

Ottumwa Flood Outreach Meeting

Floodplain Mapping in Wapello County

Jason Conn
Local Flood plain Programs

Iowa Department of Natural Resources
Leading Iowans in caring for our natural resources



Flooding is the most predictable hazard, yet communities continue to suffer economic losses due to flooding



Accurately mapping where flooding is likely to occur is the first step towards reducing economic and personal losses

Ottumwa Flood Map Chronology

Original Map

- Flood Hazard Boundary Map
- Published – Mar. 15, 1974

Map Revision

- Published – July 2, 1976

Detailed Study & Flood Insurance Rate Maps

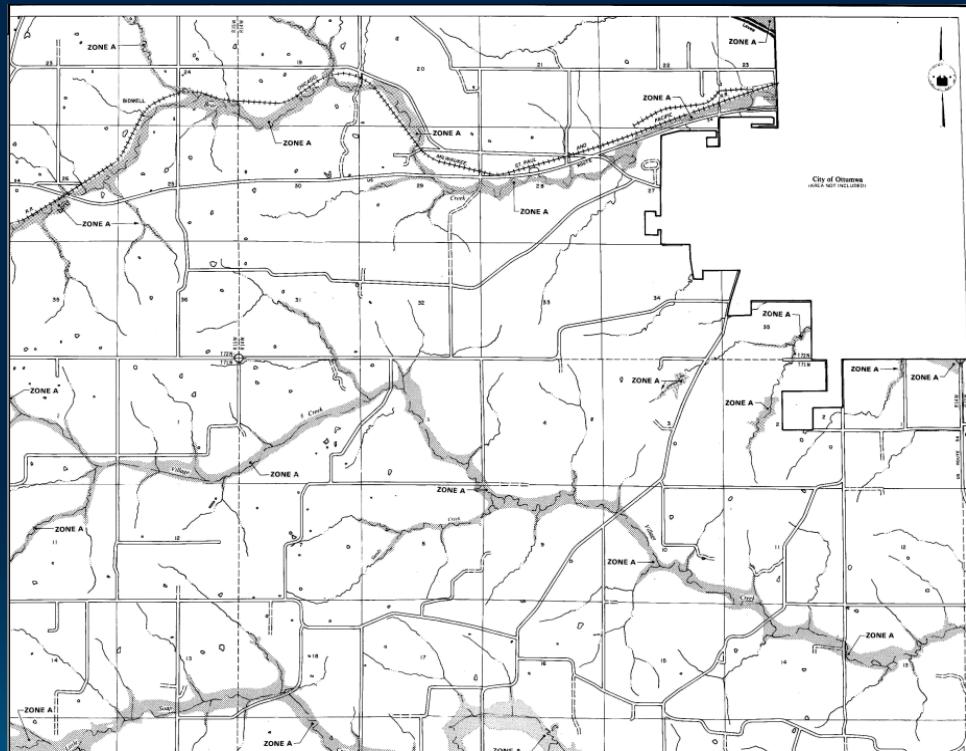
- Published – Aug. 15, 1980
- Current Effective Map



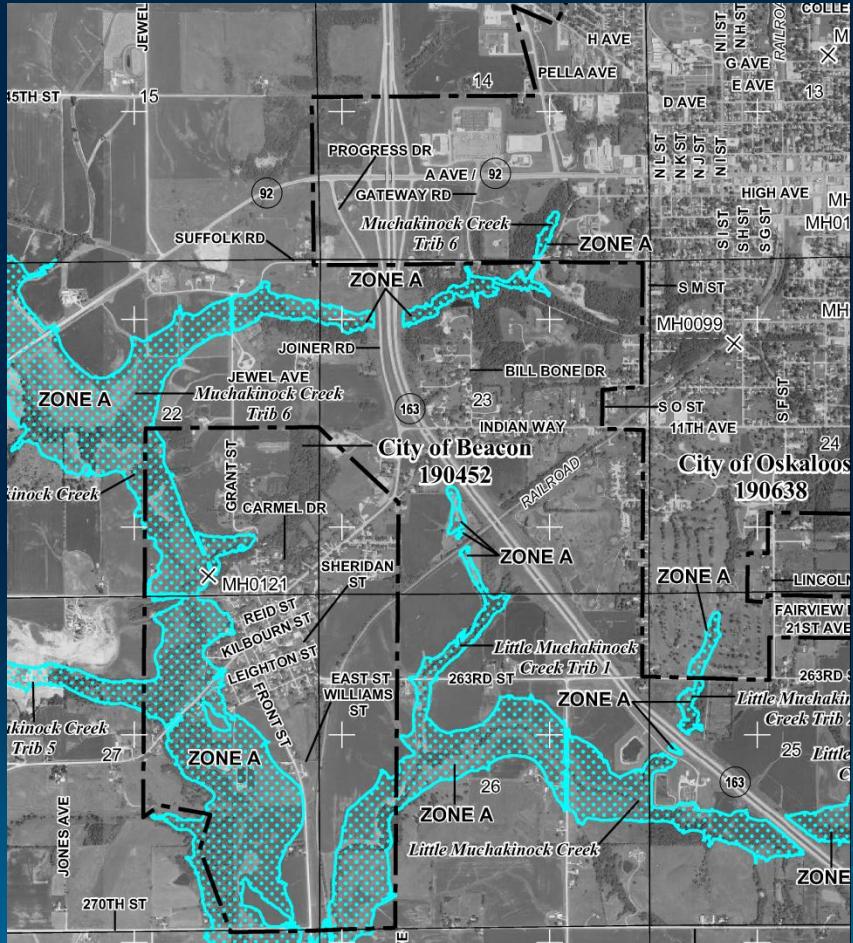
Wapello County Flood Map Chronology

Original Map

- Flood Hazard Boundary Map
- Published - Oct 25, 1977
- County partially mapped
- Converted to Flood Insurance Rate Map
 - June 1, 1987
 - Current Effective Map



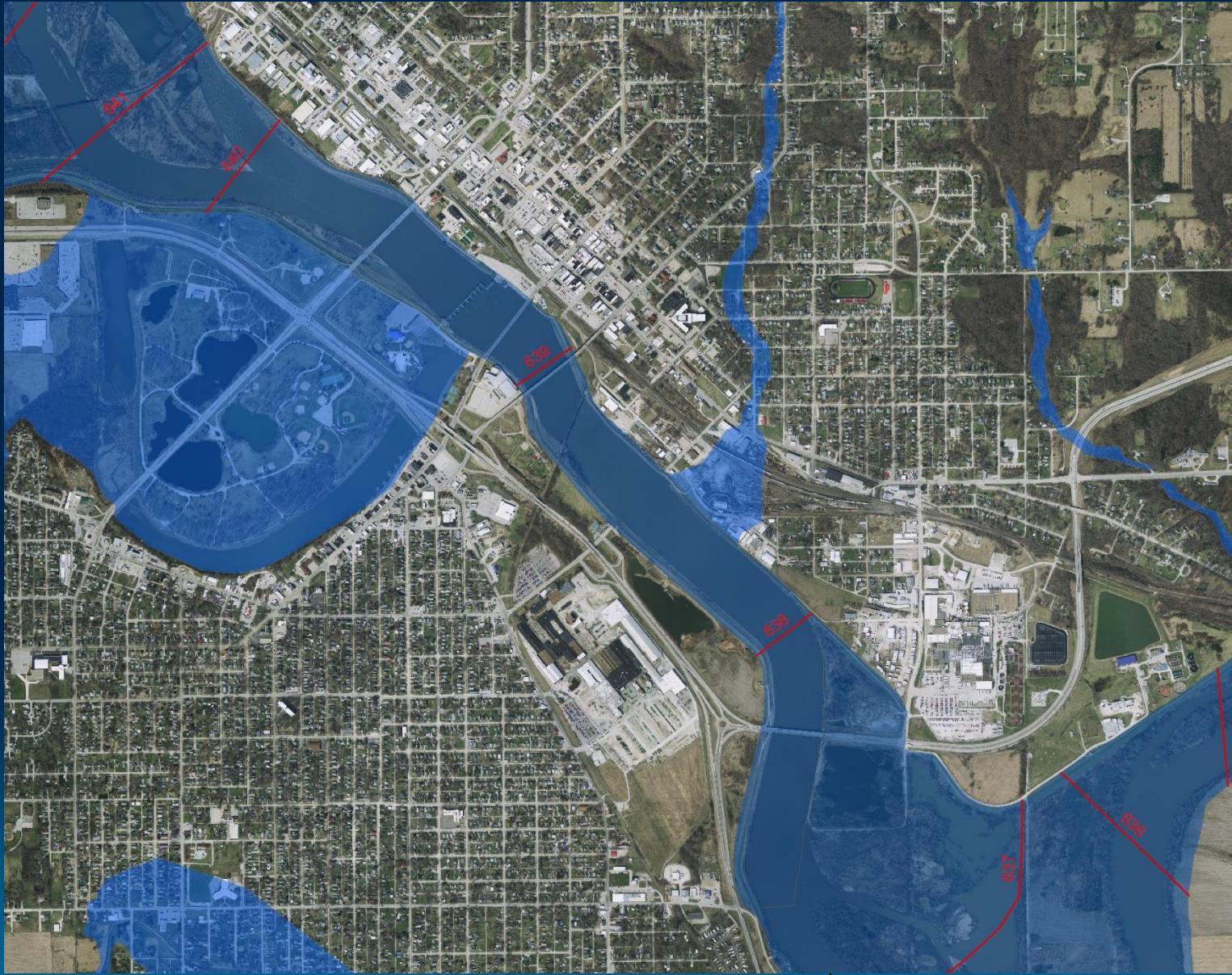
FEMA's Flood Map Modernization



- Use aerial photos as base map
- Mapping county-wide instead of community based
- Can use maps and data with own local digital information

Creating DFIRM's





FEMA Preliminary Maps

Wapello County Schedule

- Preliminary Maps Issued – Oct. 30, 2009
- Community Meeting – Feb. 2, 2010
- Tentative FEMA Schedule
 - Final Maps = June, 2011
 - Effective Maps = Dec. 2011

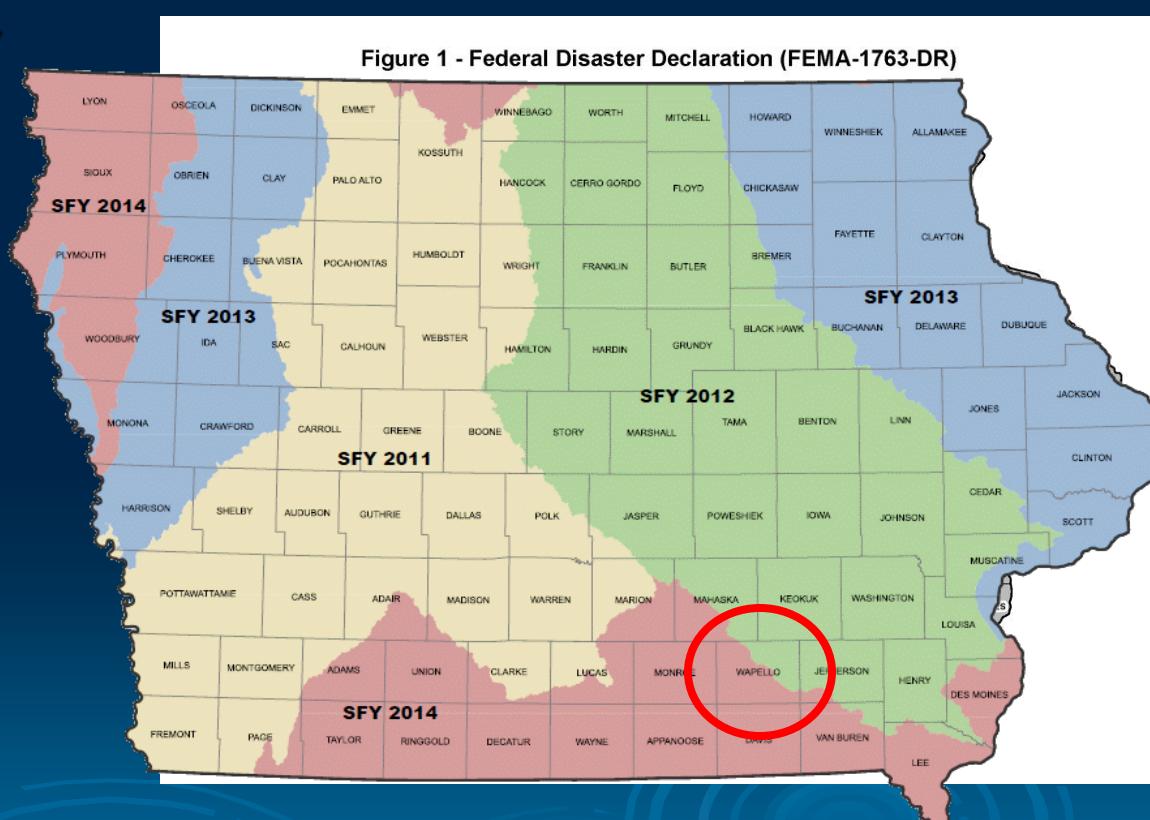
FEMA Preliminary Maps

Map Highlights

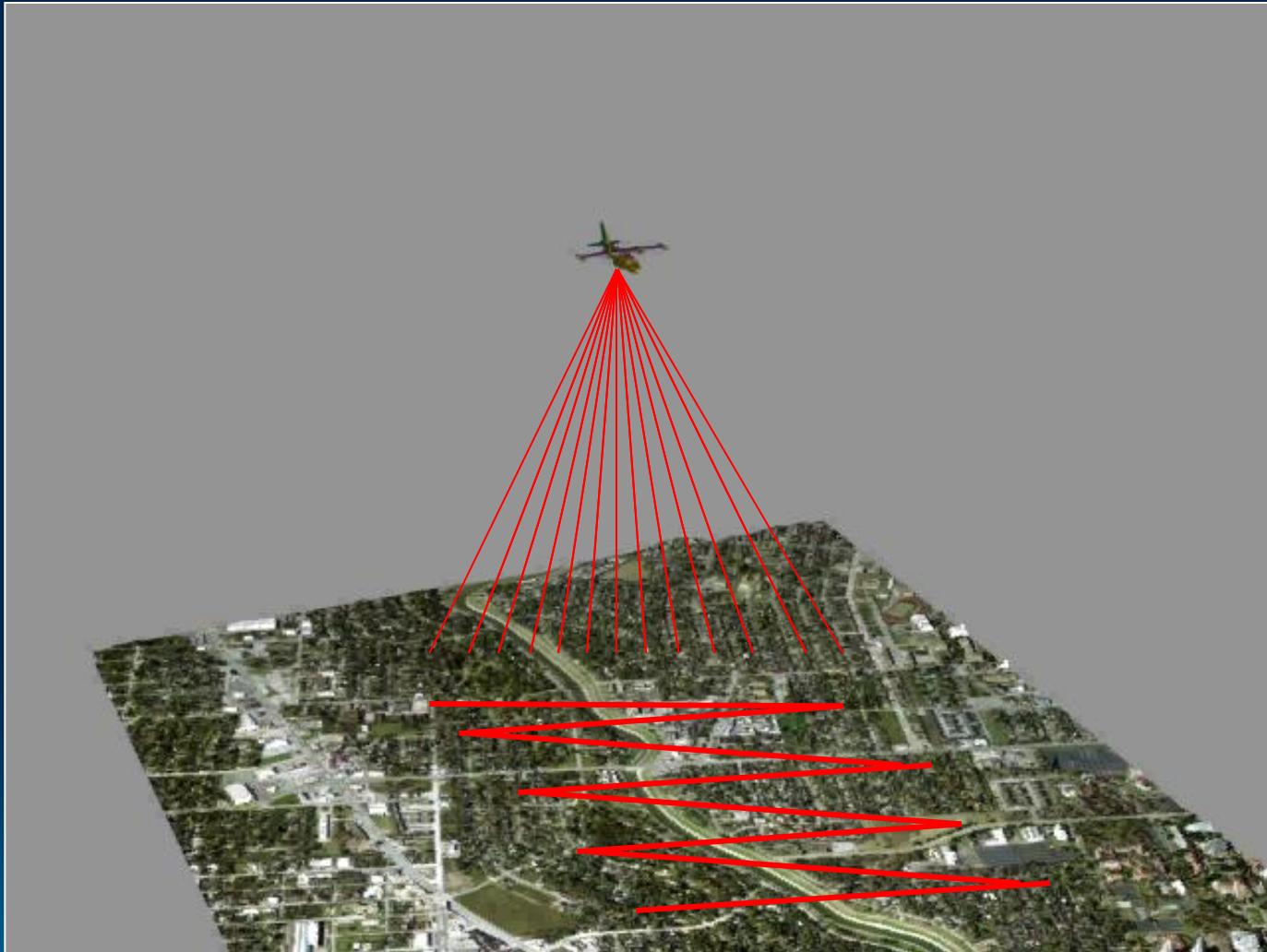
- New approximate studies
 - 249 stream reaches throughout county
 - Delineated using 10-ft. contour data
- Re-delineation of all existing floodplains
 - 10-ft. contour data
 - Provided by Wapello County, 1994
- Base Map
 - 2008 USDA aerial photography

Iowa DNR Floodplain Mapping Program

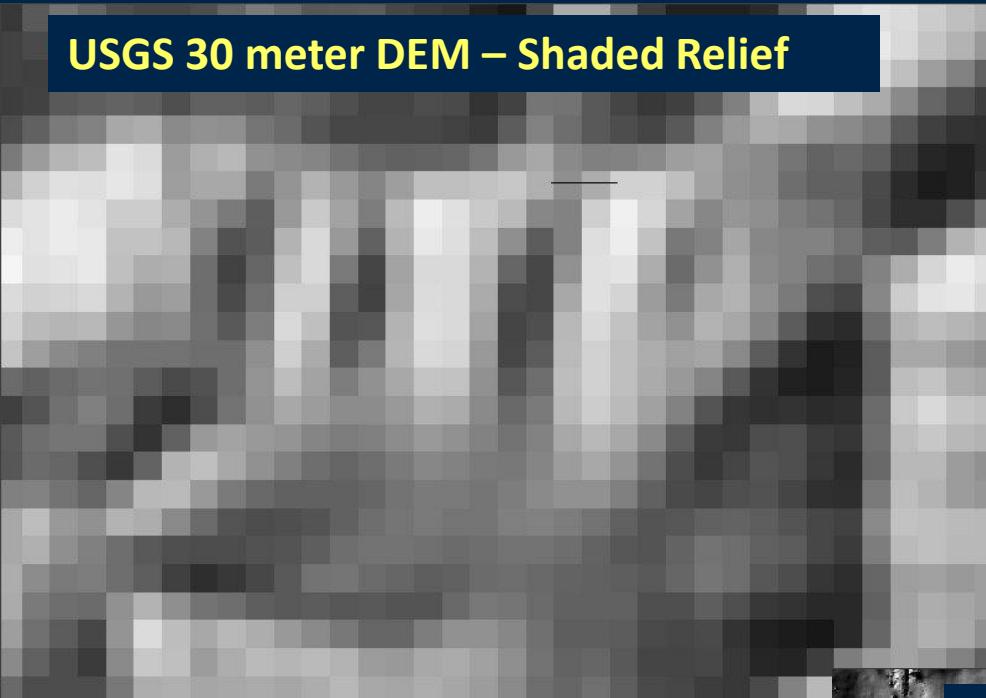
- Mapping in 85 counties declared federal disaster areas
 - 4-year project
 - \$15M HUD Grant
- Collaborative Effort
- Using better terrain data
 - LiDAR
- Producing Work Maps



Scanning LiDAR



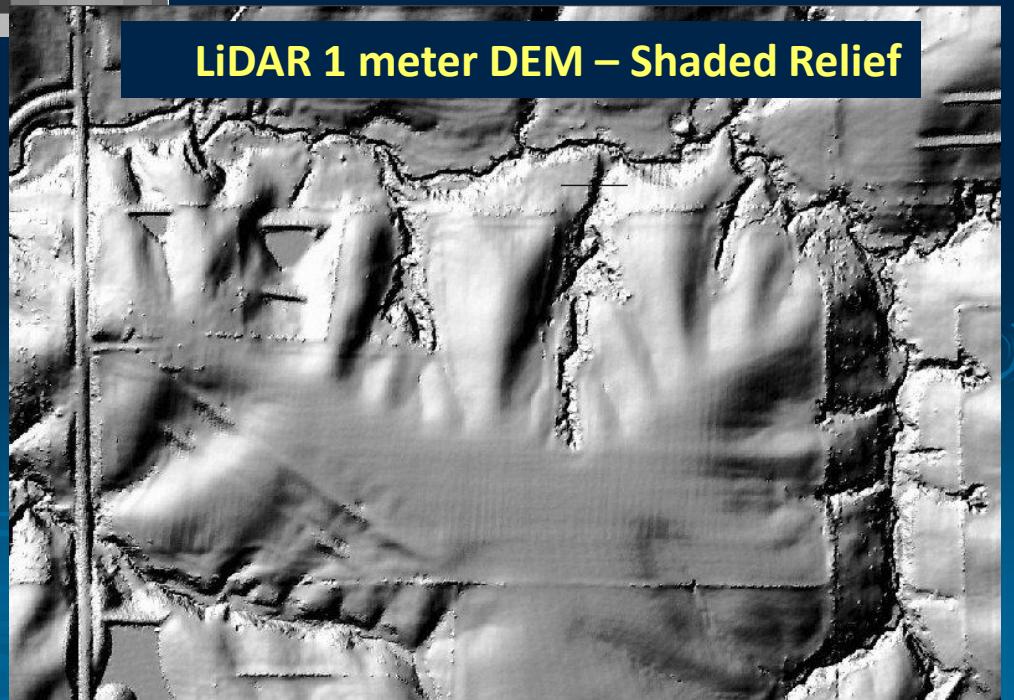
USGS 30 meter DEM – Shaded Relief



FEMA mostly uses 30-meter DEM in their map production process

DNR will utilize 1-meter DEM to accurately depict stream channel and floodplain features measured by LiDAR

LiDAR 1 meter DEM – Shaded Relief



Flood Insurance Rate Map vs. Work Map

➤ **Flood Insurance Rate Map**

- Official FEMA Map
- Illustrates flood hazard areas and risk premium zones
- Used by:
 - Lending Institutions
 - Insurance Agents
 - Federal, State & Local Government Agencies
 - Flood Zone Determination Companies

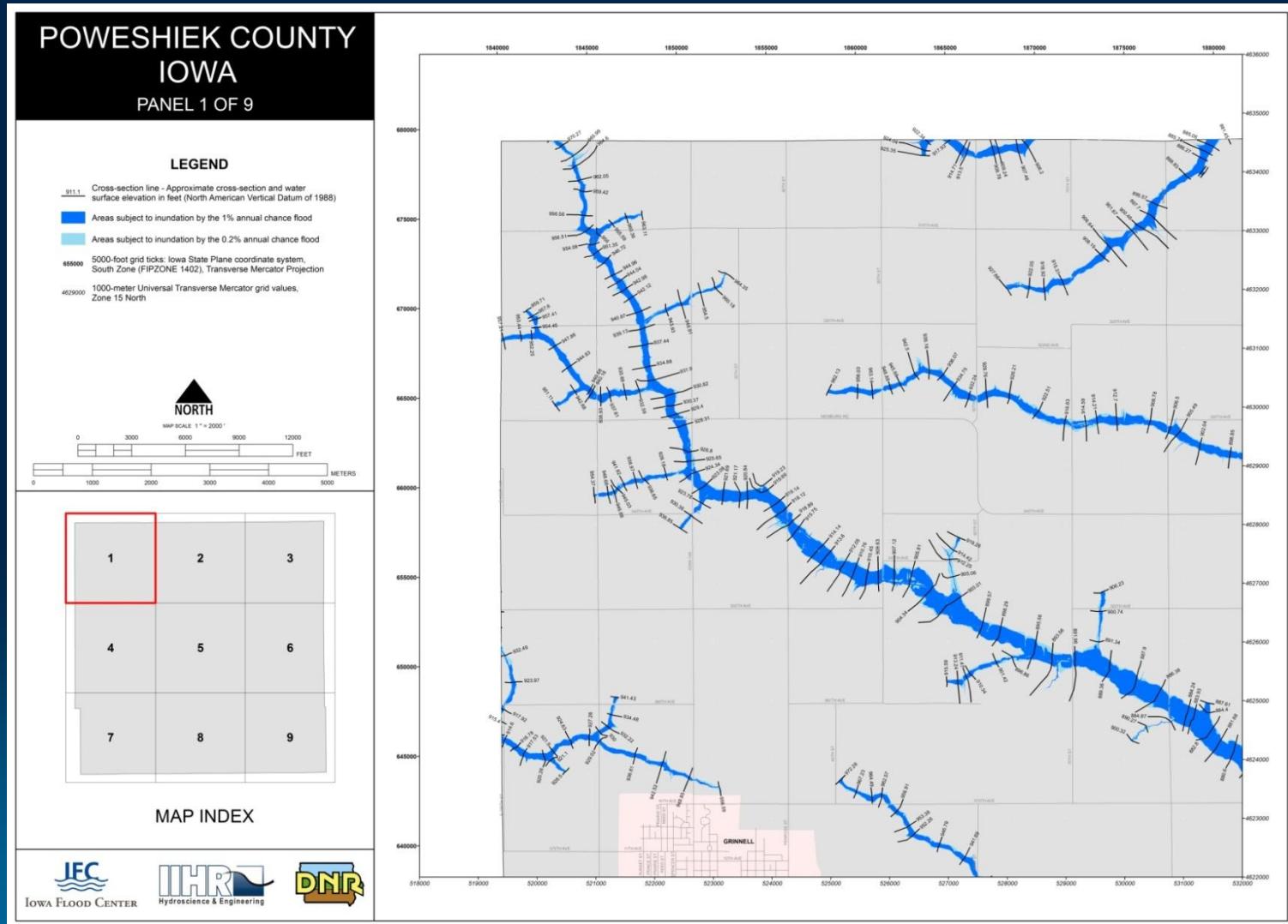
➤ **Work Map**

- Reflects the results of a study showing flooded areas for various flood events:
 - 1% and 0.2% annual chance floods (i.e. 100-Yr. and 500-Yr.)
- Provides foundation for a Flood Insurance Rate Map
- Contain disclaimers regarding use

Uses For Work Maps

- Land Use Planning in flood-prone areas
- Ability to anticipate implementation of Floodplain Development Regulations (NFIP)
- Reduces ambiguity in floodplain permitting process
- Disaster Response and emergency planning

Work Map Example



Flood Plain Development Program

<http://floodplain.iowadnr.gov>

Contact Information

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