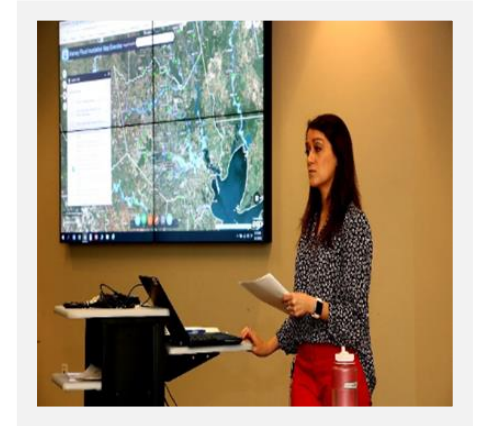
Why Care About
Flood Inundation
Mapping



What Is Flood
Inundation Mapping



Where Can You
Access Flood
Inundation Mapping



The Goals of Flood
Inundation
Mapping





Why Care About Flood Inundation Mapping

Is this going to change anything
you do when flooding occurs?

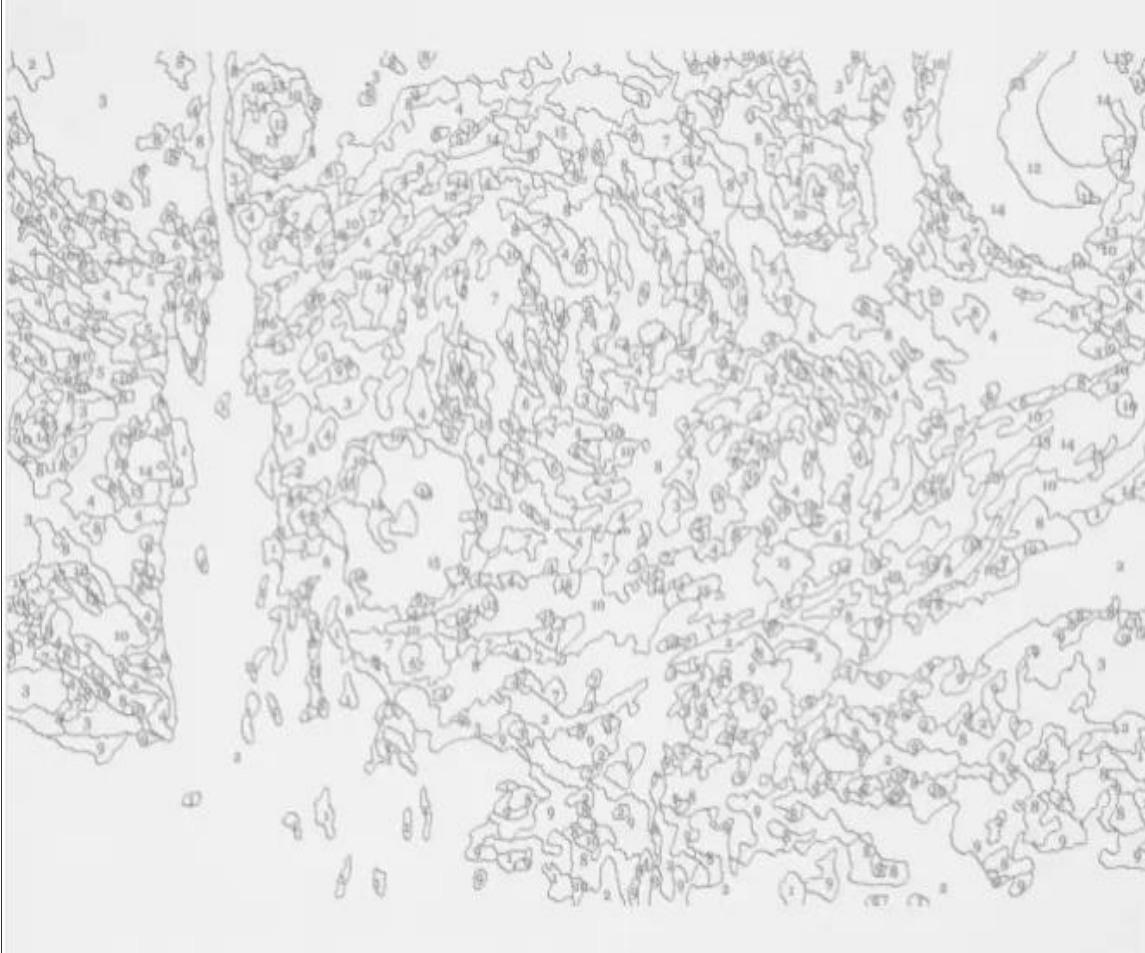
Discman to iPod?/MP3 Players

Amazing leap forward going from
10-15 songs to 1,000 songs...and
a click wheel!



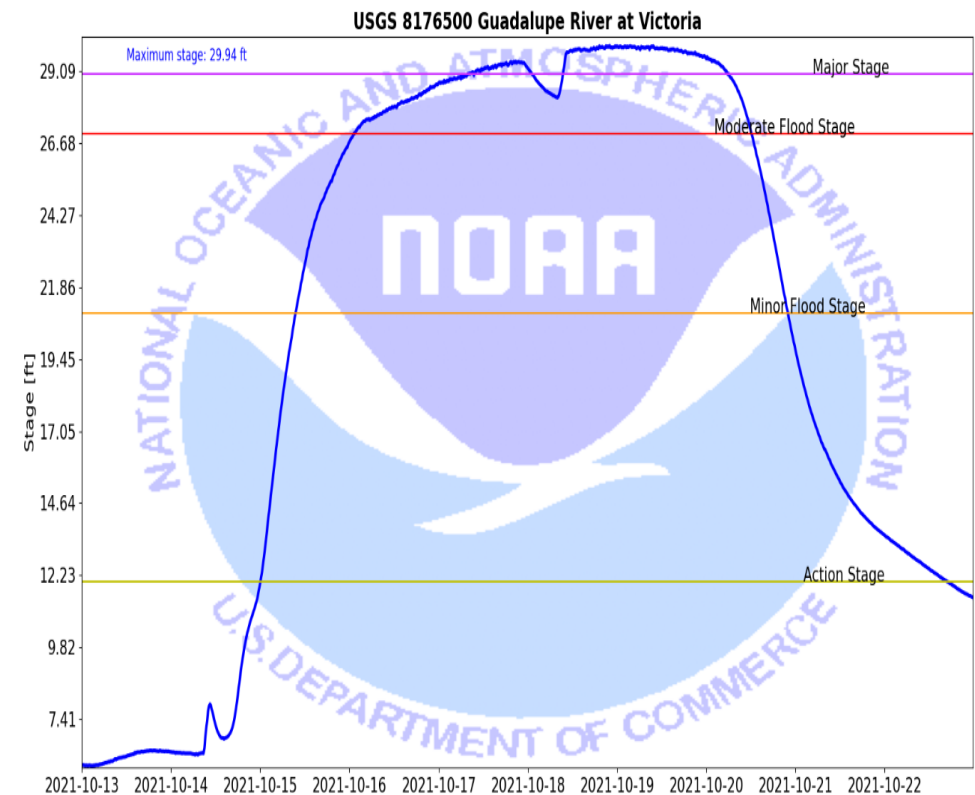
The Future of Flooding

Just like anything else, significant
technological leaps are difficult to
implement



Here you see a diagram, it tells you exactly what you need to know about the picture, but its still hard to visualize the image

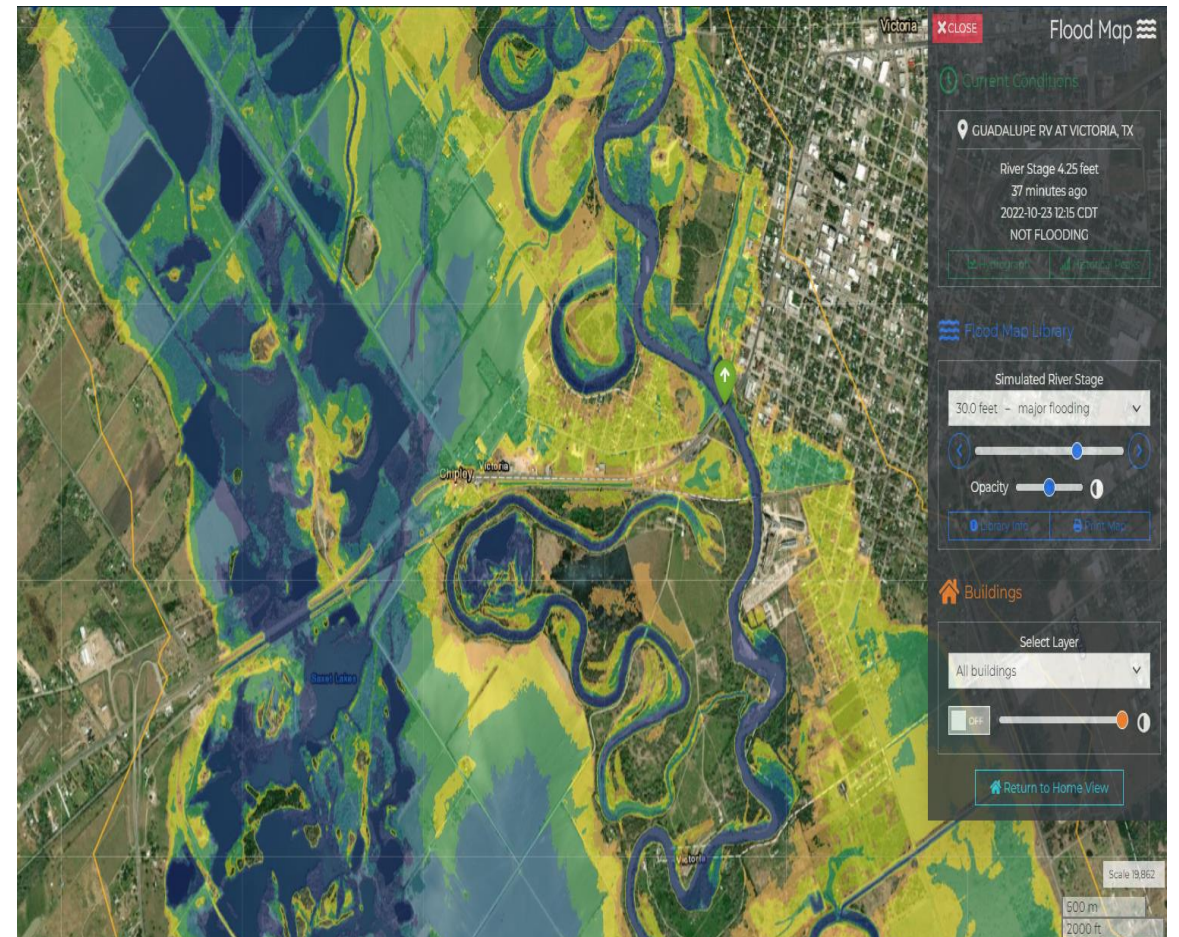
Similarly, a hydrograph tells you exactly what will be happening in terms of river height and flow, but its hard to visualize





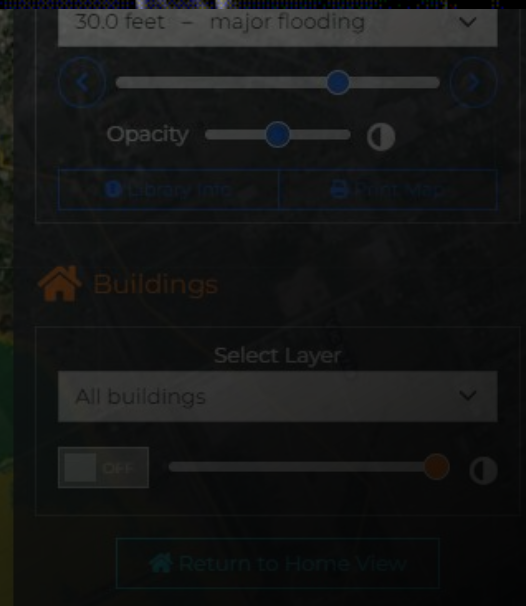
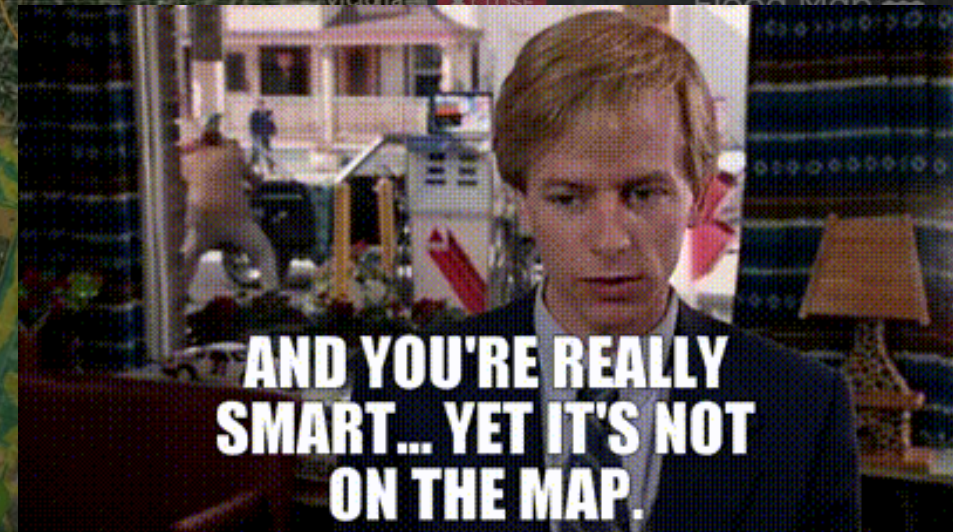
While the diagram before contained the necessary information, there are better ways to visualize the data

Flood Inundation Maps better visualize the flooding data, so the impact is better interpreted and improves decision making



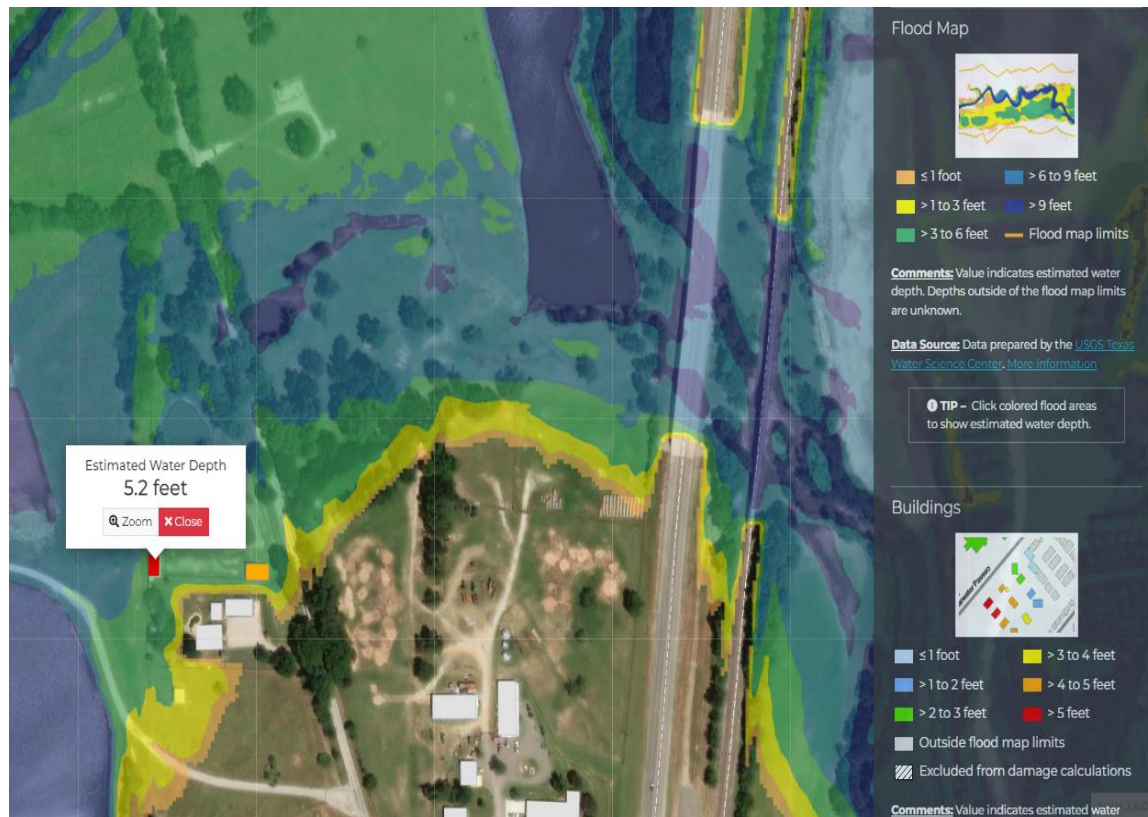
What Is Flood Inundation Mapping

It's a computer generated imagery of the potential flooding for a given geospatial area...aka its water on a map

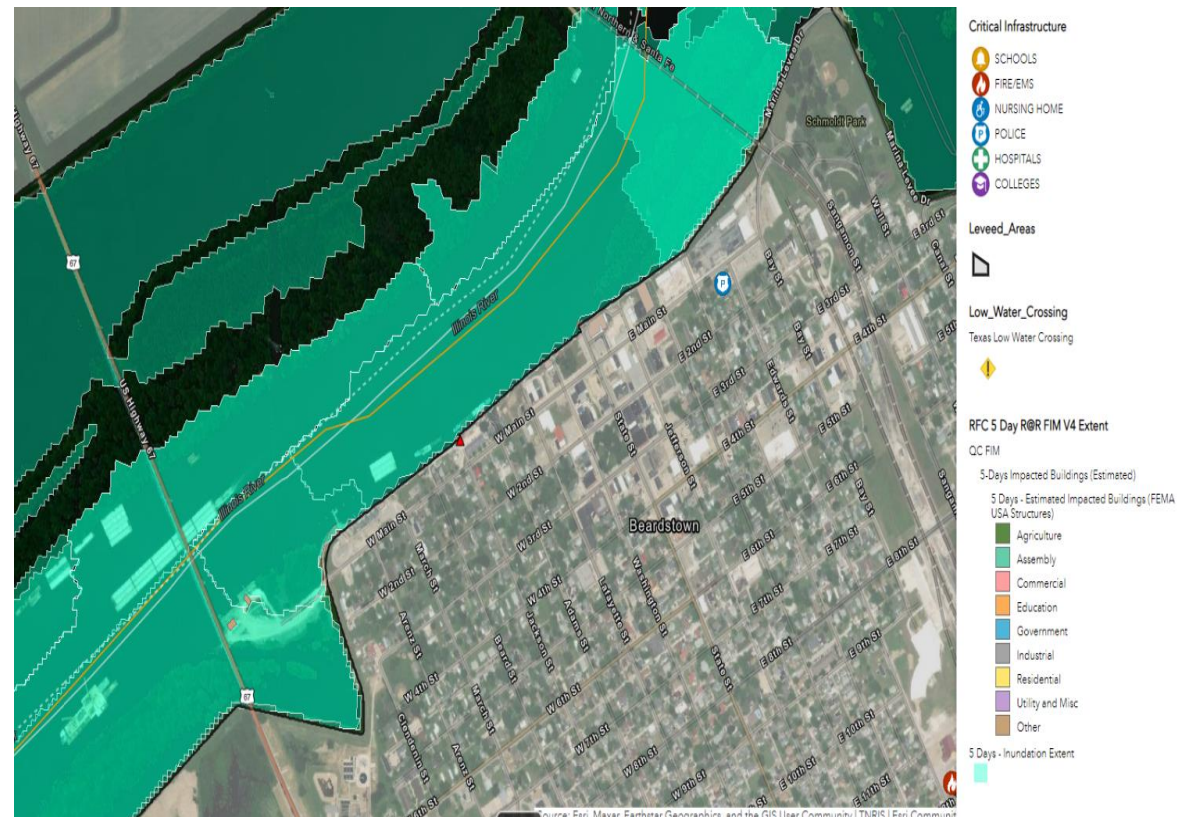


Two Types of Mapping

Inundation



Extent



An aerial photograph showing a large area of brown floodwater that has inundated green fields and a residential area. A multi-lane highway runs vertically on the right side of the image. The text is overlaid on the left side of the image.

Where Can You Access Flood Inundation Maps?

Short Answer:

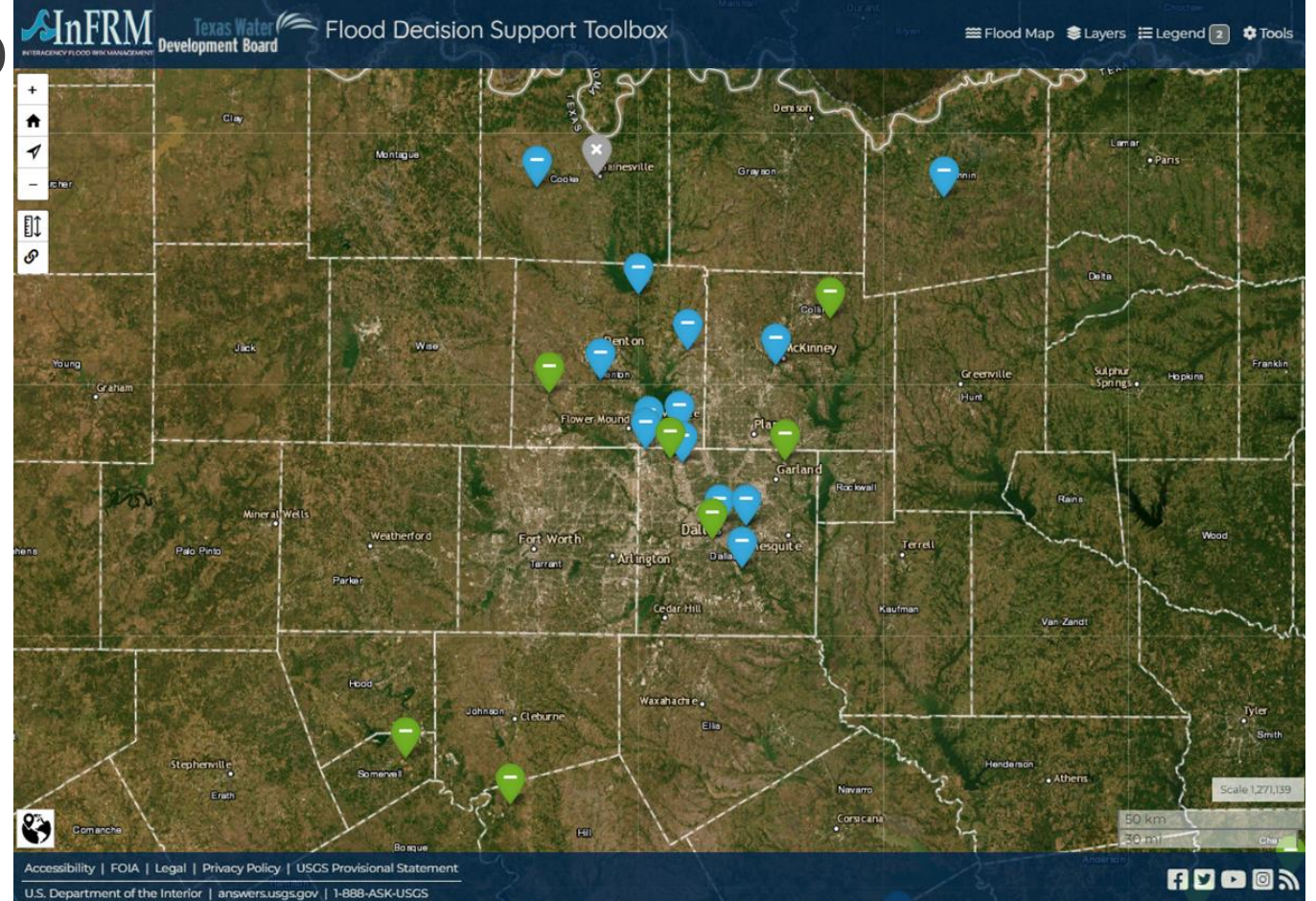
<https://webapps.usgs.gov/infrm/fdst/>

Currently. InFRM is the site to use for Flood Inundation Mapping

- This site is supported by USGS, FEMA, Corps Of Engineers, and the National Weather Service

October 2023: National Weather Service FIM will be available for all streams and rivers

March 2024: Mapping will be available on National Weather Service hydrograph websites



InFRM Website

Numerous New Mapping Added in the Metroplex

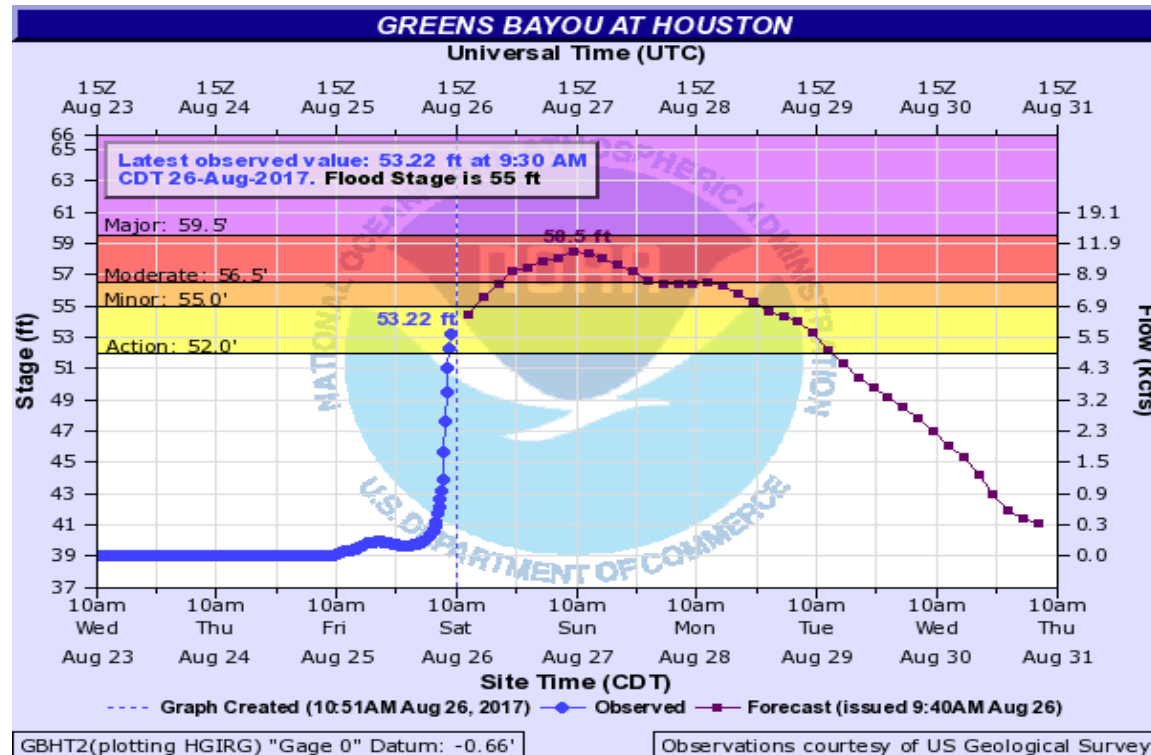


What Does the Future Look Like

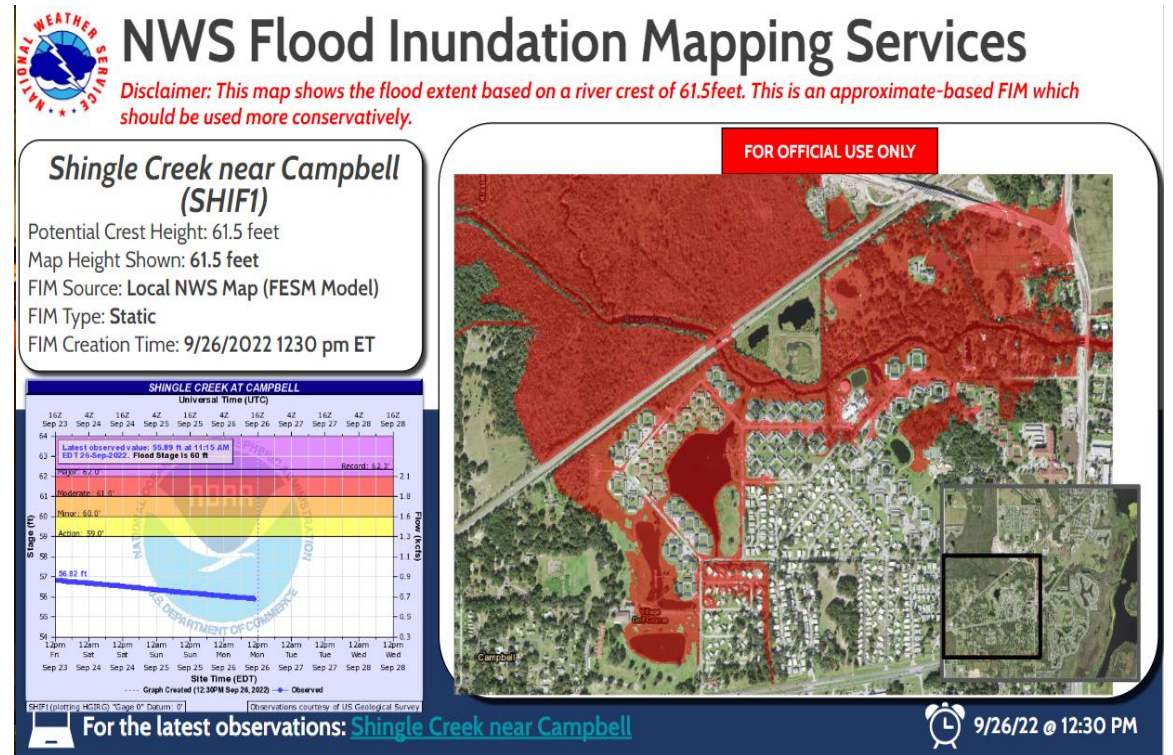
How flood maps could change the flood fight in the future

Inundation Mapping Then vs Now

Harvey



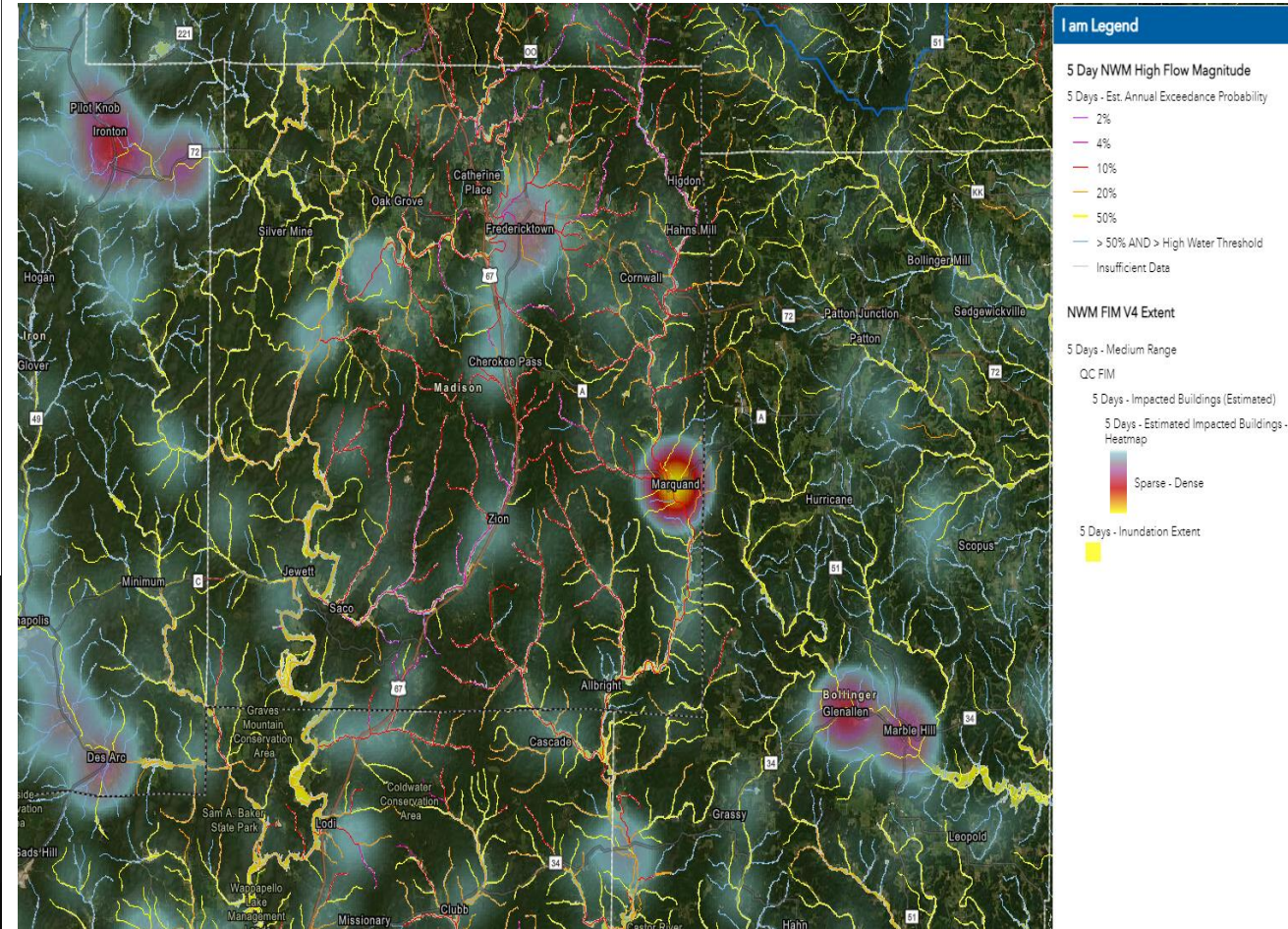
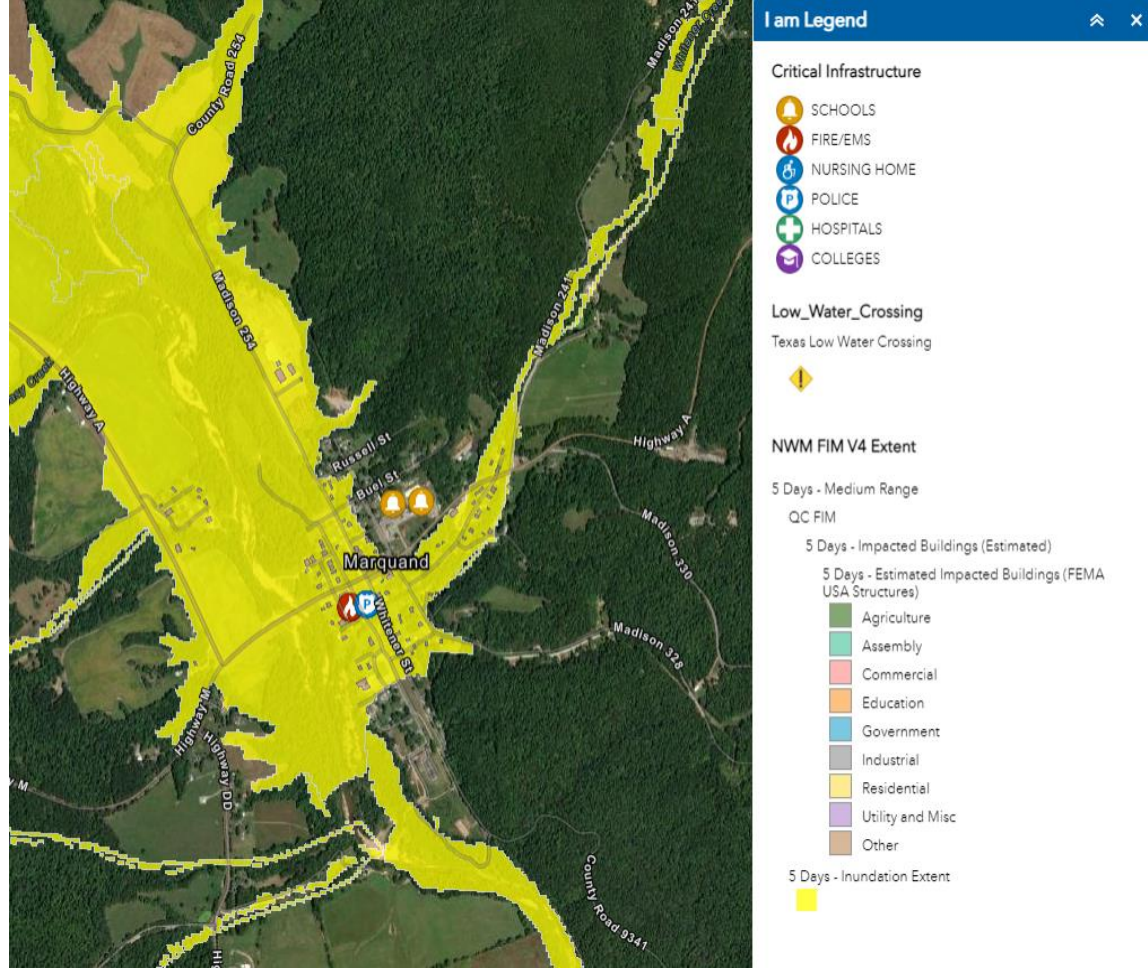
Ian



***Made Landfall 9/28/22**

County Level

Knowing what areas will need resources, or how transportation may be impacted before the first rain drop falls



City Level

Knowing what type and how many structures could be threatened days in advance



Thank You

 Derek Giardino

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 <https://webapps.usgs.gov/infrm/fdst>