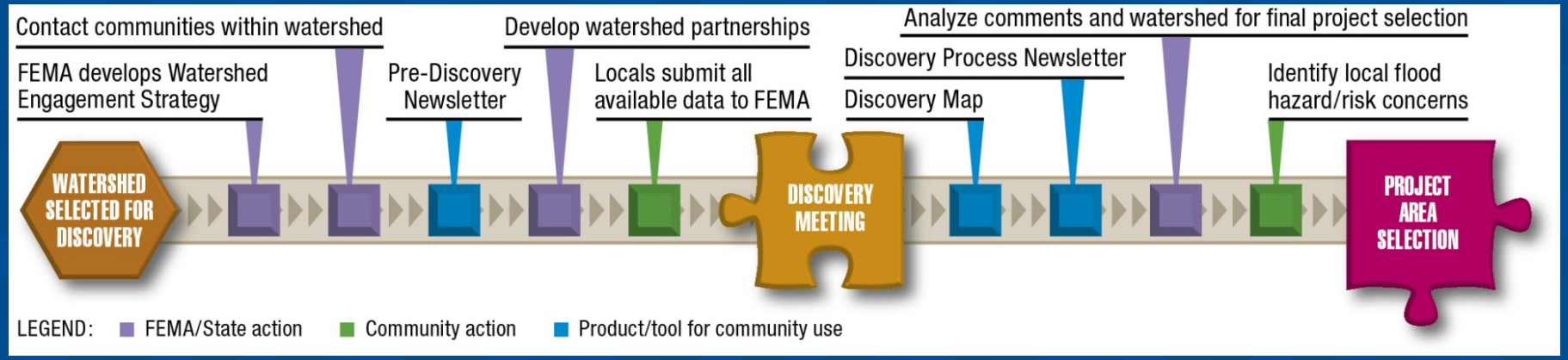

NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS

EAST FORK TRINITY DISCOVERY FINDINGS MEETING

JULY 31, 2019

North Central Texas Council of Governments

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DISCOVERY | CONTACT

NCTCOG:

- Edith Marvin – EMarvin@nctcog.org
- Mia Brown – MBBrown@nctcog.org

TWDB:

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- Jarred Overbey – jOverbey@halff.com
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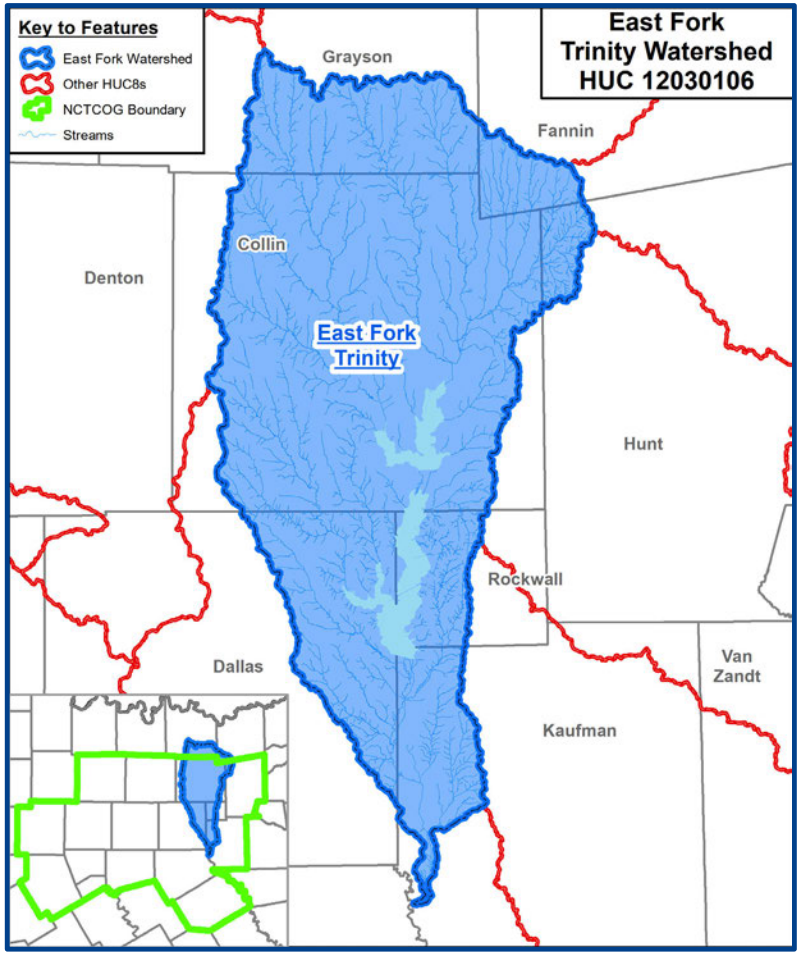
- Katy Onley – kOnley@halff.com

FEMA:

- Alan Johnson– alan.johnson@fema.dhs.gov

DISCOVERY | AGENDA

- NCTCOG Overview
- Risk MAP Overview
- East Fork Trinity Discovery
  - Activities
  - Findings
- Base Level Engineering
- Post Meeting Coordination

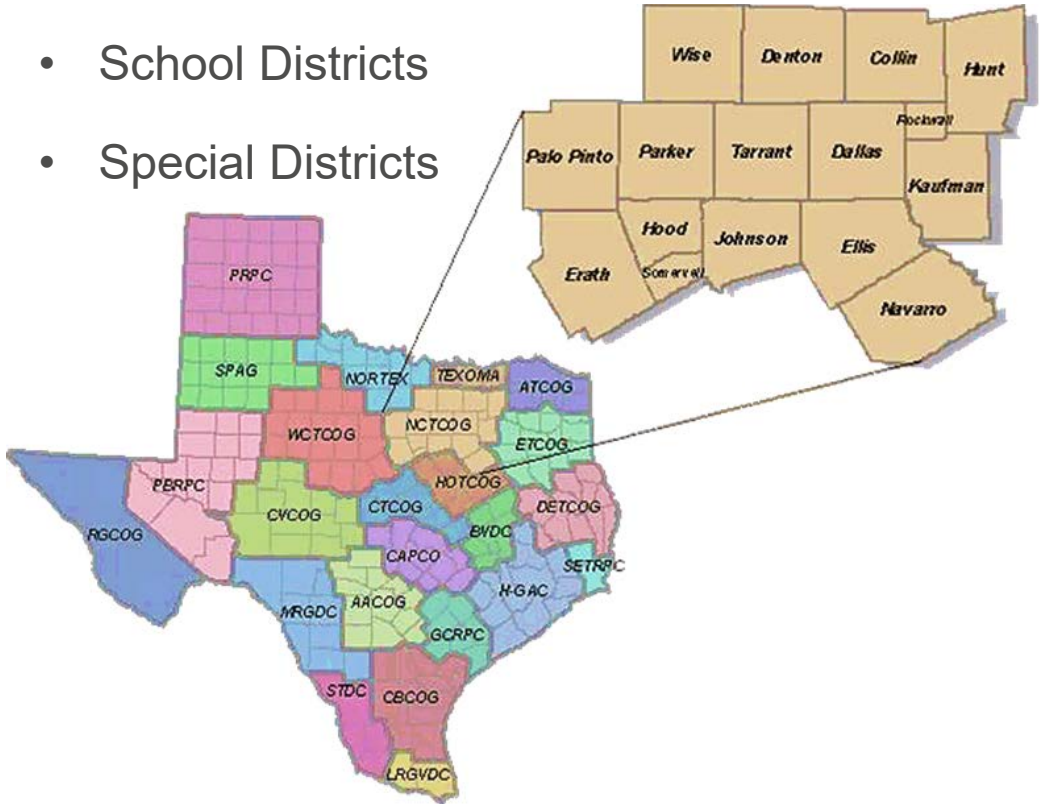


NCTCOG | WHAT IS NCTCOG'S ROLE?

VOLUNTARY ASSOCIATION OF, BY, AND FOR LOCAL GOVERNMENTS, ESTABLISHED IN 1966, TO HELP THEM:

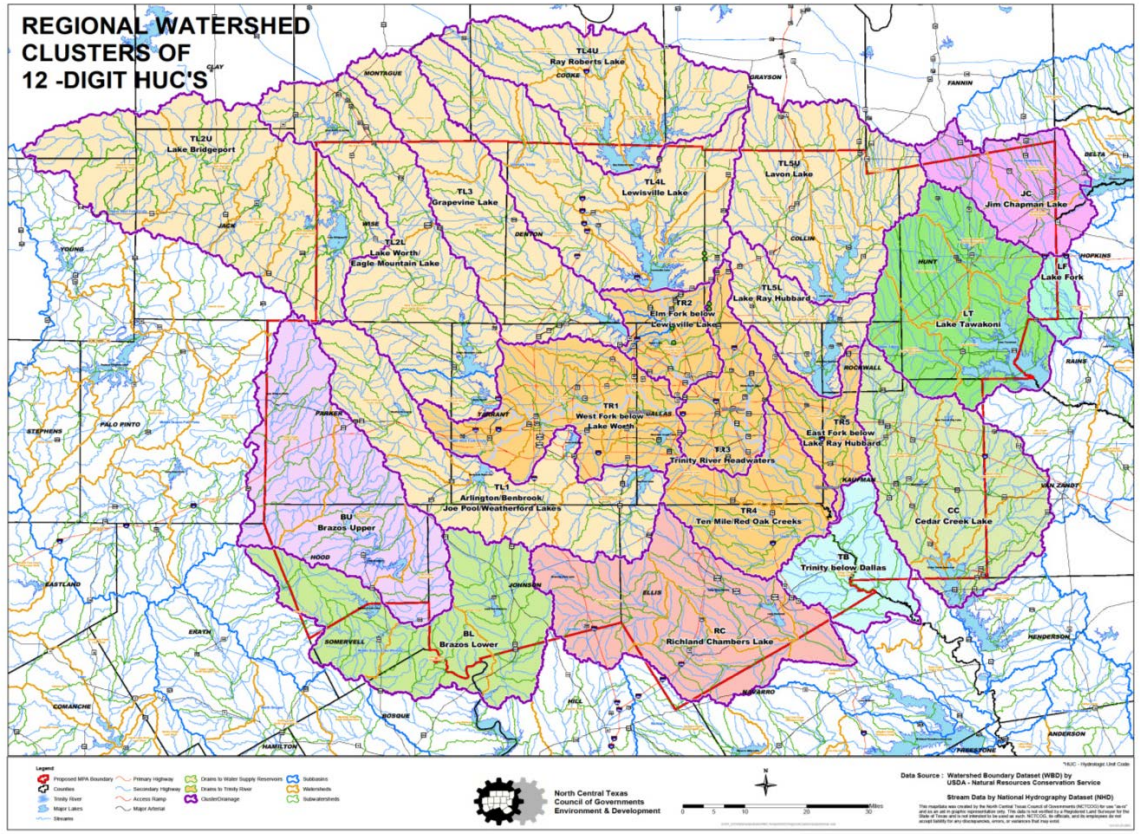
- Plan for common needs
- Strengthen their individual and collective power
- Recognize regional opportunities
- Resolve regional problems
- Make joint decisions/cooperate for mutual benefit

- 230+ Member Governments
  - Cities
  - Counties
  - School Districts
  - Special Districts



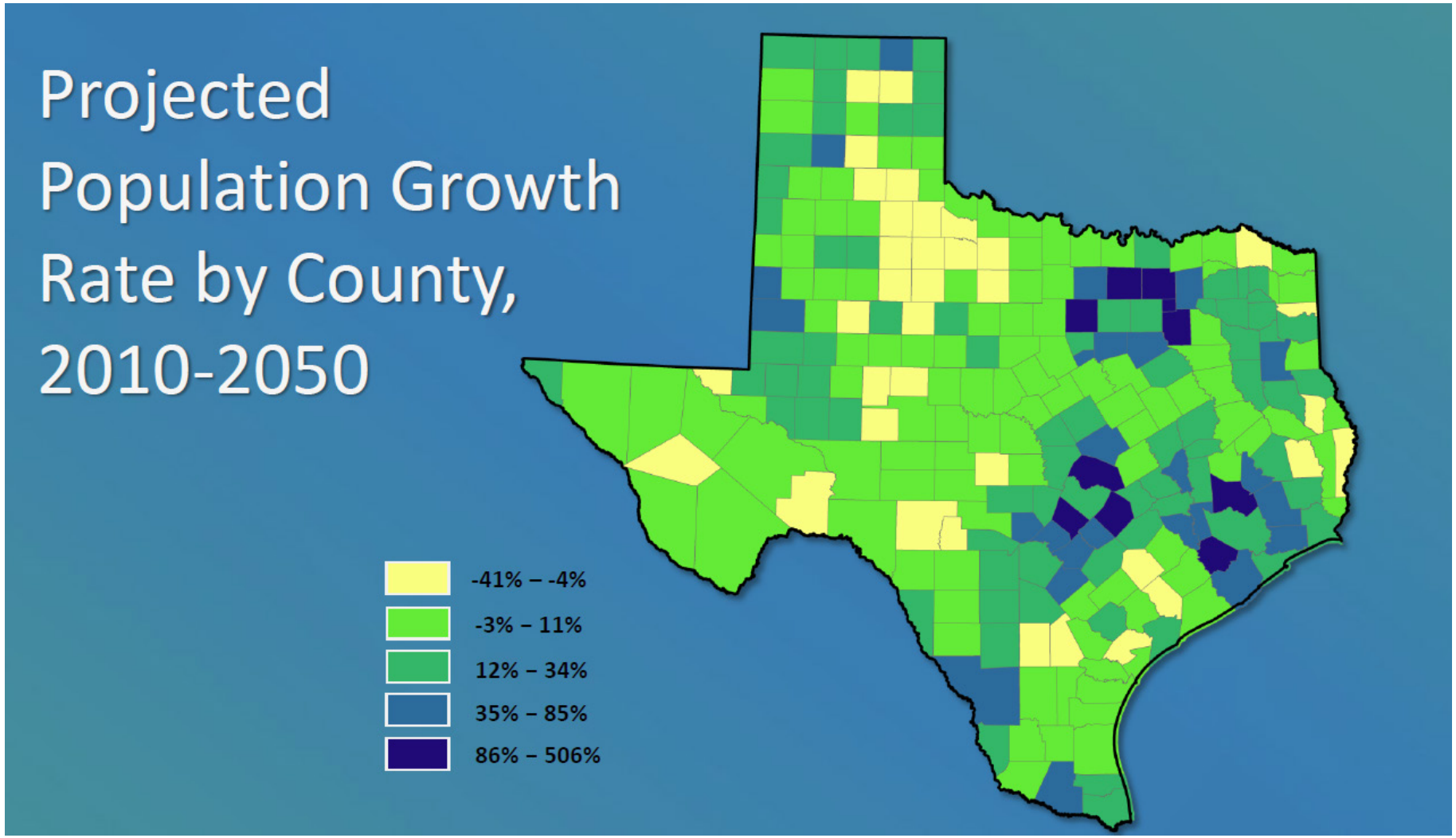
NCTCOG ENVIRONMENT AND DEVELOPMENT WATERSHED MANAGEMENT PROGRAM:

- Focus on water quality, stormwater, and floodplain topics/issues.
- Floodplain
  - NCT region does not have a flood control district. Lots of local/regional entities working in their own jurisdictions.
  - NCTCOG will never replace a flood control district, but as an agency, we work toward regional cooperation on flooding issues to help everyone accomplish common goals together.

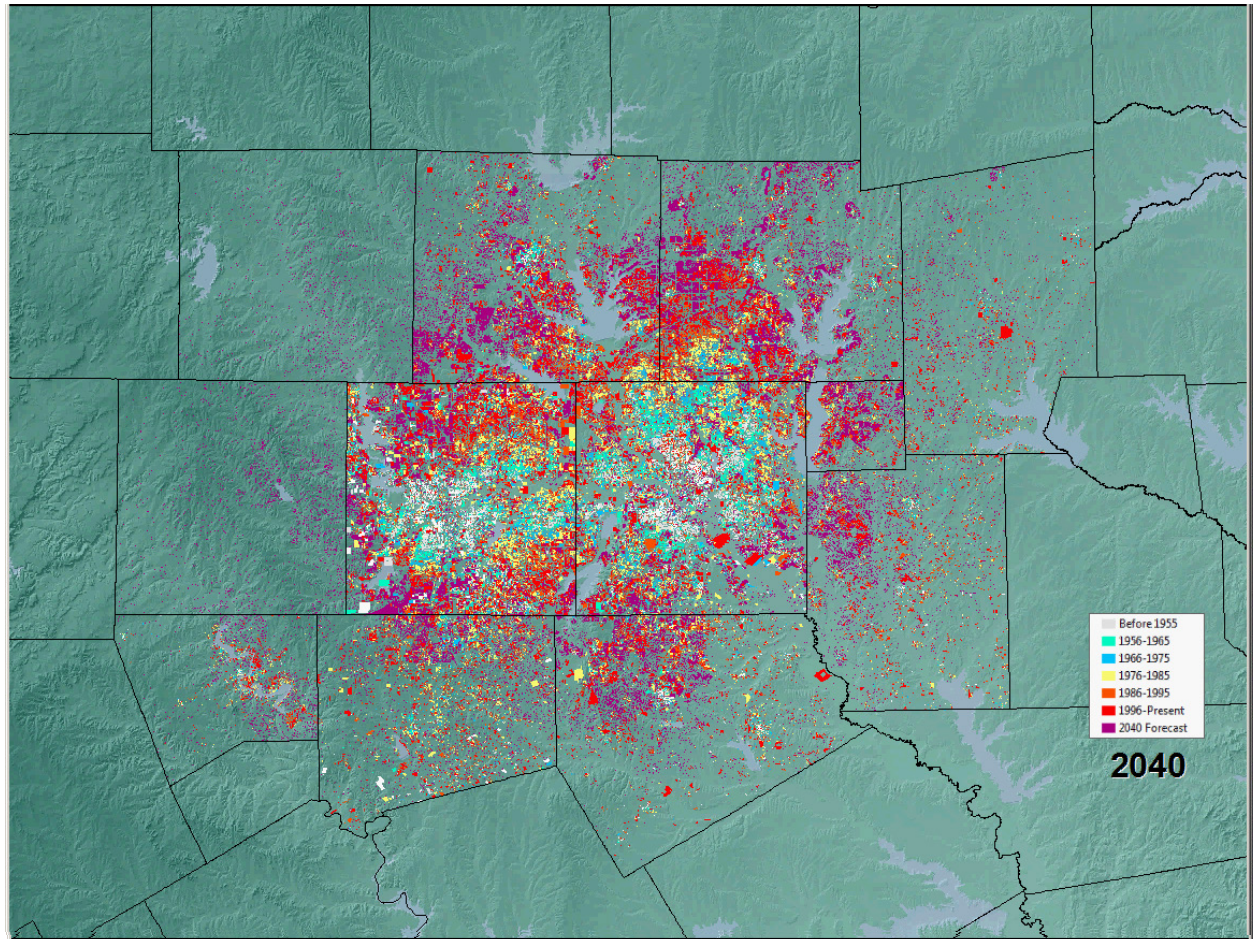


NCTCOG | WHAT IS NCTCOG'S ROLE?

Source : Dr. Lloyd Potter, Texas State Demographer



NORTH CENTRAL TEXAS 1950-2040 GROWTH



NCTCOG GOALS AS A COOPERATING TECHNICAL PARTNER

- Direct Goals:
  - Better data for better decision making
  - Coordination between communities and local/regional/state/federal organizations (what COGs do best!)
  - Partnerships
- Indirect Goals:
  - Higher Standards

FEMA'S RISK MAPPING, ASSESSMENT, AND PLANNING (MAP) PROGRAM

- Provide flood information and tools for better **protection**
- **Action-Driven** through local understanding and ownership of risk

FEMA'S RISK MAPPING, ASSESSMENT, AND PLANNING (MAP) PROGRAM

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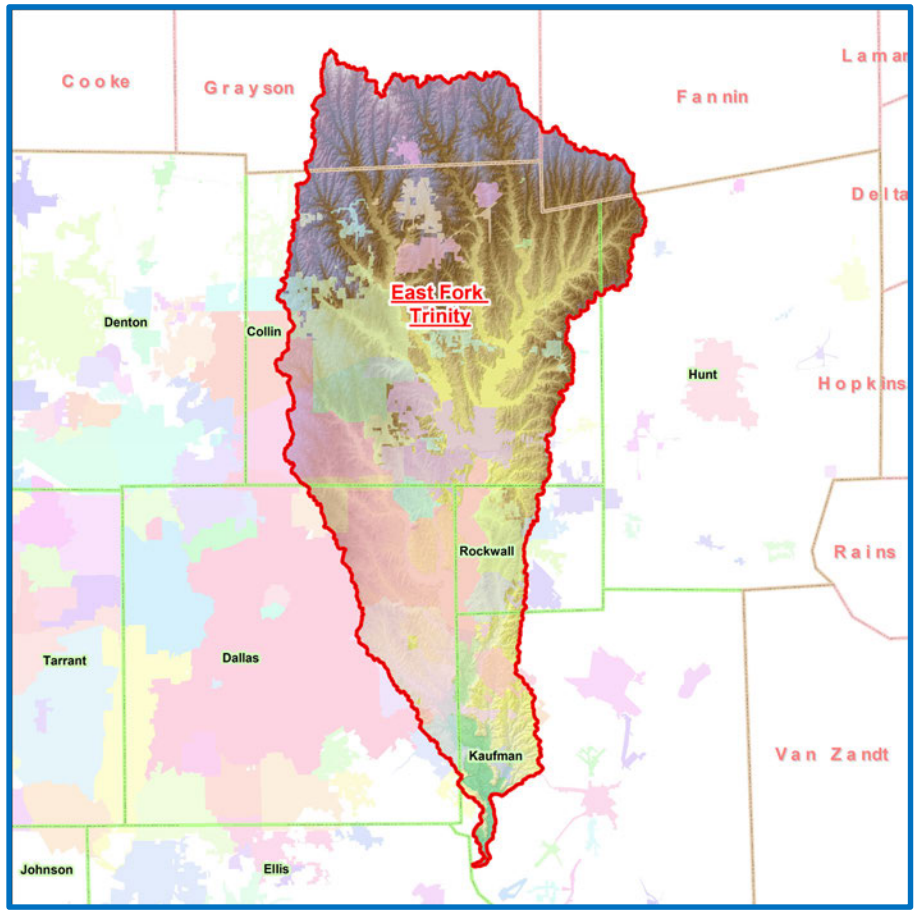
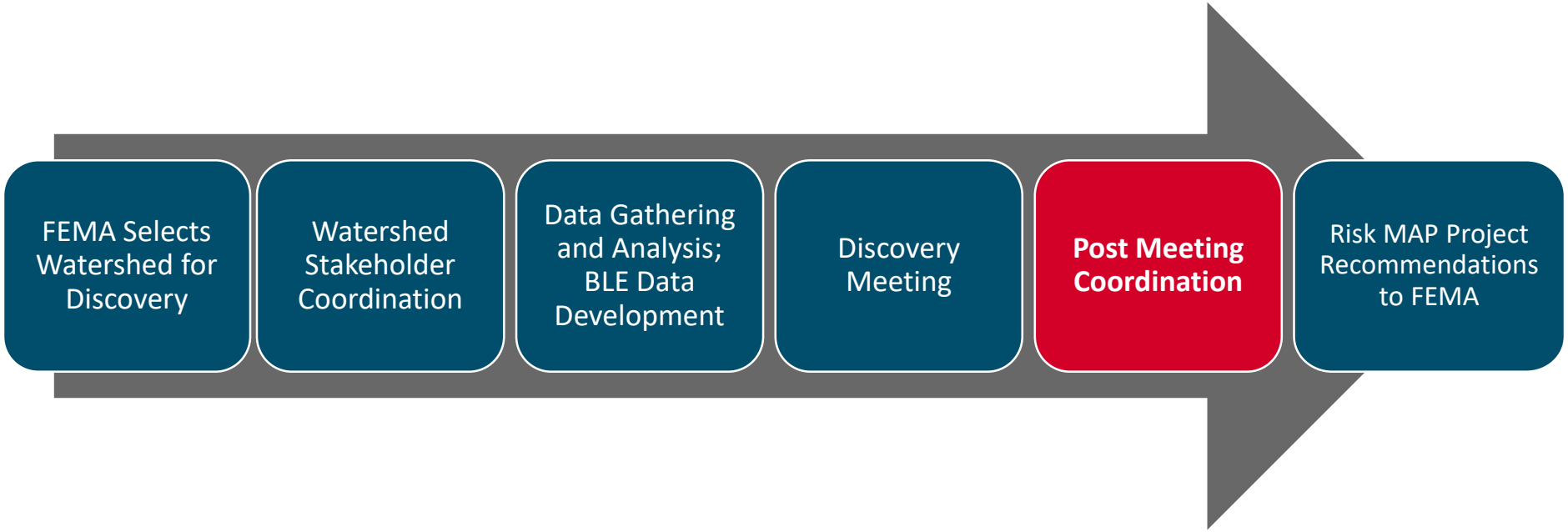
DISCOVERY | GOALS

NCTCOG LEADING EAST FORK TRINITY DISCOVERY

- Gather Information
  - Local flood risks and hazards
  - Current mitigation efforts
- Provide Information
  - Mitigation planning and actions
  - Risk communication



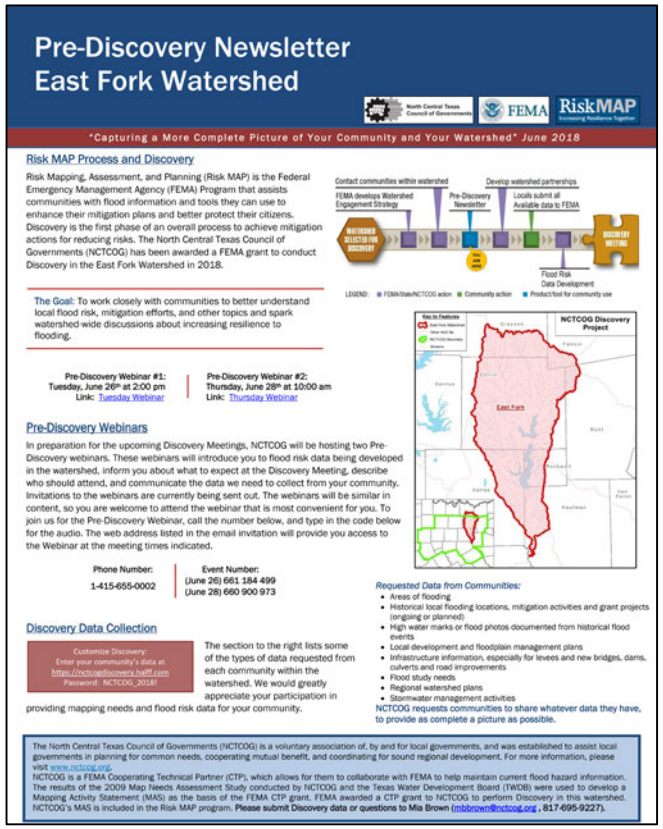
DISCOVERY | DISCOVERY PROCESS



DISCOVERY | ACTIVITIES

PRE-DISCOVERY WEBINARS

- Inform communities of process and timeline



Pre-Discovery Newsletter
East Fork Watershed

"Capturing a More Complete Picture of Your Community and Your Watershed" June 2018

Risk MAP Process and Discovery

Risk Mapping, Assessment, and Planning (Risk MAP) is the Federal Emergency Management Agency (FEMA) Program that assists communities with flood information and tools they can use to enhance their mitigation plans and better protect their citizens. Discovery is the first phase of an overall process to achieve mitigation actions for reducing risks. The North Central Texas Council of Governments (NCTCOG) has been awarded a FEMA grant to conduct Discovery in the East Fork Watershed in 2018.

Contact communities within watershed
FEMA develops Watershed Engagement Strategy
Pre-Discovery Newsletter
Develop watershed partnerships
Locals submit all Available data to FEMA
Flood Risk Data Development
DISCOVERY MEETING

The Goal: To work closely with communities to better understand local flood risk, mitigation efforts, and other topics and spark watershed-wide discussions about increasing resilience to flooding.

Pre-Discovery Webinar #1: Tuesday, June 26th at 2:00 pm
Link: Tuesday Webinar

Pre-Discovery Webinar #2: Thursday, June 28th at 10:00 am
Link: Thursday Webinar

NCTCOG Discovery Project

Pre-Discovery Webinars

In preparation for the upcoming Discovery Meetings, NCTCOG will be hosting two Pre-Discovery webinars. These webinars will introduce you to flood risk data being developed in the watershed, inform you about what to expect at the Discovery Meeting, describe who should attend, and communicate the data we need to collect from your community. Invitations to the webinars are currently being sent out. The webinars will be similar in content, so you are welcome to attend the webinar that is most convenient for you. To join us for the Pre-Discovery Webinar, call the number below, and type in the code below for the audio. The web address listed in the email invitation will provide you access to the Webinar at the meeting times indicated.

Phone Number: 1-415-655-0002

Event Number: (June 26) 661 184 499 (June 28) 660 900 973

Discovery Data Collection

Customize Discovery: Enter your community's data at https://nctcogdiscovery.halff.com Password: NCTCOG_2018!

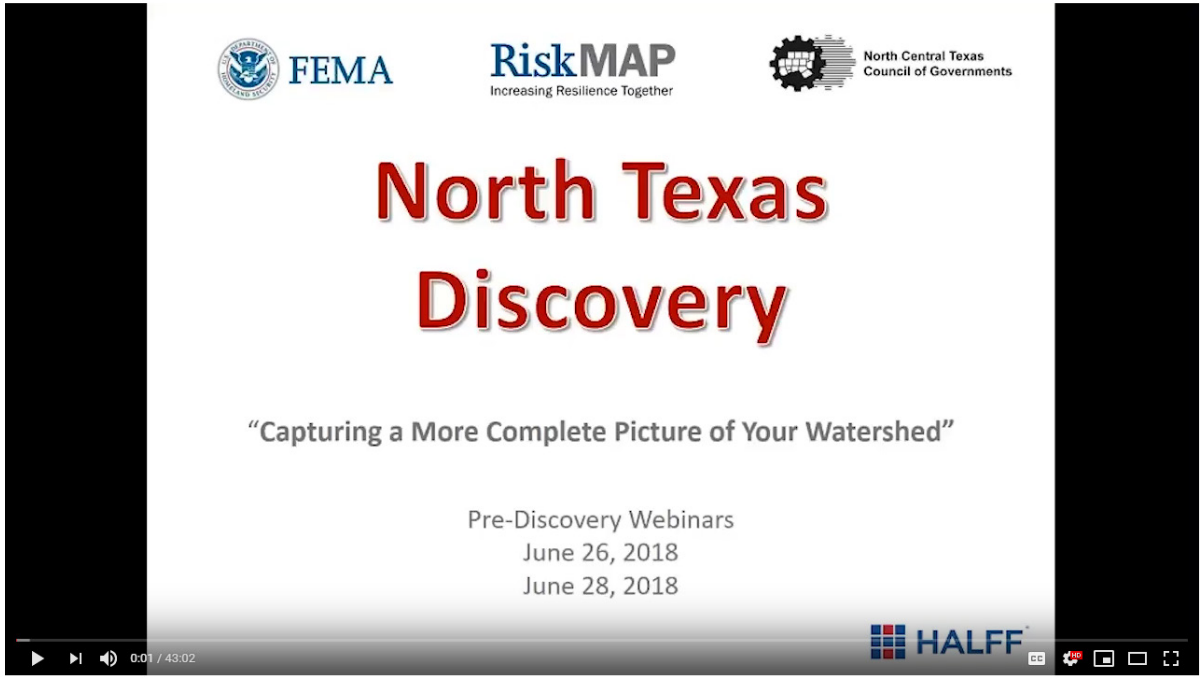
The section to the right lists some of the types of data requested from each community within the watershed. We would greatly appreciate your participation in providing mapping needs and flood risk data for your community.

Requested Data from Communities:

- Areas of flooding
- Historical local flooding locations, mitigation activities and grant projects (ongoing or planned)
- High water marks or flood photos documented from historical flood events
- Local development and floodplain management plans
- Infrastructure information, especially for levees and new bridges, dams, culverts and road improvements
- Flood study needs
- Regional watershed plans
- Stormwater management activities

NCTCOG requests communities to share whatever data they have, to provide as complete a picture as possible.

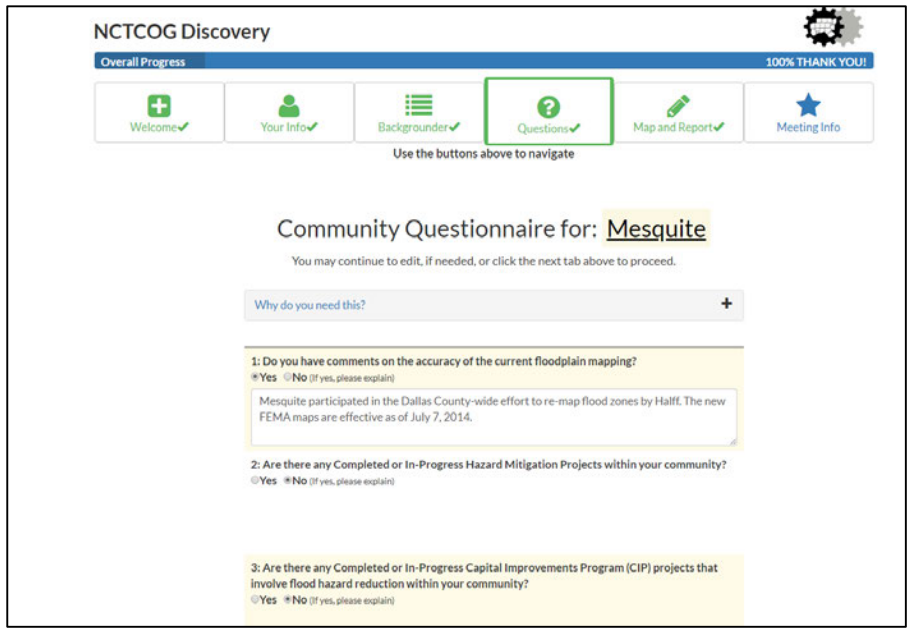
The North Central Texas Council of Governments (NCTCOG) is a voluntary association of, by and for local governments, and was established to assist local governments in planning for common needs, cooperating mutual benefit, and coordinating for sound regional development. For more information, please visit www.nctcog.org.
NCTCOG is a FEMA Cooperating Technical Partner (CTP), which allows for them to collaborate with FEMA to help maintain current flood hazard information. The results of the 2009 Map Needs Assessment Study conducted by NCTCOG and the Texas Water Development Board (TWDB) were used to develop a Mapping Activity Statement (MAS) as the basis of the FEMA CTP grant. FEMA awarded a CTP grant to NCTCOG to perform Discovery in this watershed. NCTCOG's MAS is included in the Risk MAP program. **Please submit Discovery data or questions to Mia Brown (mbbrown@nctcog.org , 817-695-9227).**

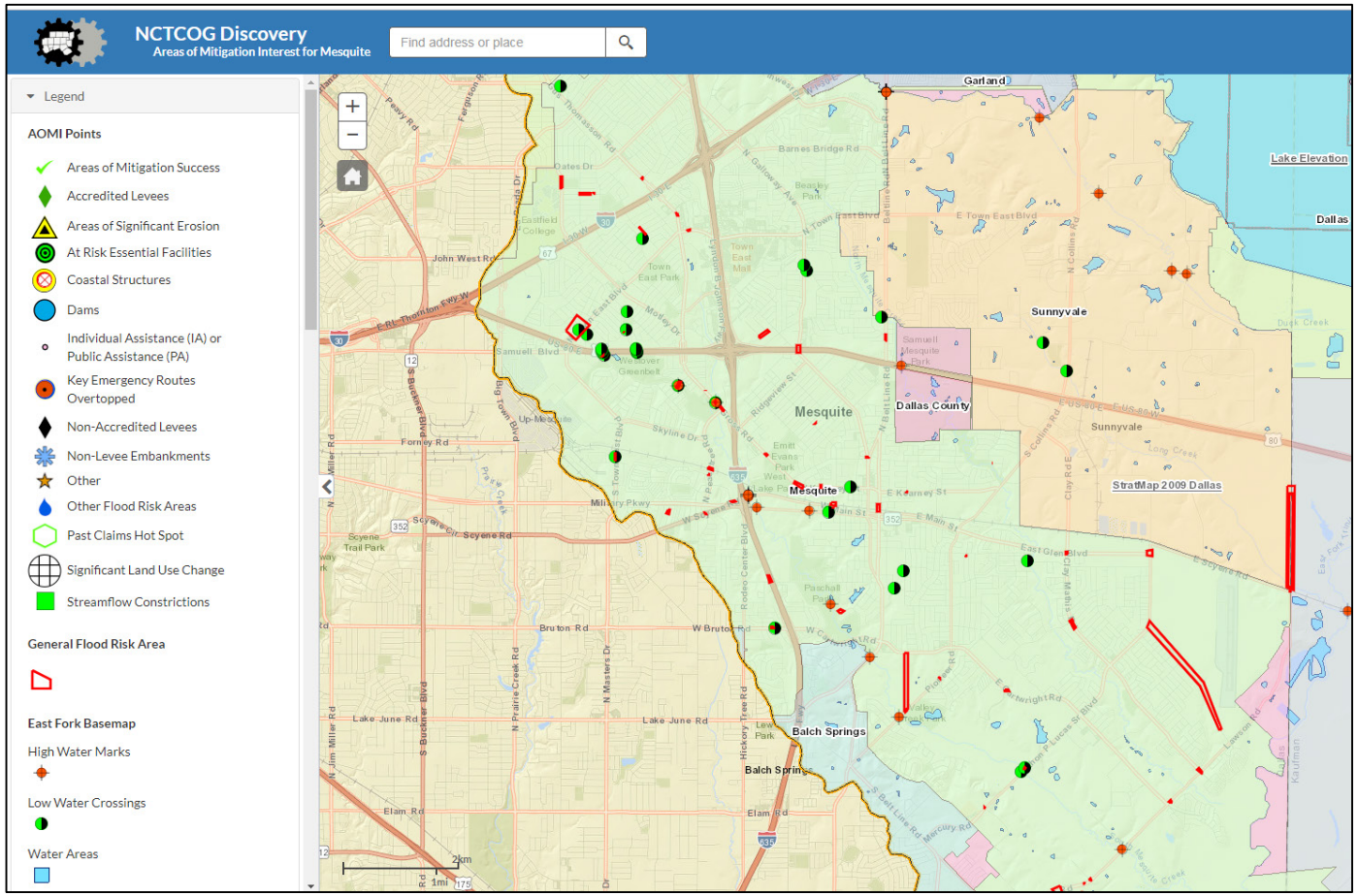


DISCOVERY | ACTIVITIES

COMMUNITIES SUBMITTED FLOOD RISKS ONLINE

- Low Water Crossings
- Flooding Concerns
- Significant Land Use Change
- Issues with Effective Mapping





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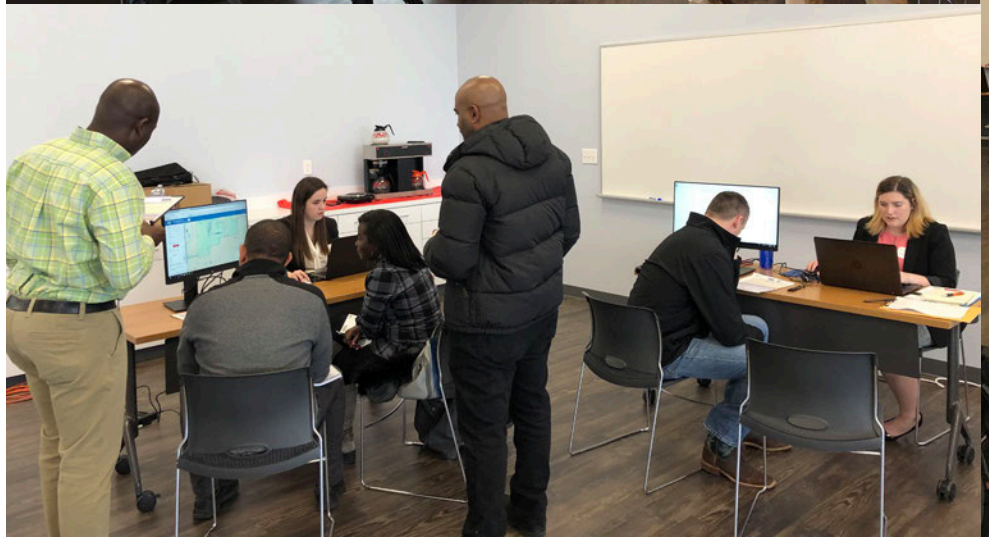
DISCOVERY | ACTIVITIES

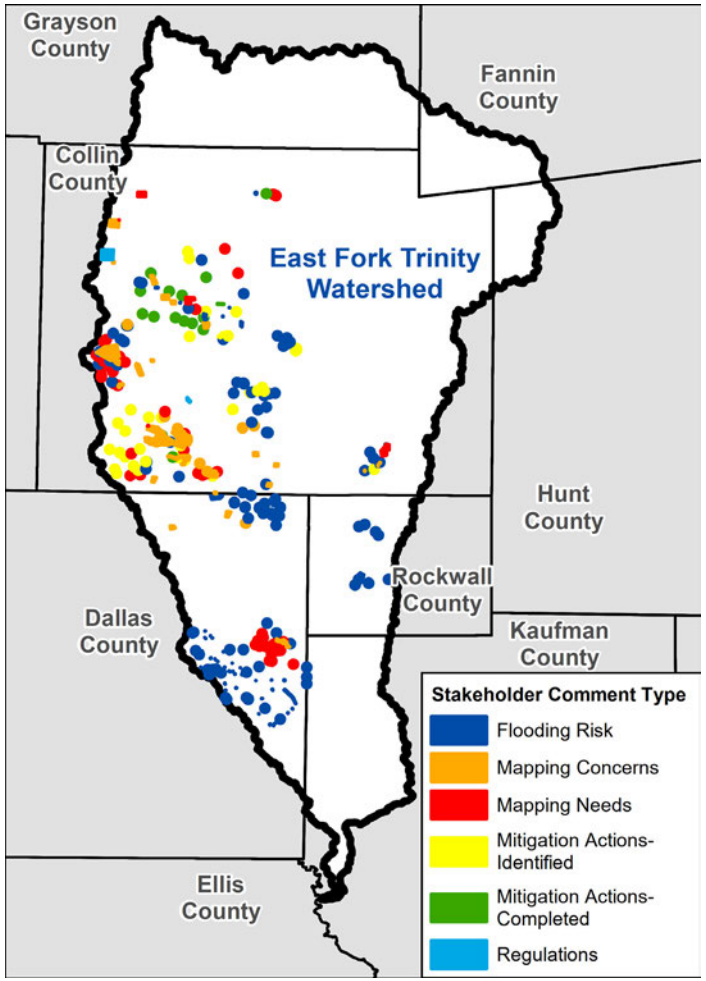


DISCOVERY MEETING - MARCH 1ST

- Receive flooding issues
- Facilitate discussion among stakeholders

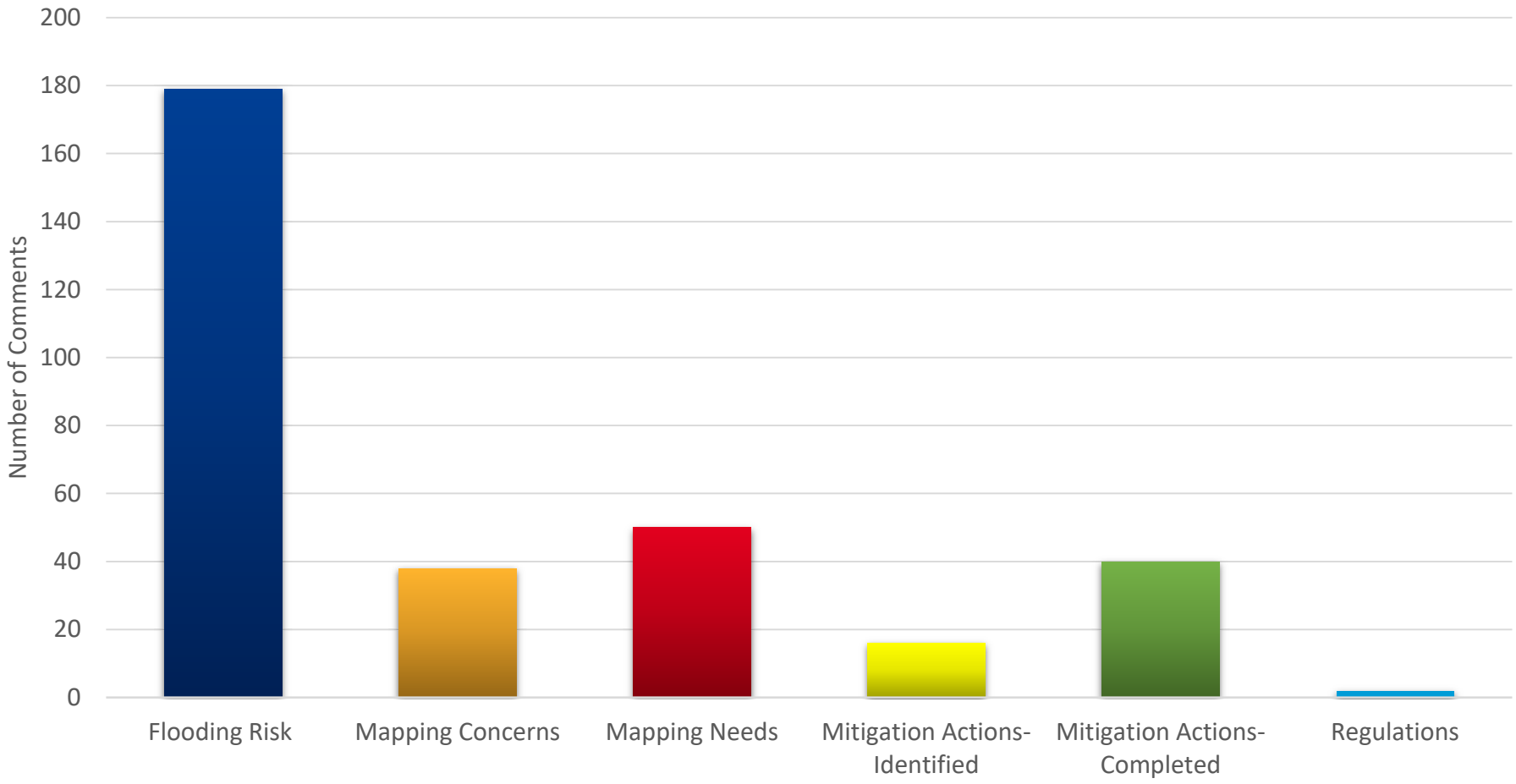
DISCOVERY | FINDINGS

326 STAKEHOLDER COMMENTS SUBMITTED



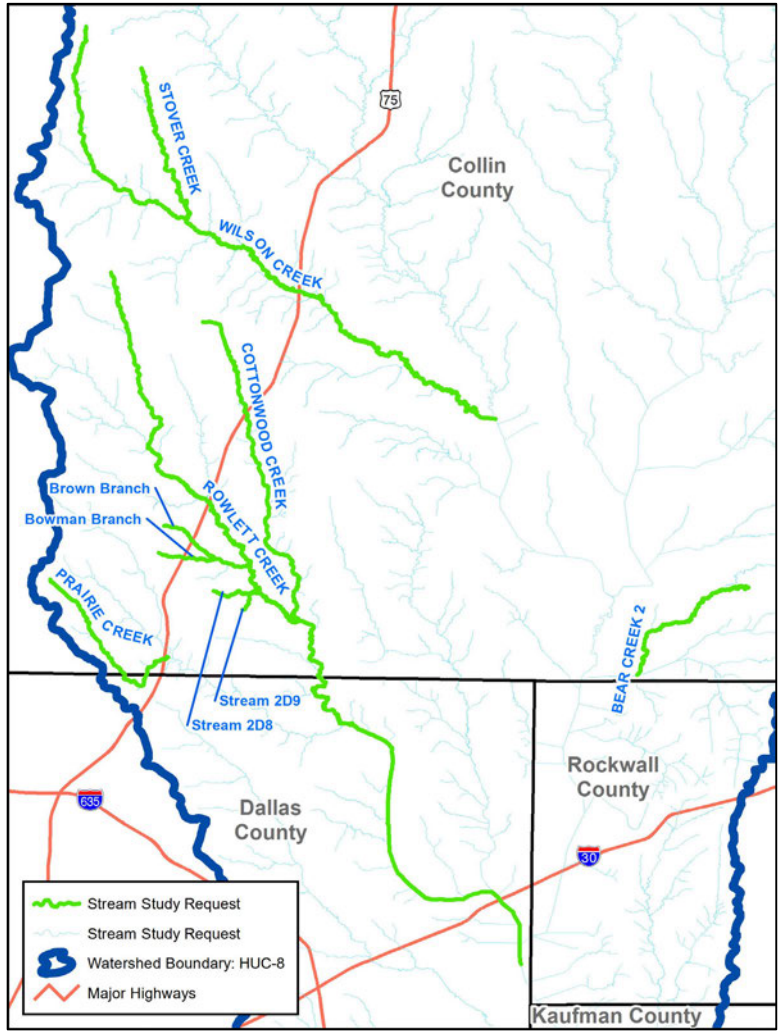
Number of Comments	Community
3	Allen
4	Anna
5	Celina
24	Collin County
1	Dallas County
25	Frisco
7	Garland
2	Kaufman County
1	Heath
13	Lavon
15	Lowry Crossing
21	Lucas
41	McKinney
79	Mesquite
1	Parker
54	Plano
1	Prosper
5	Richardson
9	Rockwall
1	Rowlett
16	Sachse
28	Sunnyvale
4	Wylie

STAKEHOLDER COMMENTS BY TYPE

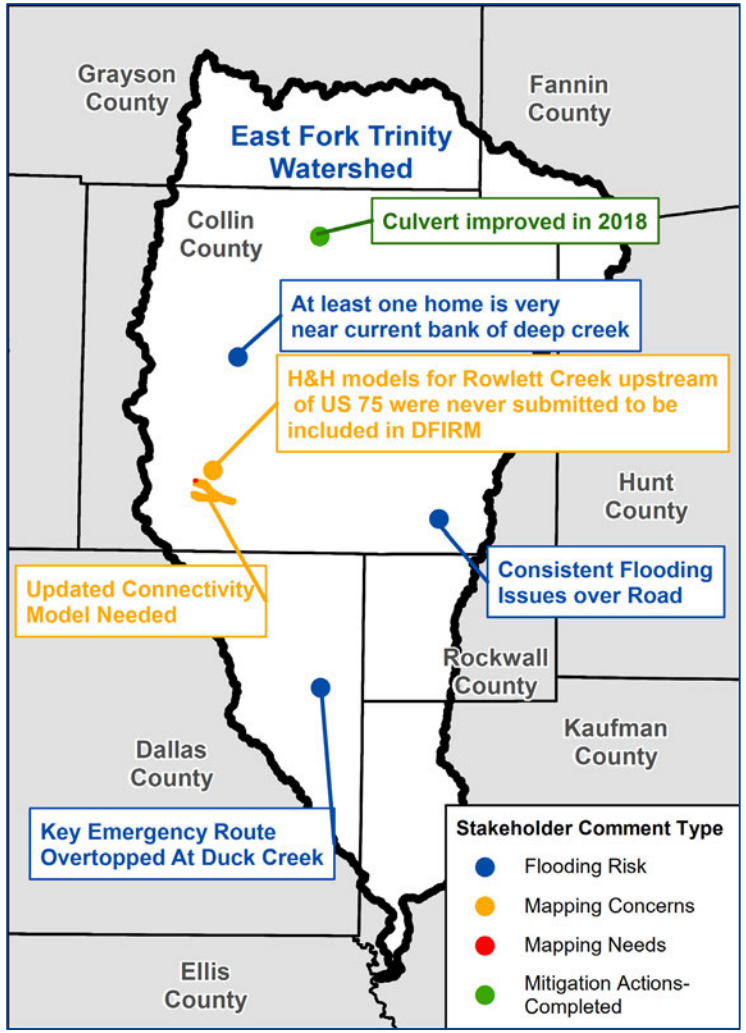


DISCOVERY | FINDINGS

REQUESTED STUDY STREAMS



SAMPLE COMMENTS SUBMITTED



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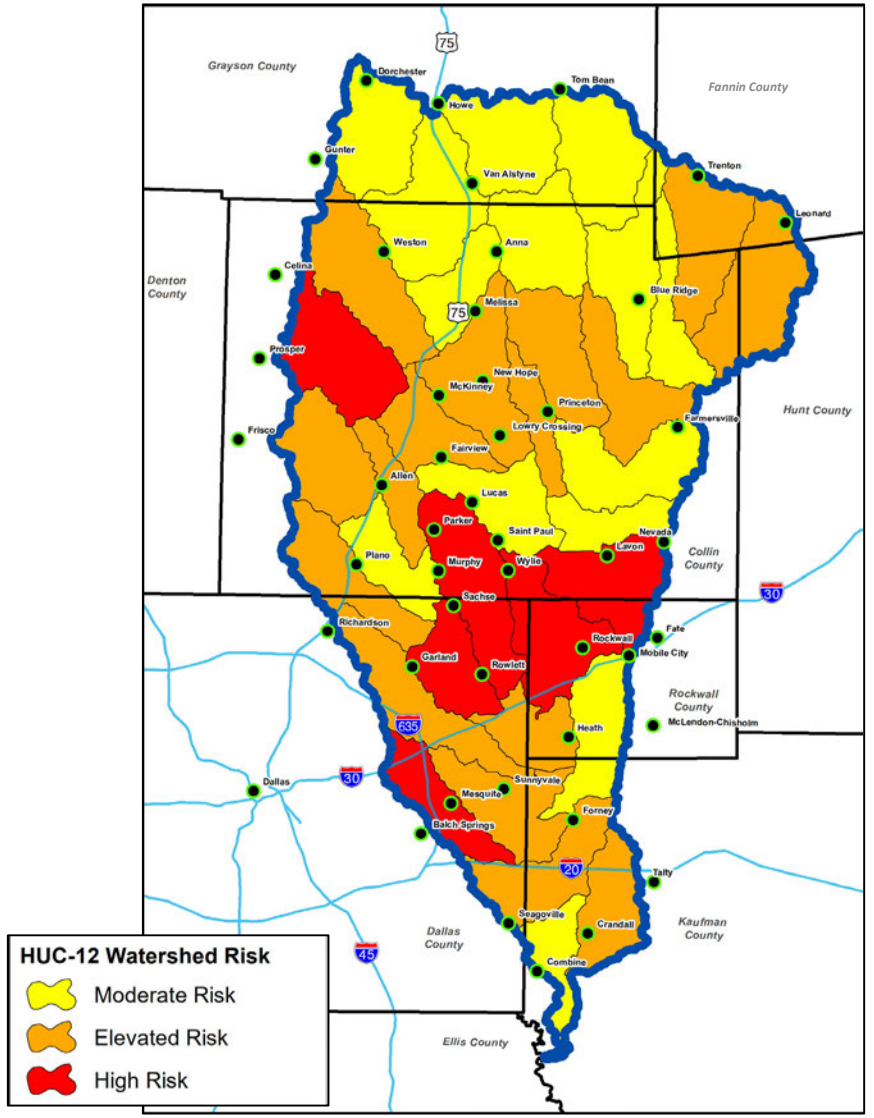
HUC-12 WATERSHED PRIORITIZATION

Criteria No.	Description	Max Weight
1	Population density (whole number)	10
2	Population change (decimal)	10
3	Predicted population growth (whole number)	10
4	History of flood claims (whole number)	10
5	History of flood events (whole number)	10
6	Number of Letters of Map Change (LOMR/LOMA) (whole number)	5
7	Available current topography (Y/N for LiDAR)	10
8	Age of technical data – hydrology (num. of years)	5
9	Age of technical data – hydraulics (num. of years)	5
10	Ability to leverage current studies (Y/N)	5
11	Potential for local funding (Y/N)	5
12	Potential for local “work in kind” (Y/N)	3
13	Previous contribution to a FEMA study (Y/N)	2
14	Stakeholder mapping request (number)	10



DISCOVERY | FINDINGS

BASE LEVEL ENGINEERING

- Requires LiDAR
- Automated hydraulic modeling
- Model Review and Adjustments
- Gage Review included in hydrology

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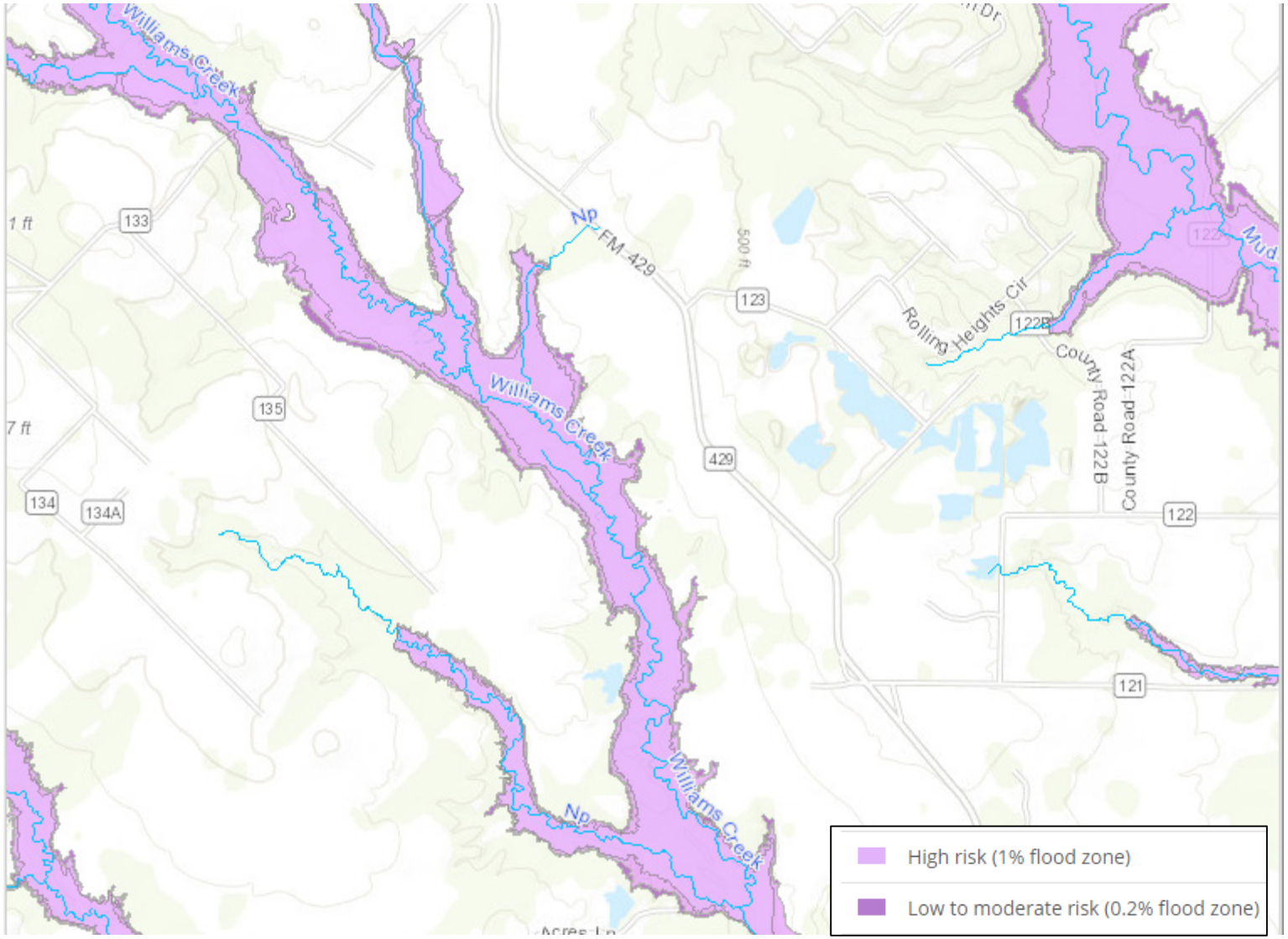
DISCOVERY | FINDINGS

BASE LEVEL ENGINEERING

- Hydraulic modeling
  - 10%, 4%, 2%, 1% and 0.2% storm events
- Floodplain Boundaries
  - 10%, 1% and 0.2%



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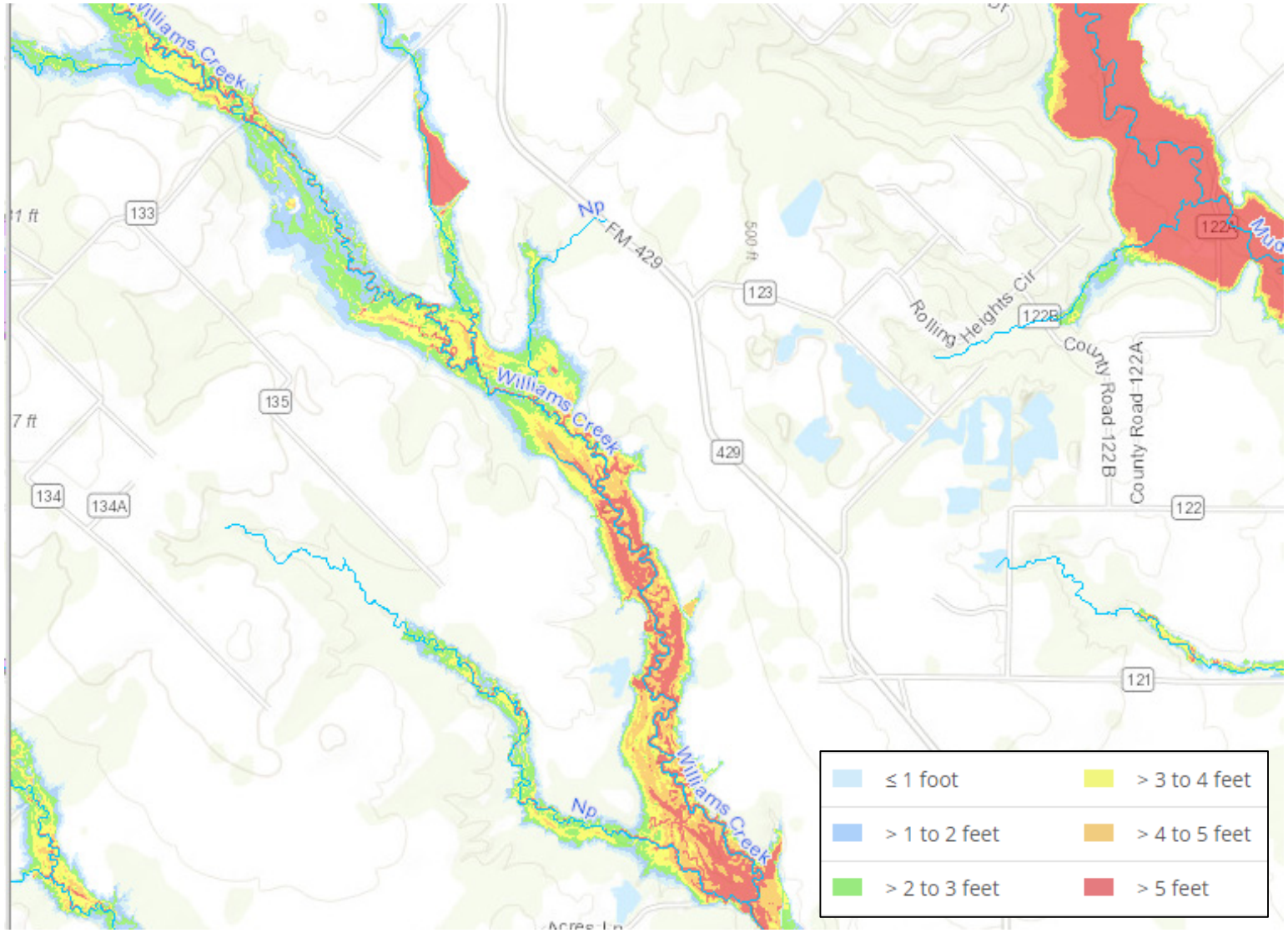
DISCOVERY | FINDINGS

BASE LEVEL ENGINEERING

- Depth and Analysis Grids
- Areas of Expanded Flood Risk
- Flood Risk Assessment



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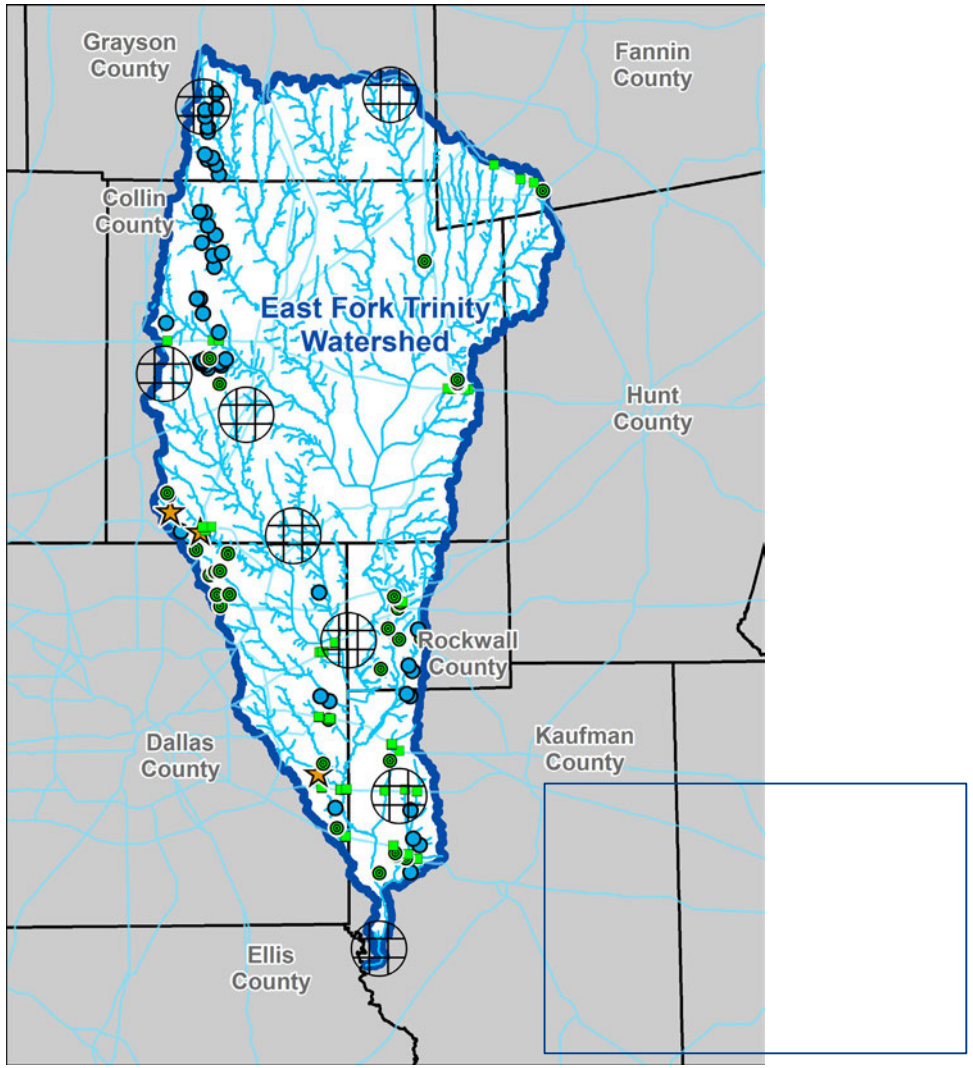
AREAS OF MITIGATION INTEREST (AOMI)

- Structure inventory for future Discovery/Mitigation efforts
- Places with unknown or increased flood risk
- Identified by communities

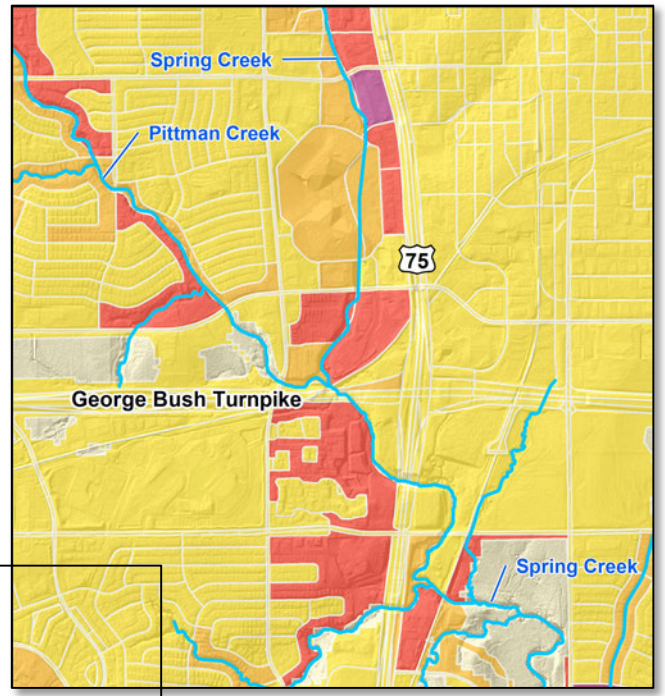
Key to Features

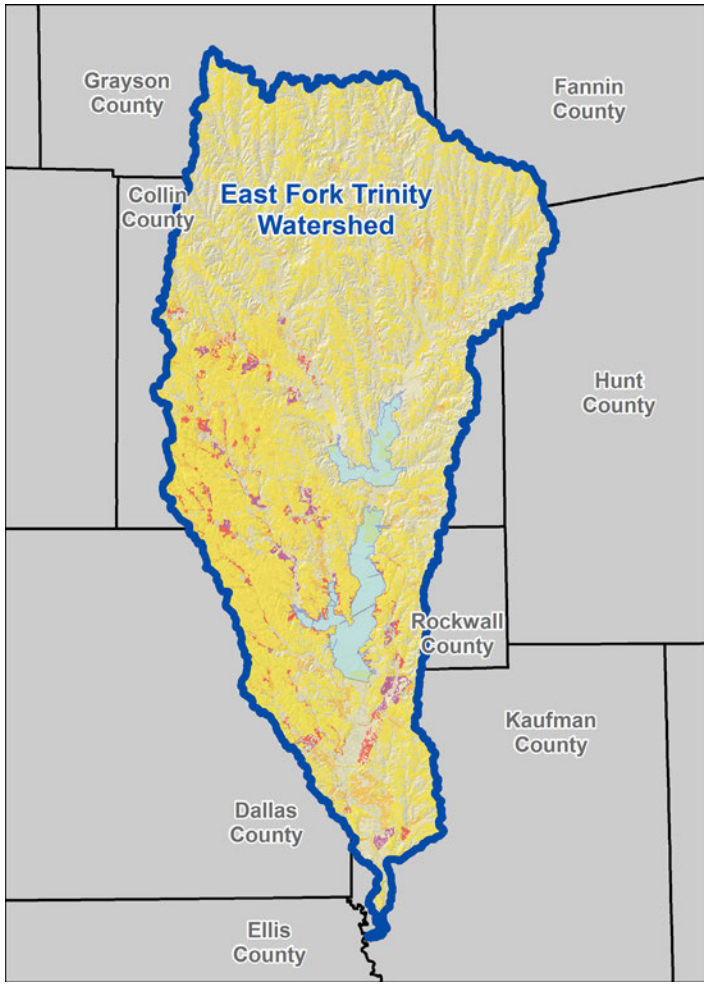
- AOMI Points
- Model Stream
- Mapping: 100-Year



HAZUS-BASED AVERAGE ANNUALIZED LOSS ESTIMATES

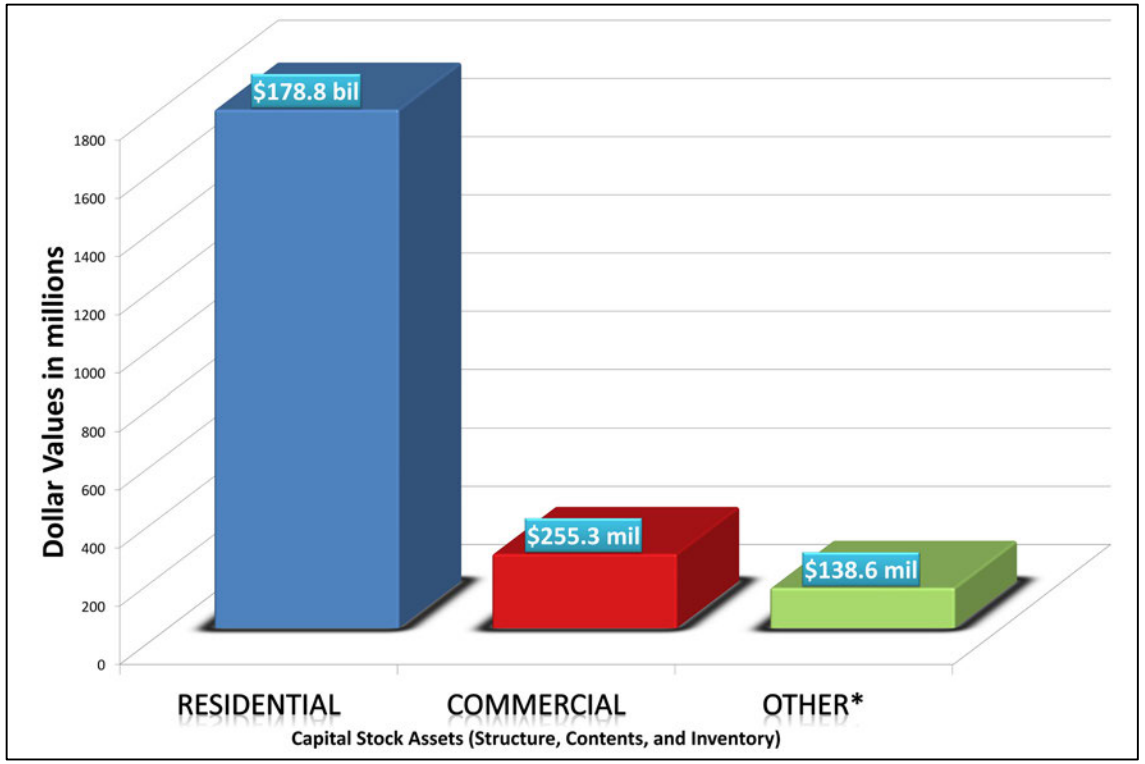
- Identify flooding consequences in damages and other losses
- Based on 100 Year Depth Grids and at-risk assets
- Can be further narrowed down





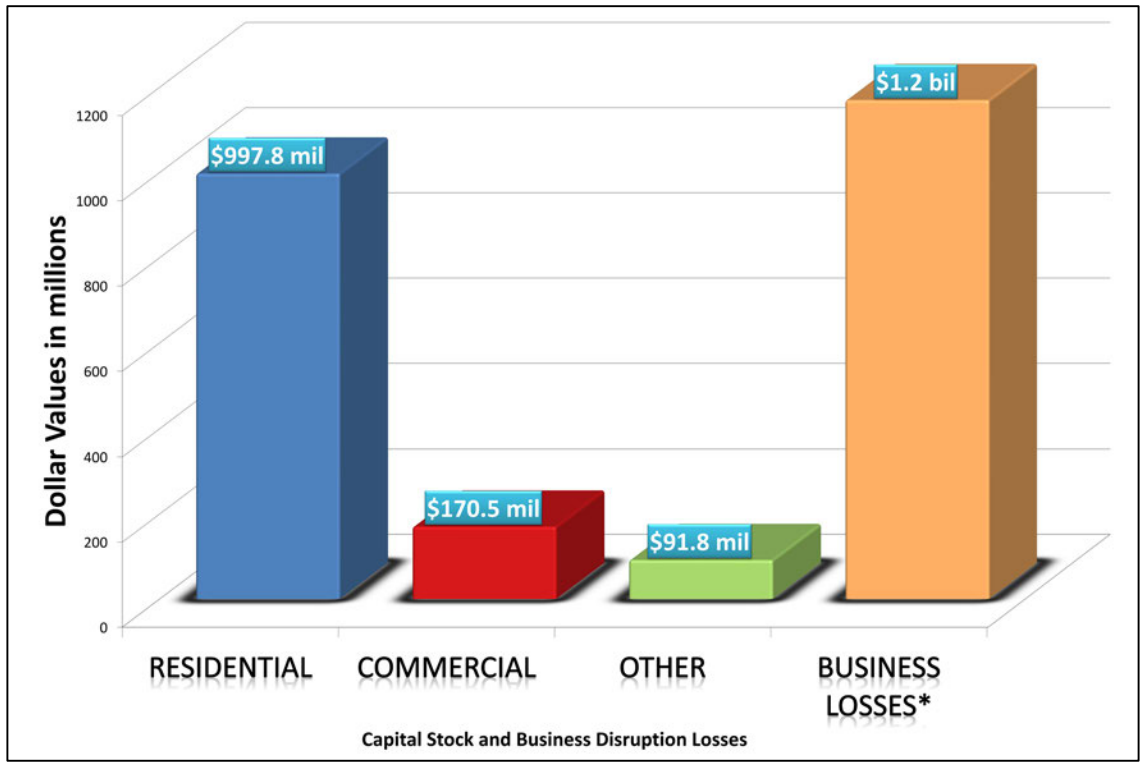
HAZUS-BASED AVERAGE ANNUALIZED LOSS ESTIMATES

Asset Inventory Values



*Other: structure types include Industrial, Agricultural, Education, Religious, and Government structures.

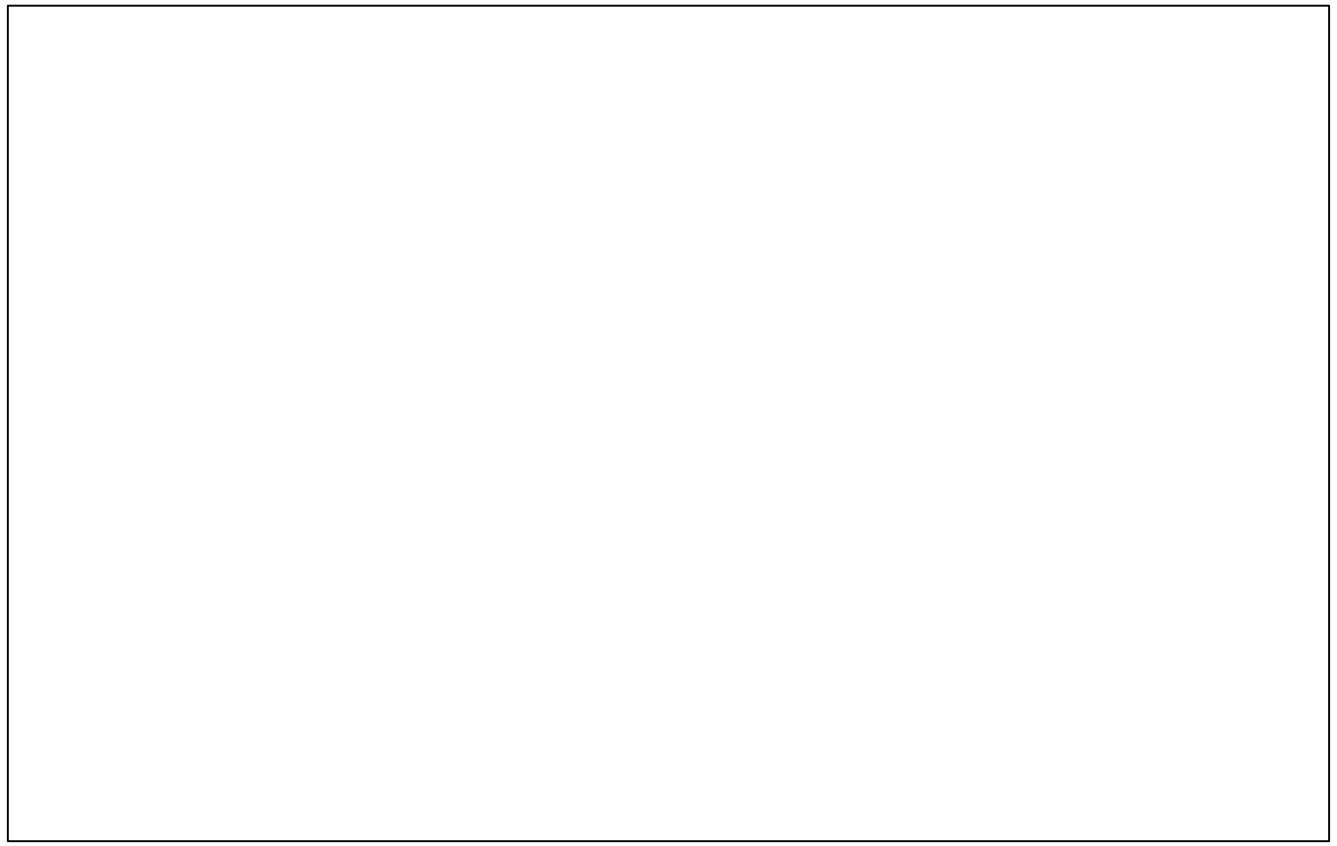
100-Year Flood Event Potential Losses



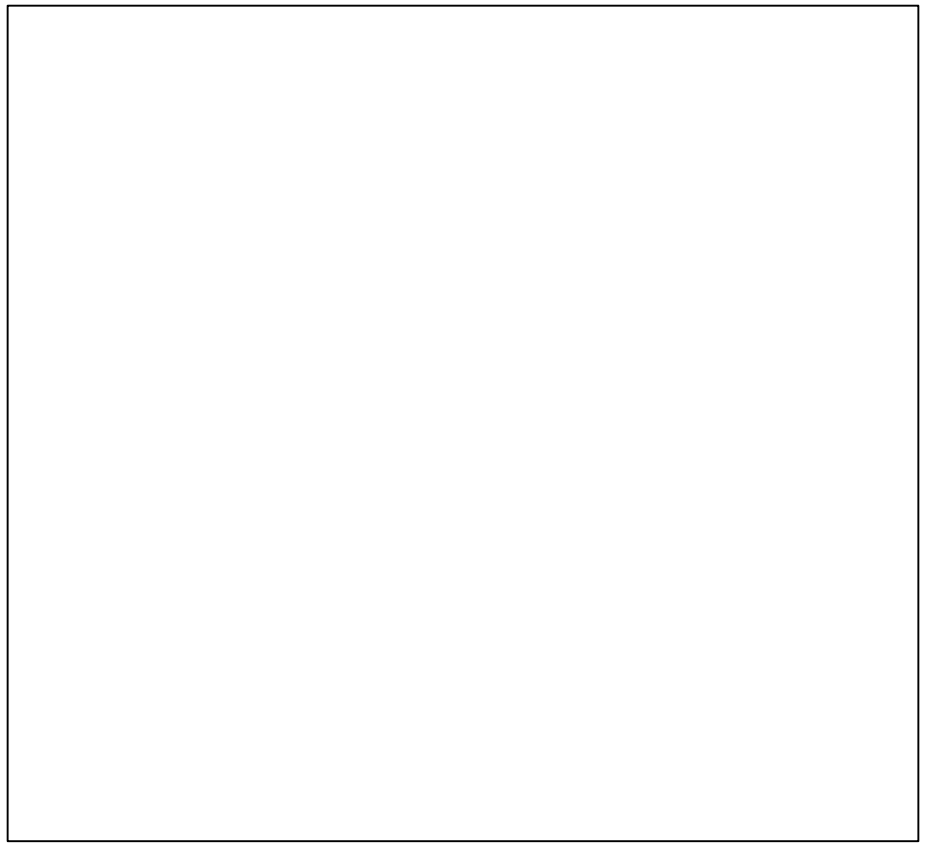
*Business Losses are the sum of Inventory Loss, Relocation Costs, Income Loss, Rental Income Loss, Wage Loss, and Direct Output Loss.

HAZUS-BASED AVERAGE ANNUALIZED LOSS ESTIMATES

Northern Communities

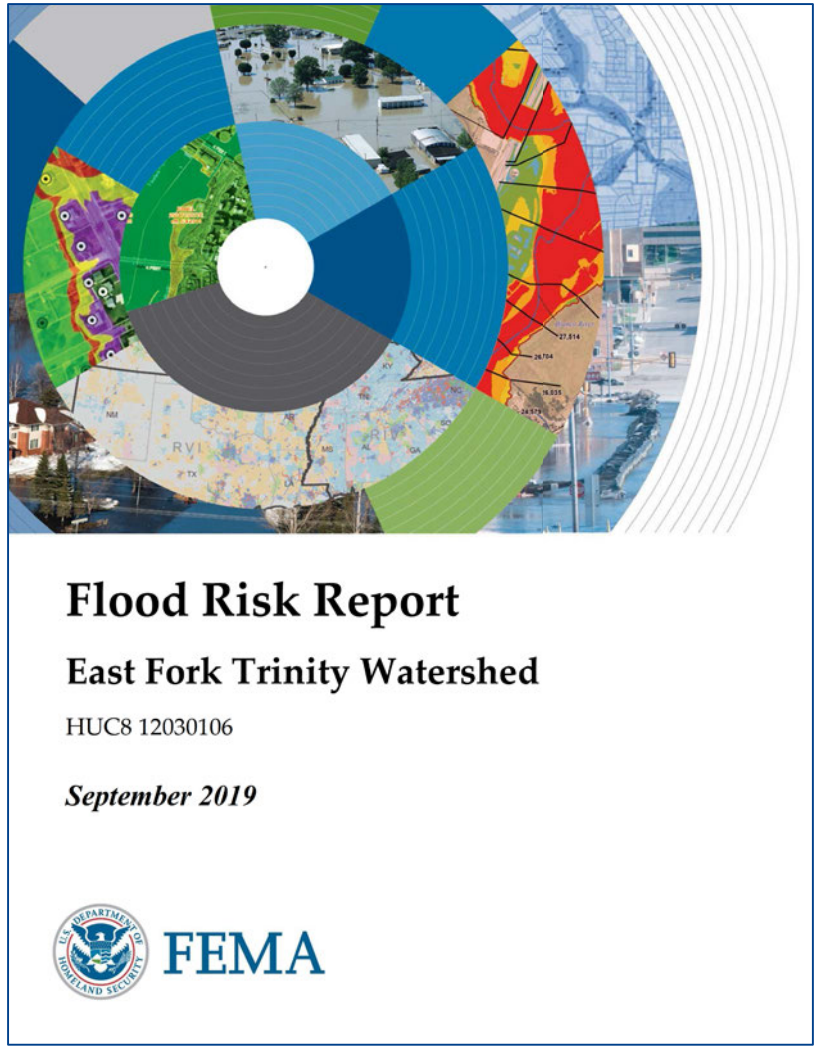


Southern Communities



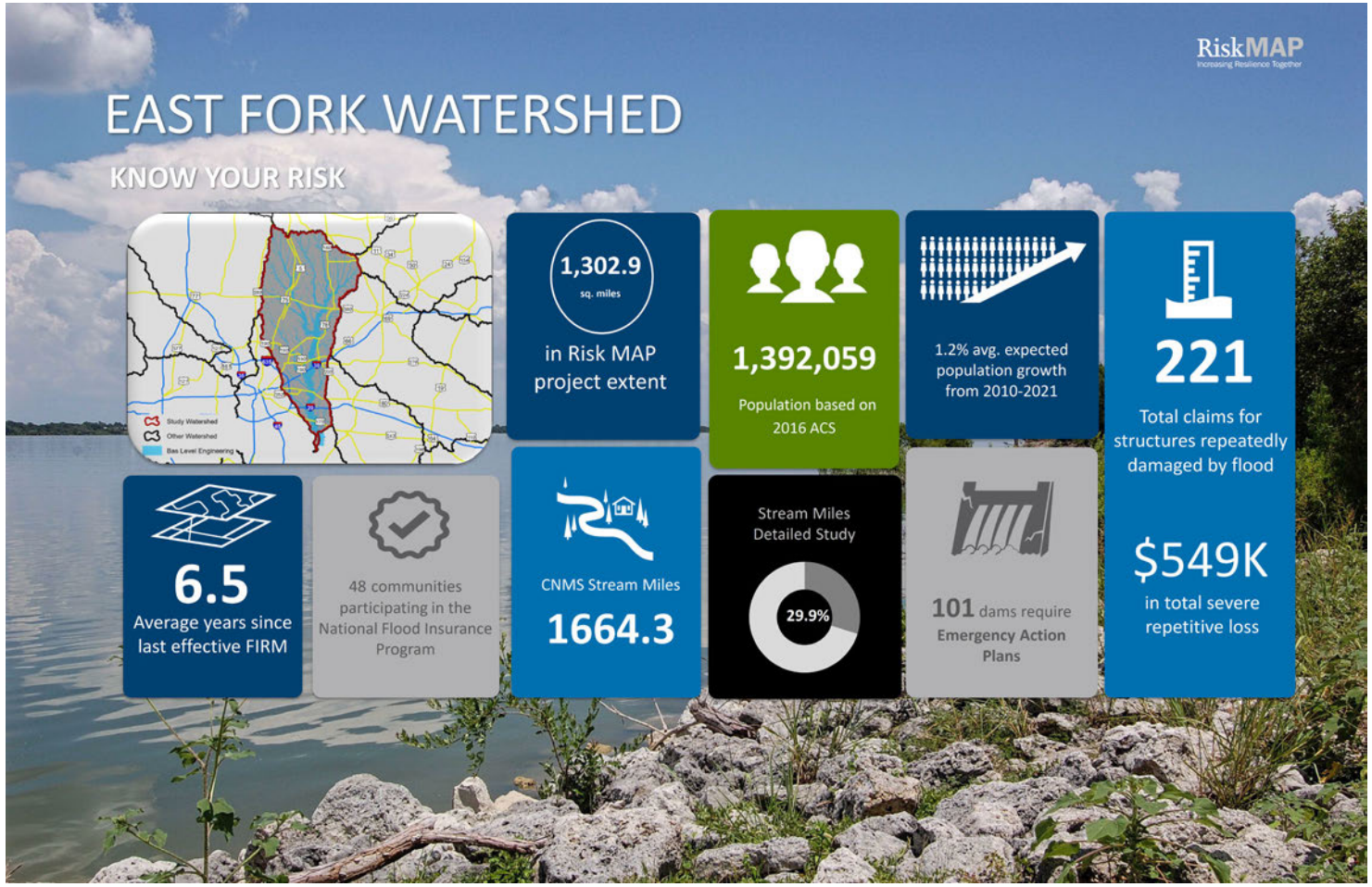
FLOOD RISK REPORT

- Prioritization Results
- Figures and Maps
- Summary of Discovery Activities
- BLE Report



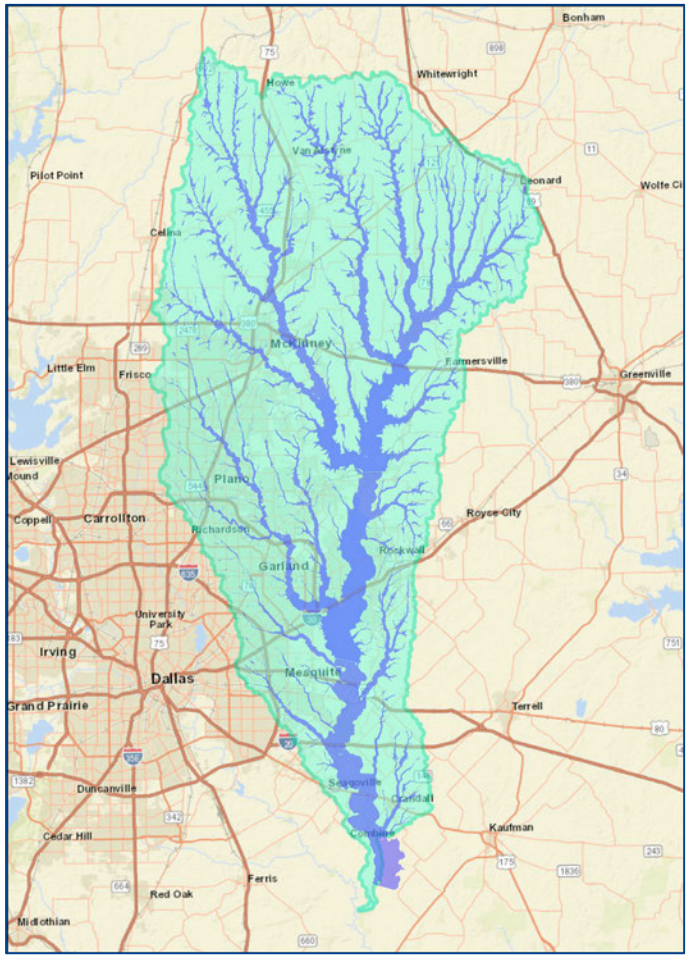
FLOOD RISK REPORT

- Community Snapshots
- Historical Flooding
- Stakeholder Comments

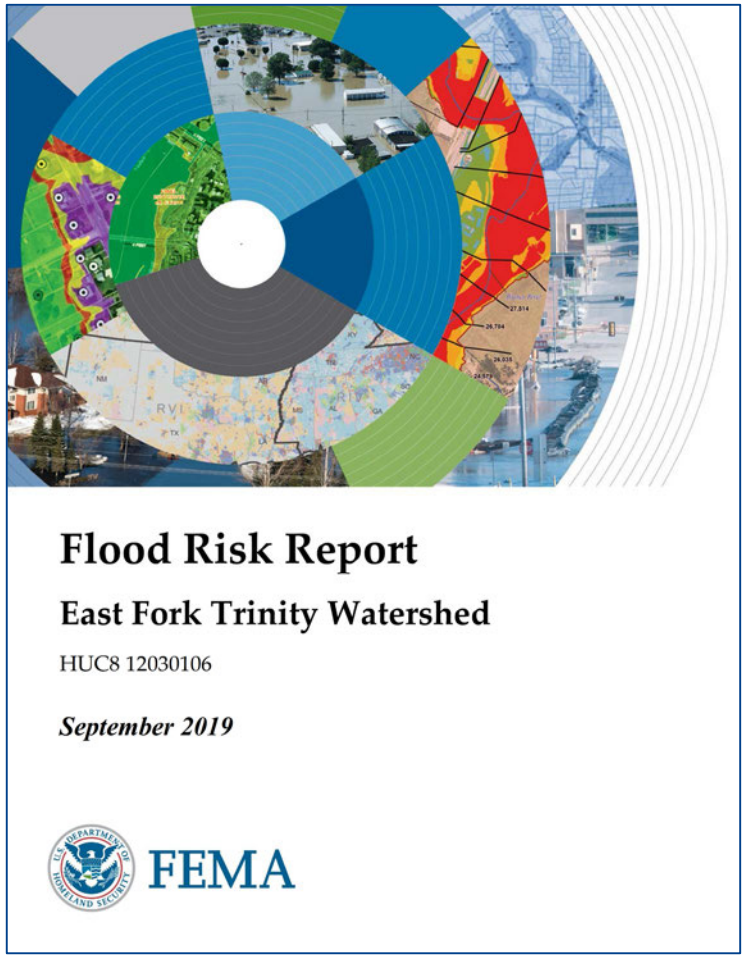


DISCOVERY | POST MEETING COORDINATION

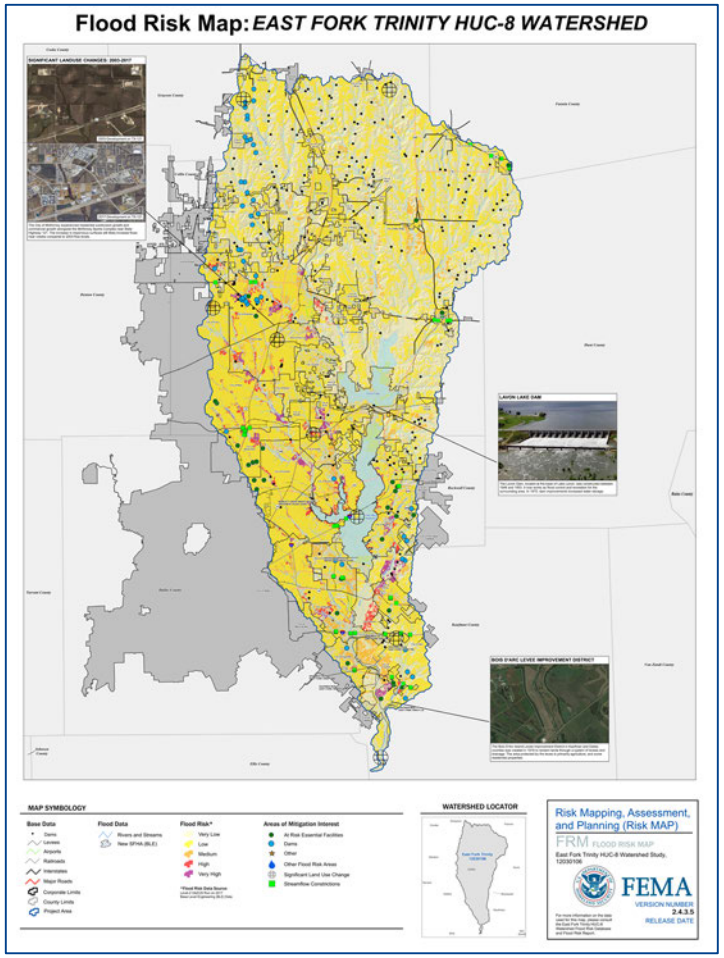
BLE DATASET



FLOOD RISK REPORT

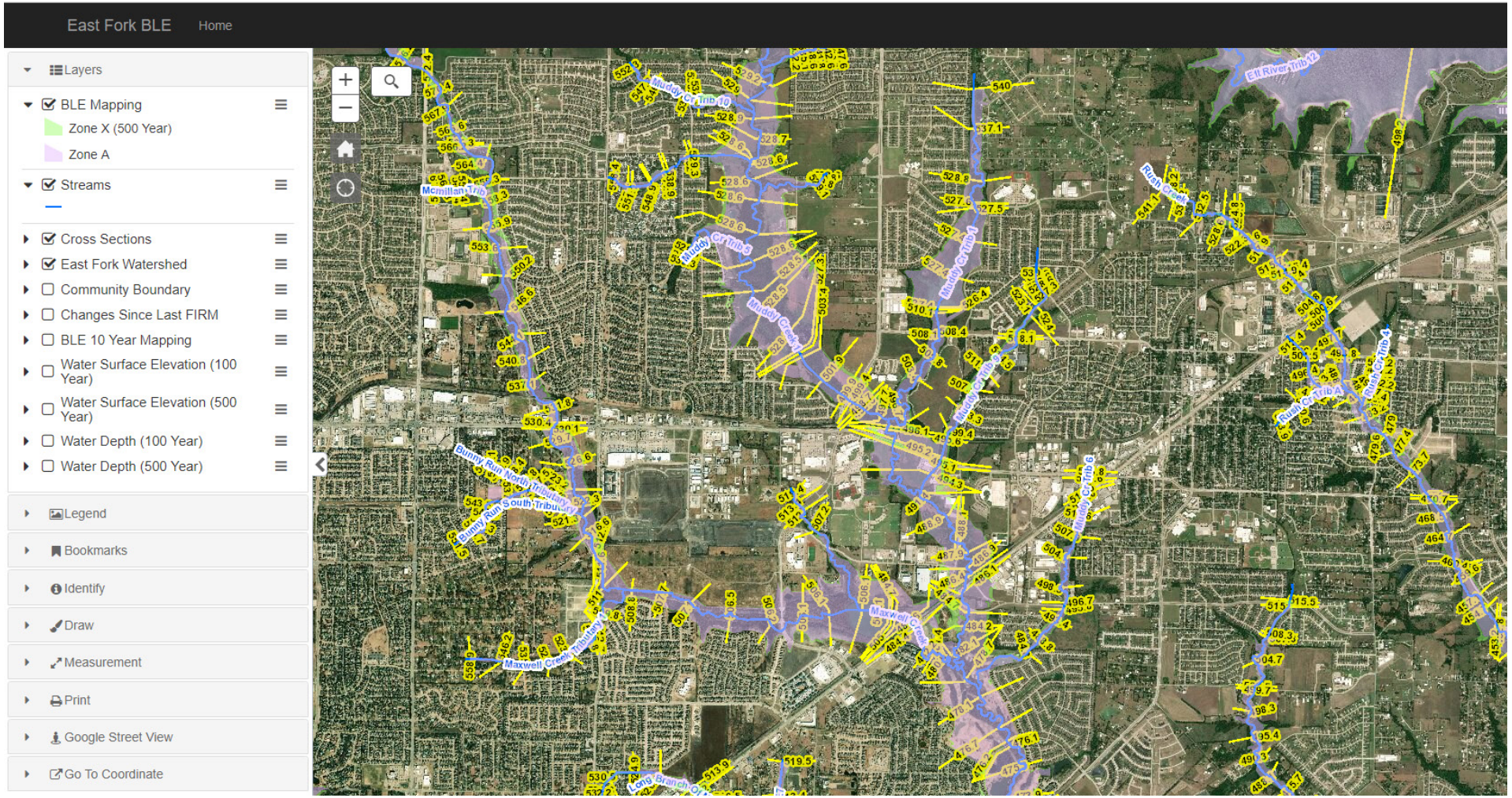


FLOOD RISK MAP



BLE OVERVIEW | NCTCOG EAST FORK BLE VIEWER

https://nctcogeastforkble.halff.com/



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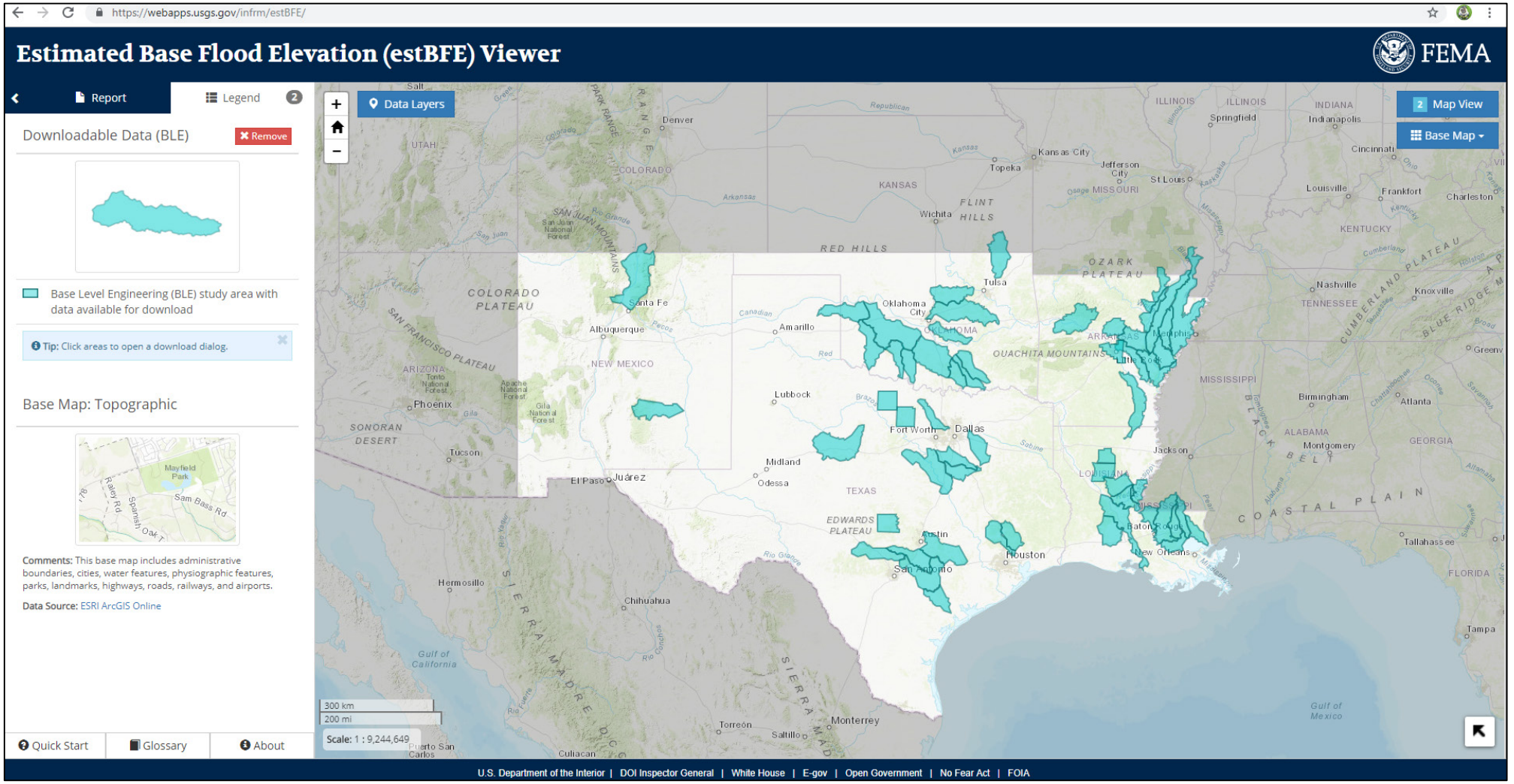
BLE OVERVIEW | BFE VIEWER

https://webapps.usgs.gov/infrm/estBFE/



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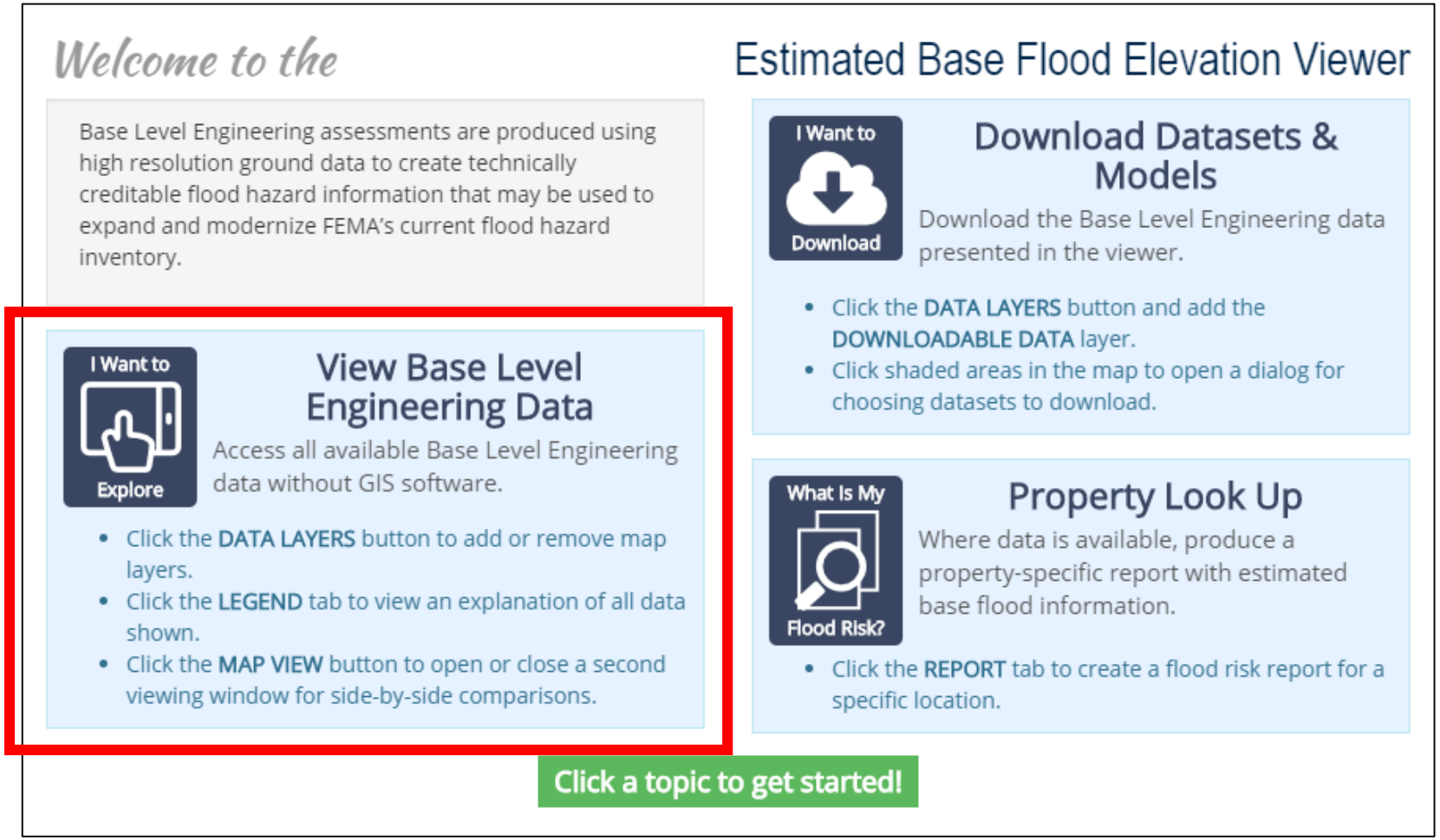
BLE OVERVIEW | BFE VIEWER

https://webapps.usgs.gov/infrm/estBFE/



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BLE OVERVIEW | BFE VIEWER

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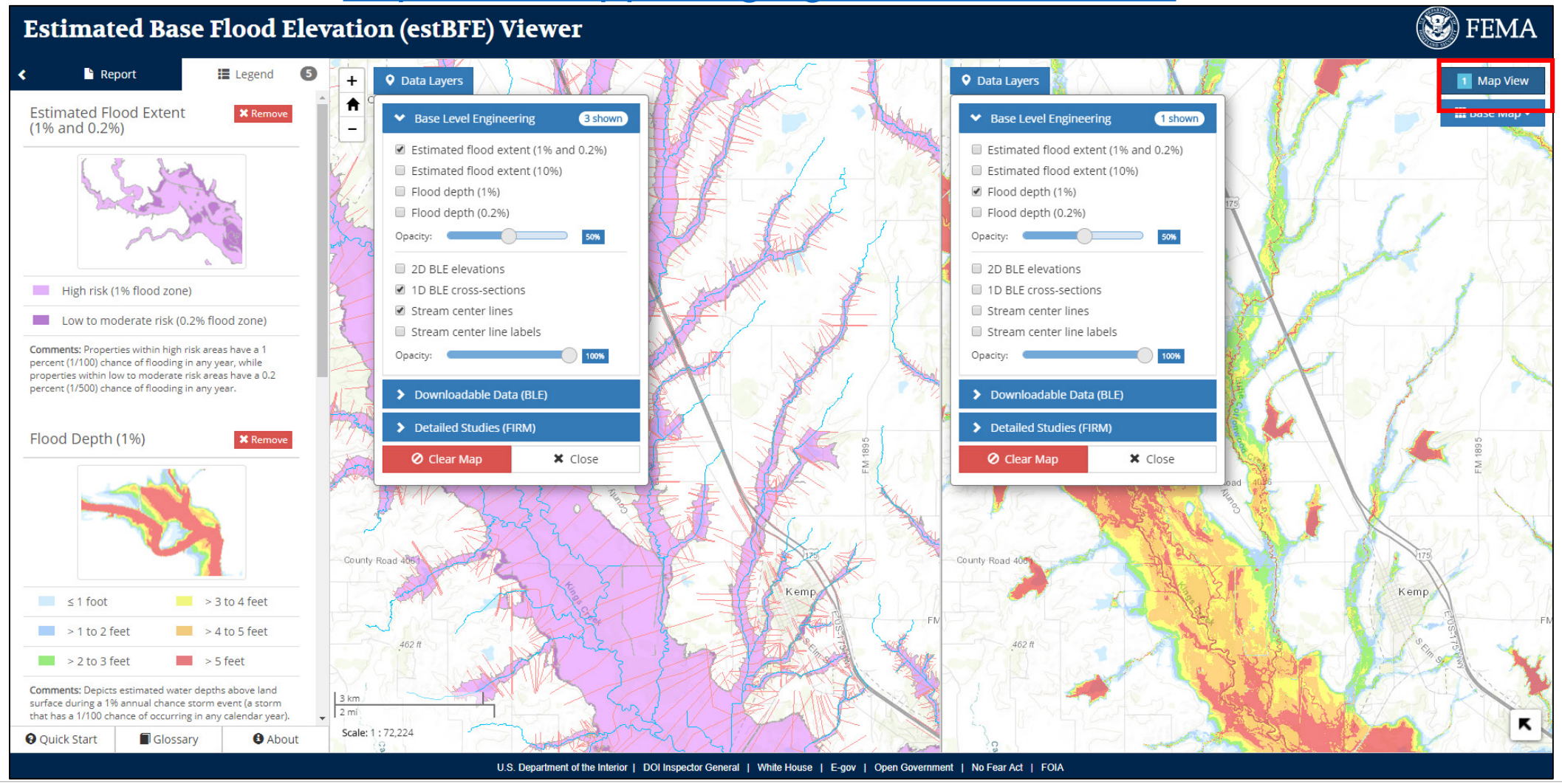

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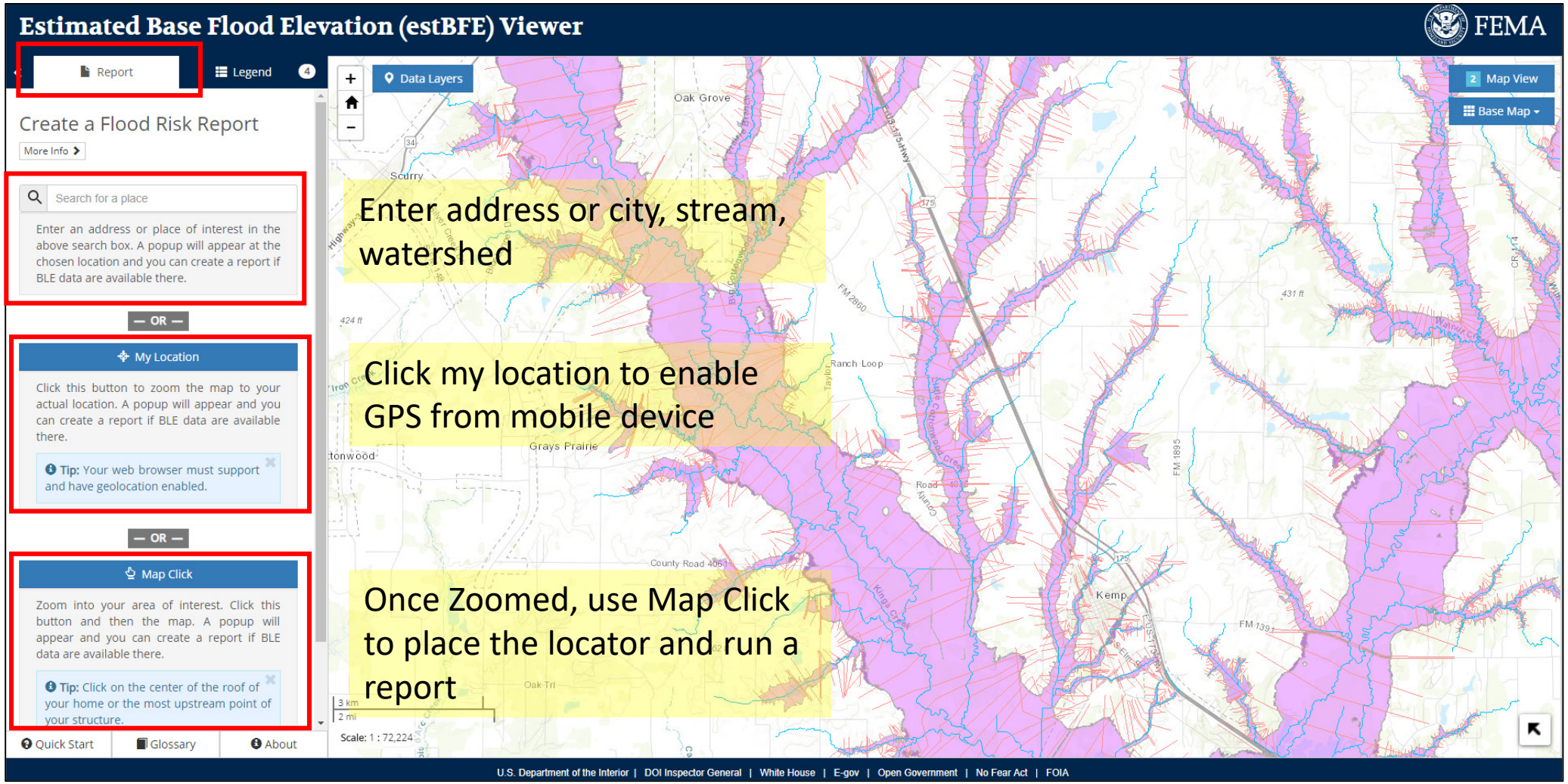

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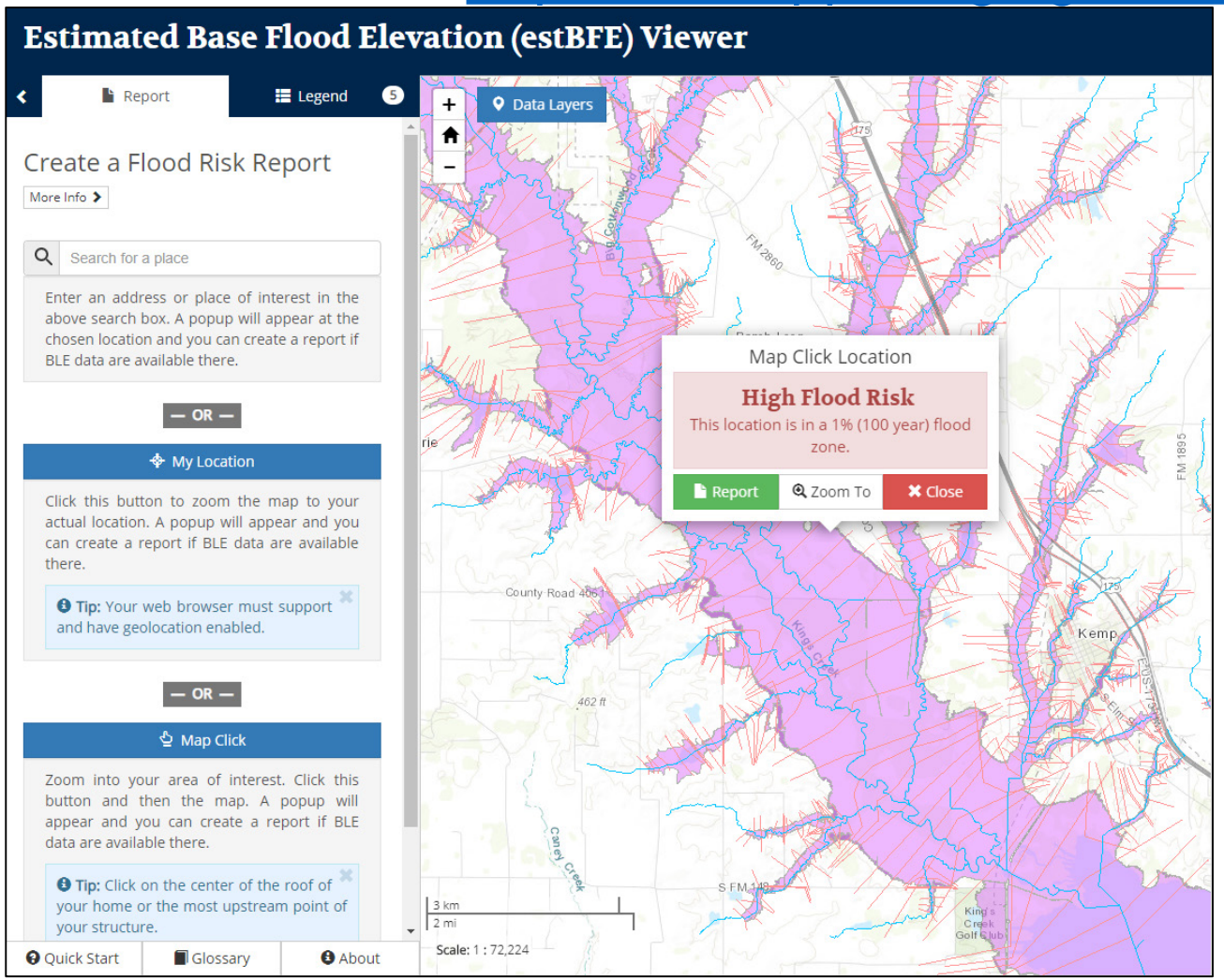
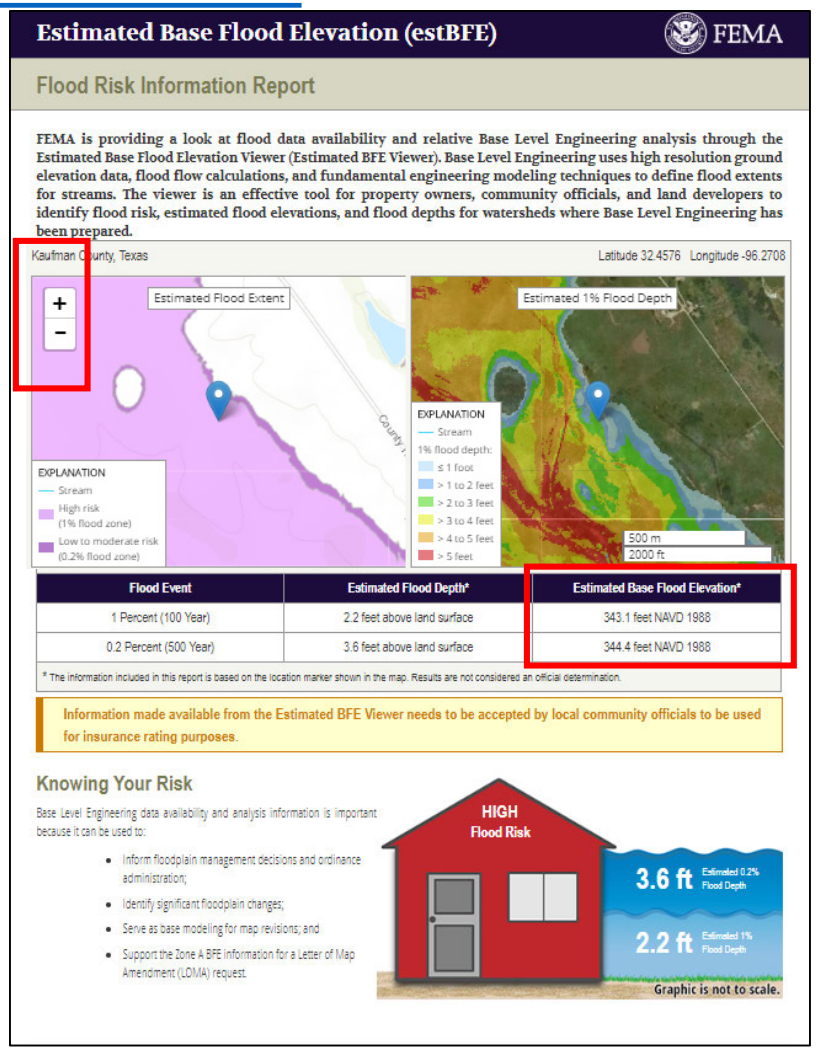
https://webapps.usgs.gov/infrm/estBFE/





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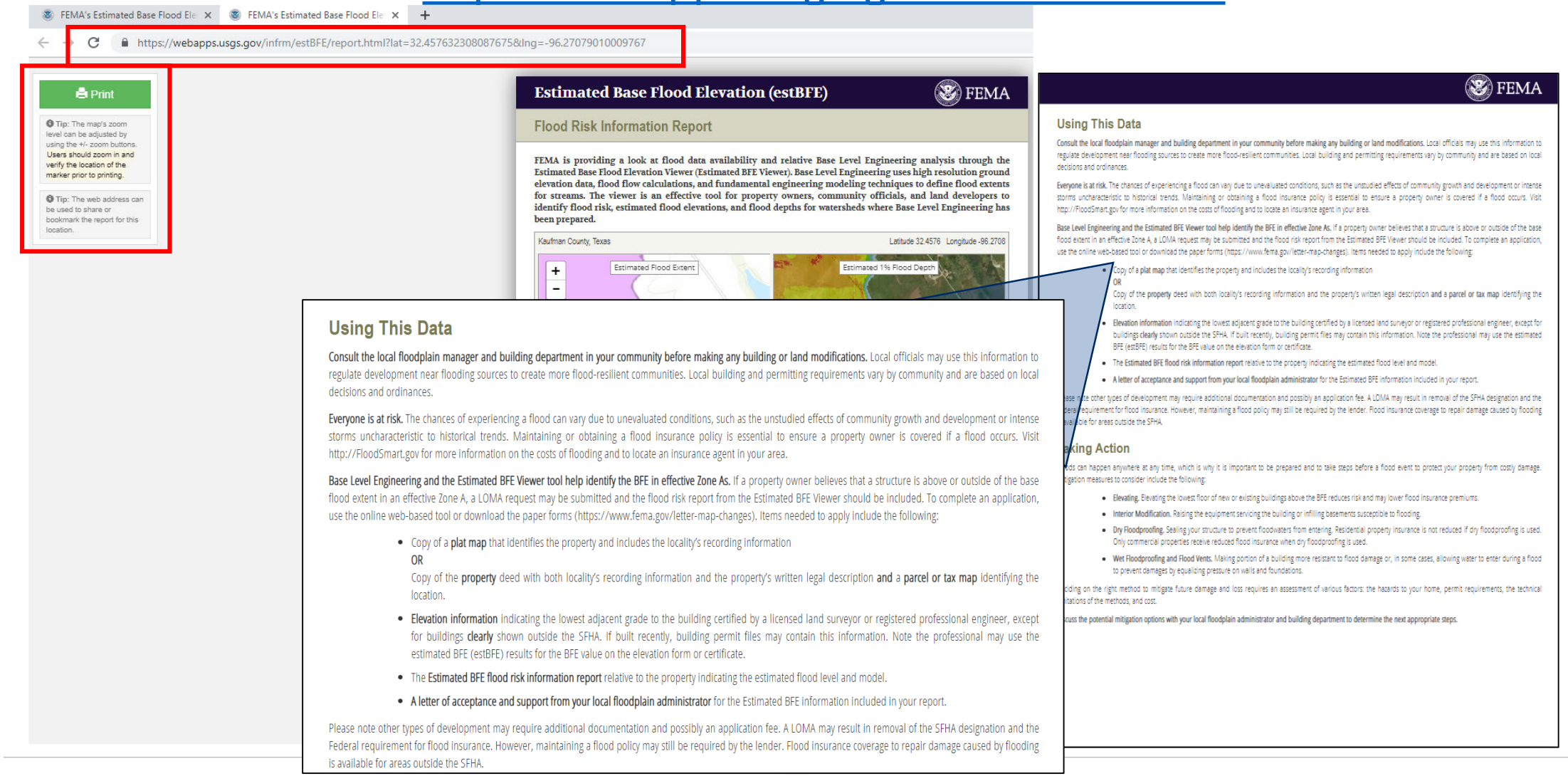
BLE OVERVIEW | BFE VIEWER

https://webapps.usgs.gov/infrm/estBFE/



Using This Data

Consult the local floodplain manager and building department in your community before making any building or land modifications. Local officials may use this information to regulate development near flooding sources to create more flood-resilient communities. Local building and permitting requirements vary by community and are based on local decisions and ordinances.

Everyone is at risk. The chances of experiencing a flood can vary due to unevaluated conditions, such as the unstudied effects of community growth and development or intense storms uncharacteristic to historical trends. Maintaining or obtaining a flood insurance policy is essential to ensure a property owner is covered if a flood occurs. Visit http://FloodSmart.gov for more information on the costs of flooding and to locate an insurance agent in your area.

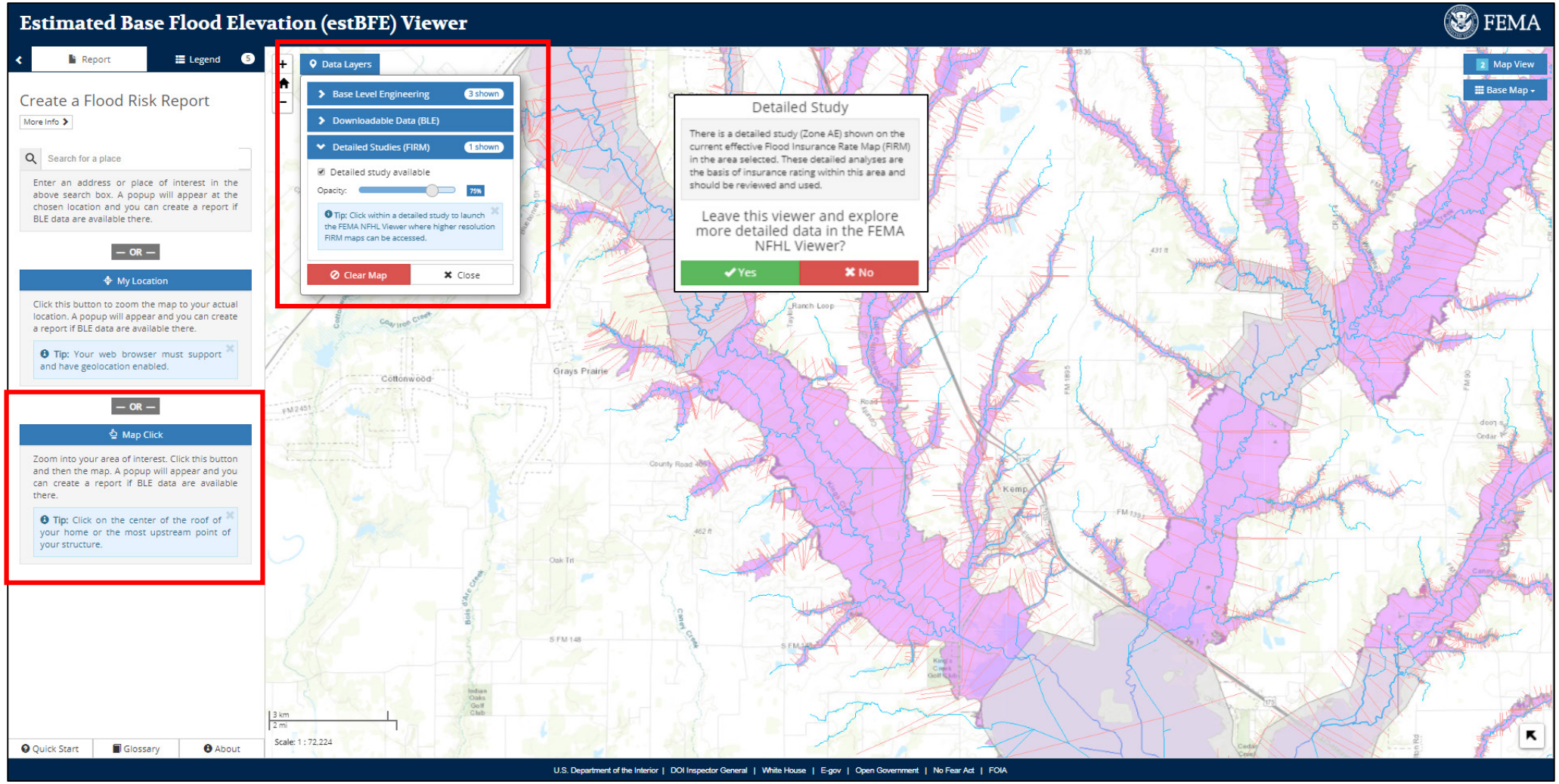
Base Level Engineering and the Estimated BFE Viewer tool help identify the BFE in effective Zone As. If a property owner believes that a structure is above or outside of the base flood extent in an effective Zone A, a LOMA request may be submitted and the flood risk report from the Estimated BFE Viewer should be included. To complete an application, use the online web-based tool or download the paper forms (https://www.fema.gov/letter-map-changes). Items needed to apply include the following:

- Copy of a **plat map** that identifies the property and includes the locality's recording information
  OR
  Copy of the **property** deed with both locality's recording information and the property's written legal description **and** a **parcel or tax map** identifying the location.
- **Elevation information** indicating the lowest adjacent grade to the building certified by a licensed land surveyor or registered professional engineer, except for buildings **clearly** shown outside the SFHA. If built recently, building permit files may contain this information. Note the professional may use the estimated BFE (estBFE) results for the BFE value on the elevation form or certificate.
- The **Estimated BFE flood risk information report** relative to the property indicating the estimated flood level and model.
- **A letter of acceptance and support from your local floodplain administrator** for the Estimated BFE information included in your report.

Please note other types of development may require additional documentation and possibly an application fee. A LOMA may result in removal of the SFHA designation and the Federal requirement for flood insurance. However, maintaining a flood policy may still be required by the lender. Flood insurance coverage to repair damage caused by flooding is available for areas outside the SFHA.

BLE OVERVIEW | BFE VIEWER

https://webapps.usgs.gov/infrm/estBFE/



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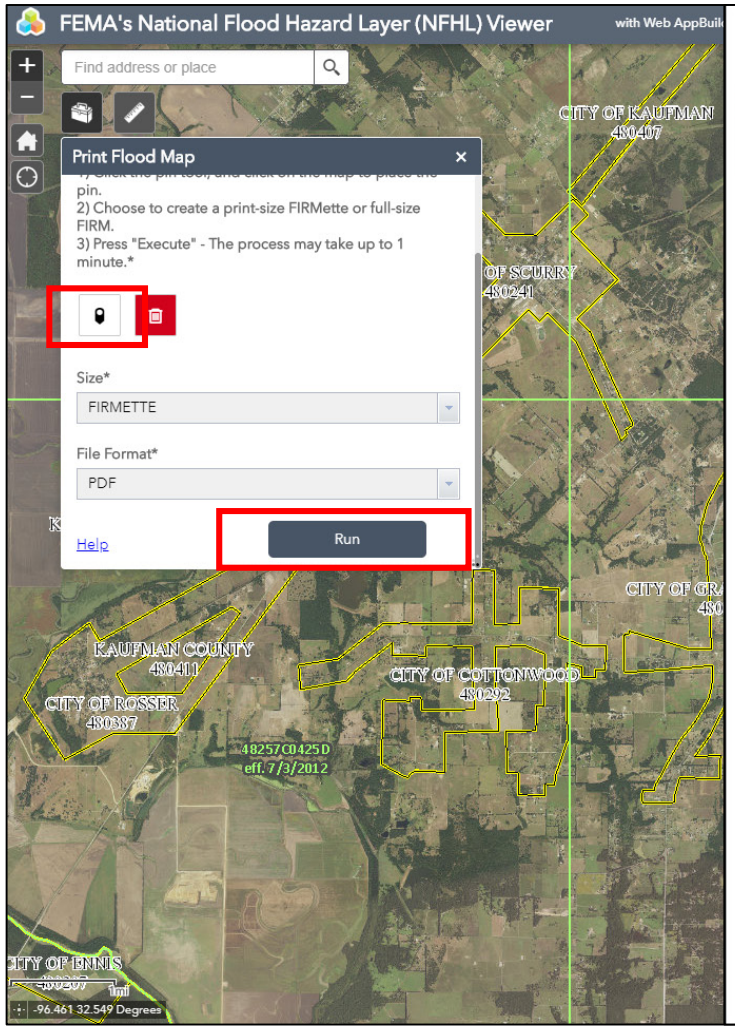

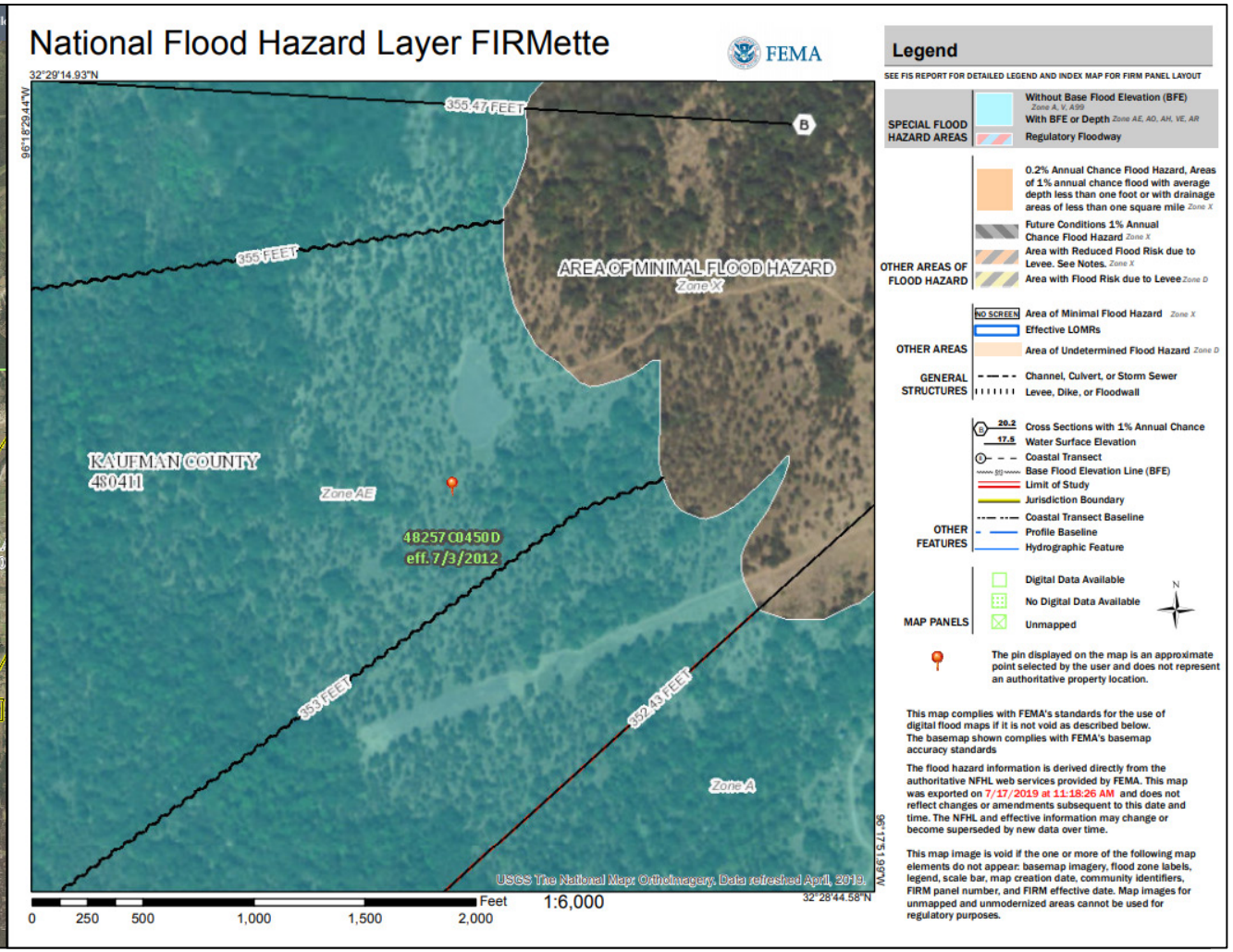

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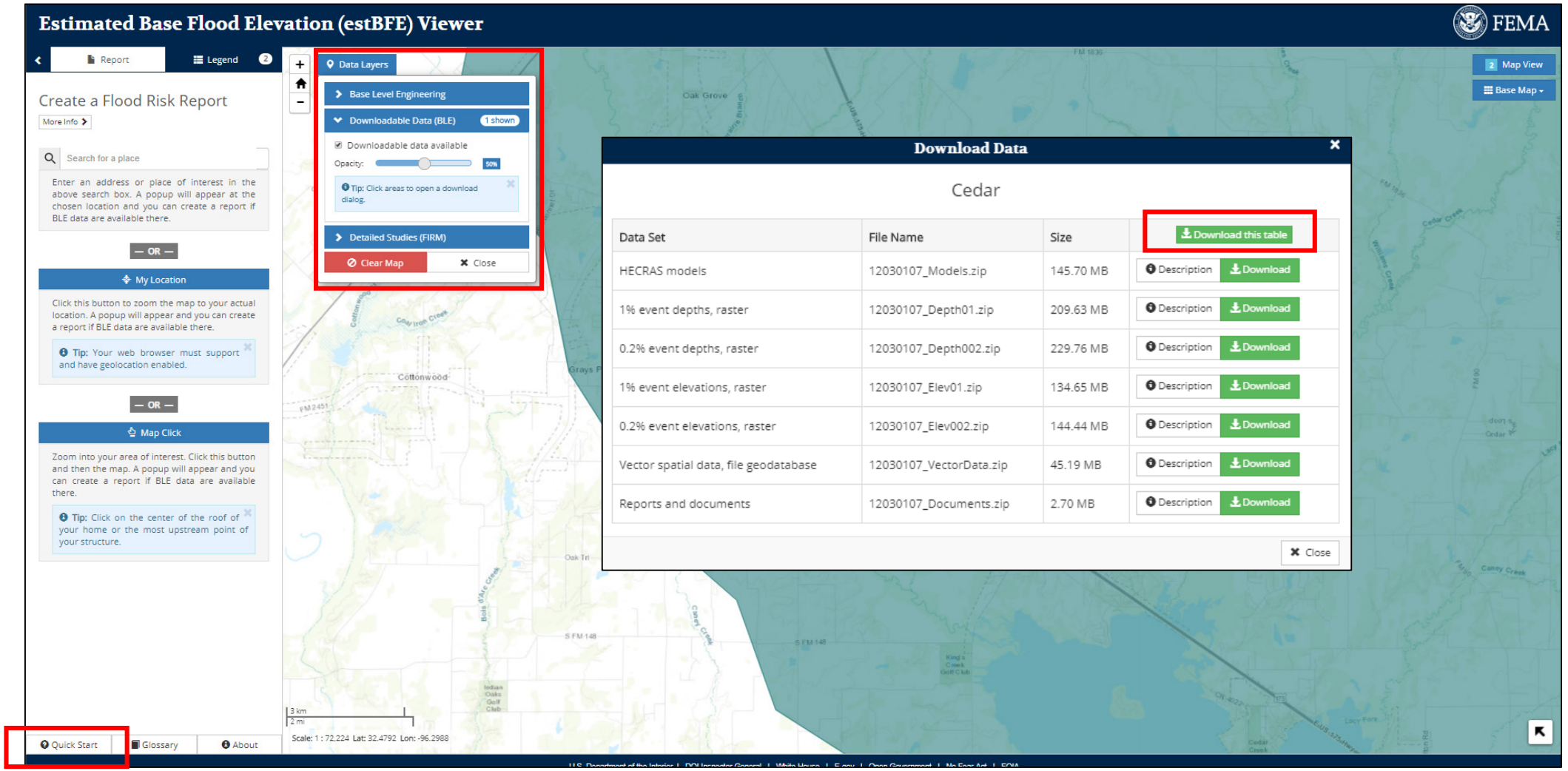

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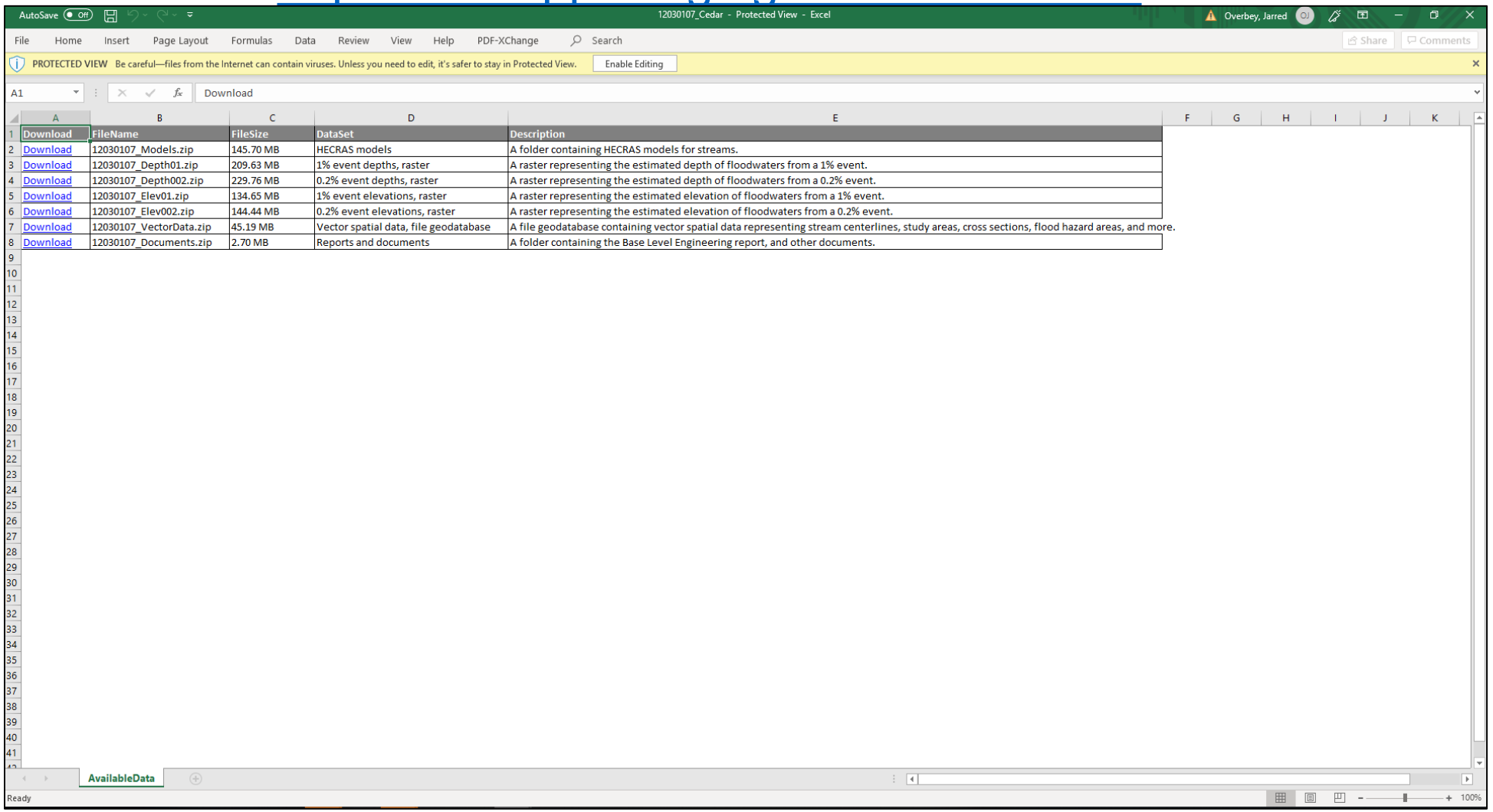


12030107_Cedar - Protected View - Excel

PROTECTED VIEW Be careful—files from the Internet can contain viruses. Unless you need to edit, it's safer to stay in Protected View. Enable Editing

A1: Download

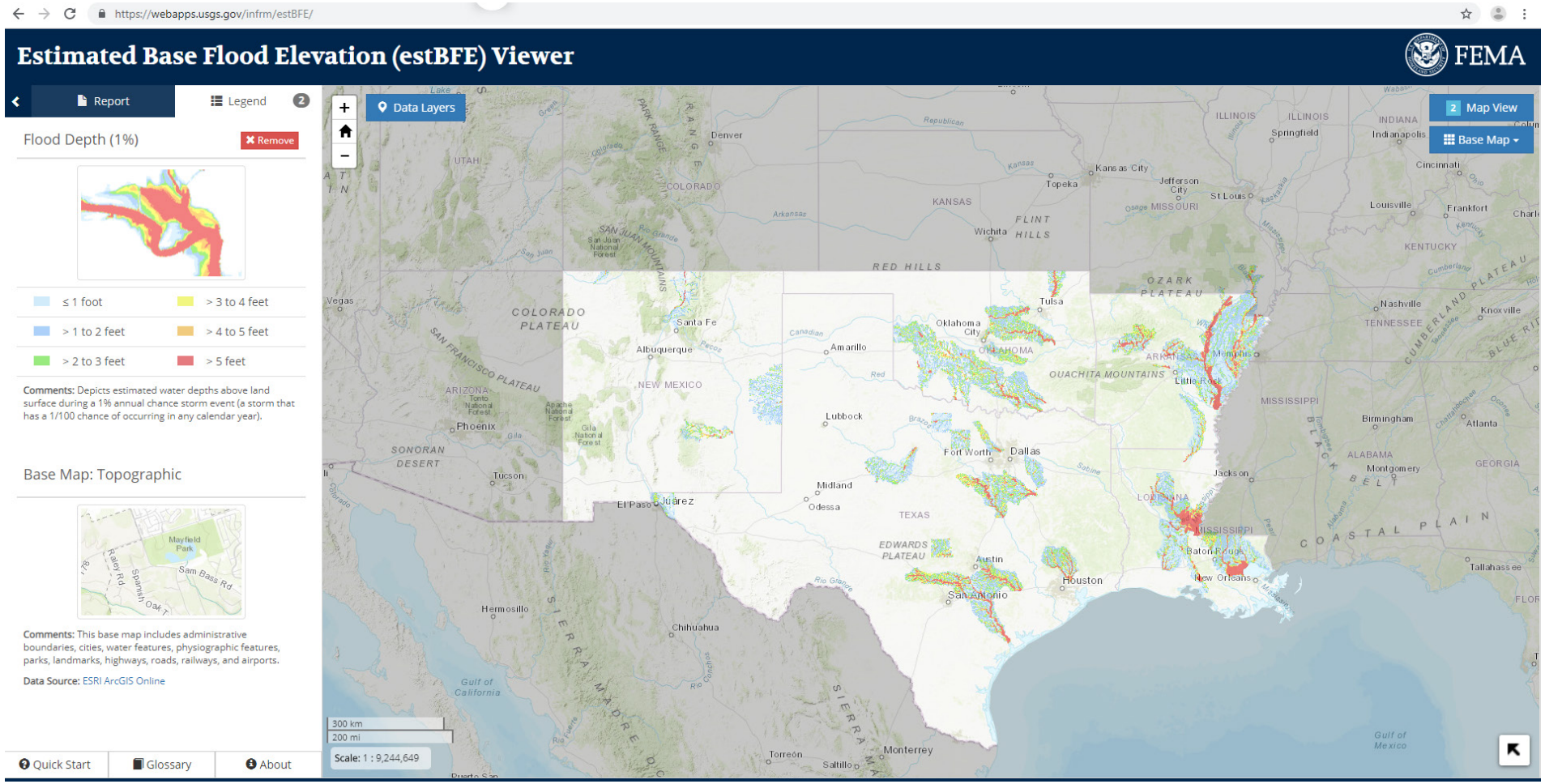
Download	FileName	FileSize	DataSet	Description
Download	12030107_Models.zip	145.70 MB	HECRAS models	A folder containing HECRAS models for streams.
Download	12030107_Depth01.zip	209.63 MB	1% event depths, raster	A raster representing the estimated depth of floodwaters from a 1% event.
Download	12030107_Depth002.zip	229.76 MB	0.2% event depths, raster	A raster representing the estimated depth of floodwaters from a 0.2% event.
Download	12030107_Elev01.zip	134.65 MB	1% event elevations, raster	A raster representing the estimated elevation of floodwaters from a 1% event.
Download	12030107_Elev002.zip	144.44 MB	0.2% event elevations, raster	A raster representing the estimated elevation of floodwaters from a 0.2% event.
Download	12030107_VectorData.zip	45.19 MB	Vector spatial data, file geodatabase	A file geodatabase containing vector spatial data representing stream centerlines, study areas, cross sections, flood hazard areas, and more.
Download	12030107_Documents.zip	2.70 MB	Reports and documents	A folder containing the Base Level Engineering report, and other documents.

AvailableData

Ready

DISCOVERY | POST MEETING COORDINATION

HTTPS://APPS.FEMADATA.COM/ESTBFE



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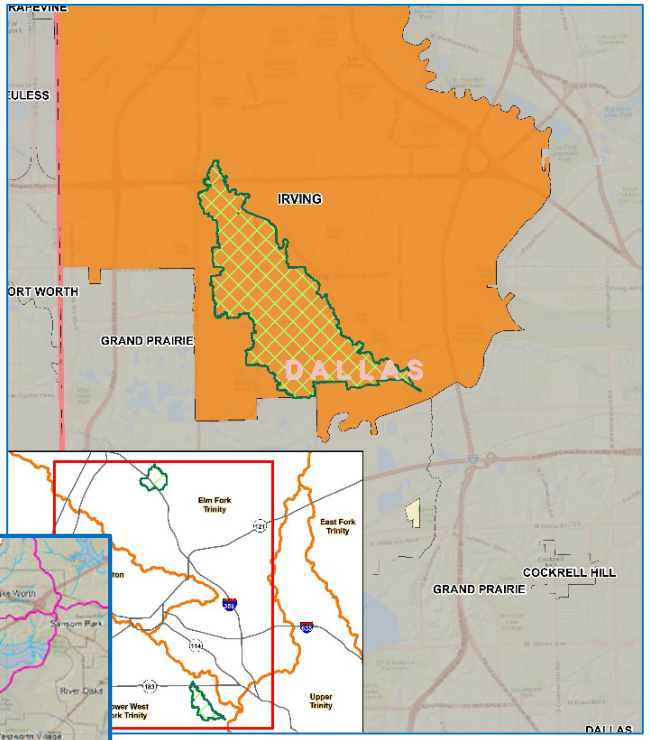
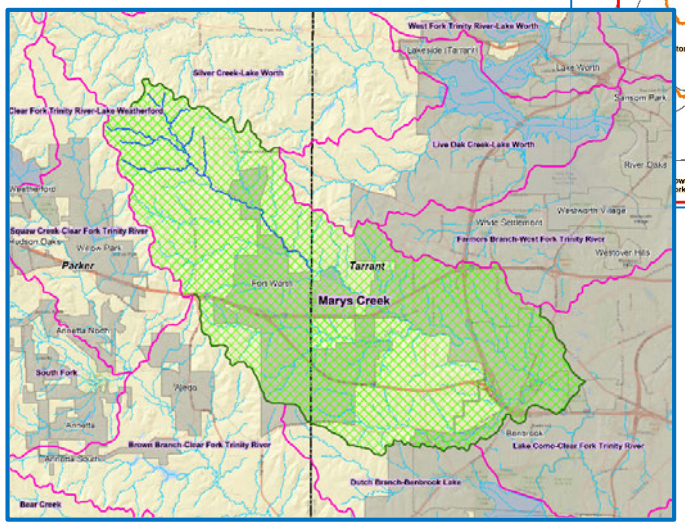
DISCOVERY | RISK MAP PROJECT RECOMMENDATIONS TO FEMA

RECOMMENDED STUDIES FROM DISCOVERY BECOME NEW PROJECTS

- 2013 Village Creek (Kennedale)
- 2014 Bear Creek (Southlake and Colleyville)
- 2015 Lynchburg Creek (Shady Shores and Corinth)
- 2015 West Irving Creek (Irving)
- 2016 McAnear Creek (Cleburne)
- 2016 Silver Creek (Tarrant County)
- 2017 Town Creek (Weatherford)
- 2017 Clear Fork Tributary 5 (Benbrook)
- 2018 Mary's Creek (Parker County)

West Irving Creek (2015)





Mary's Creek (2018)

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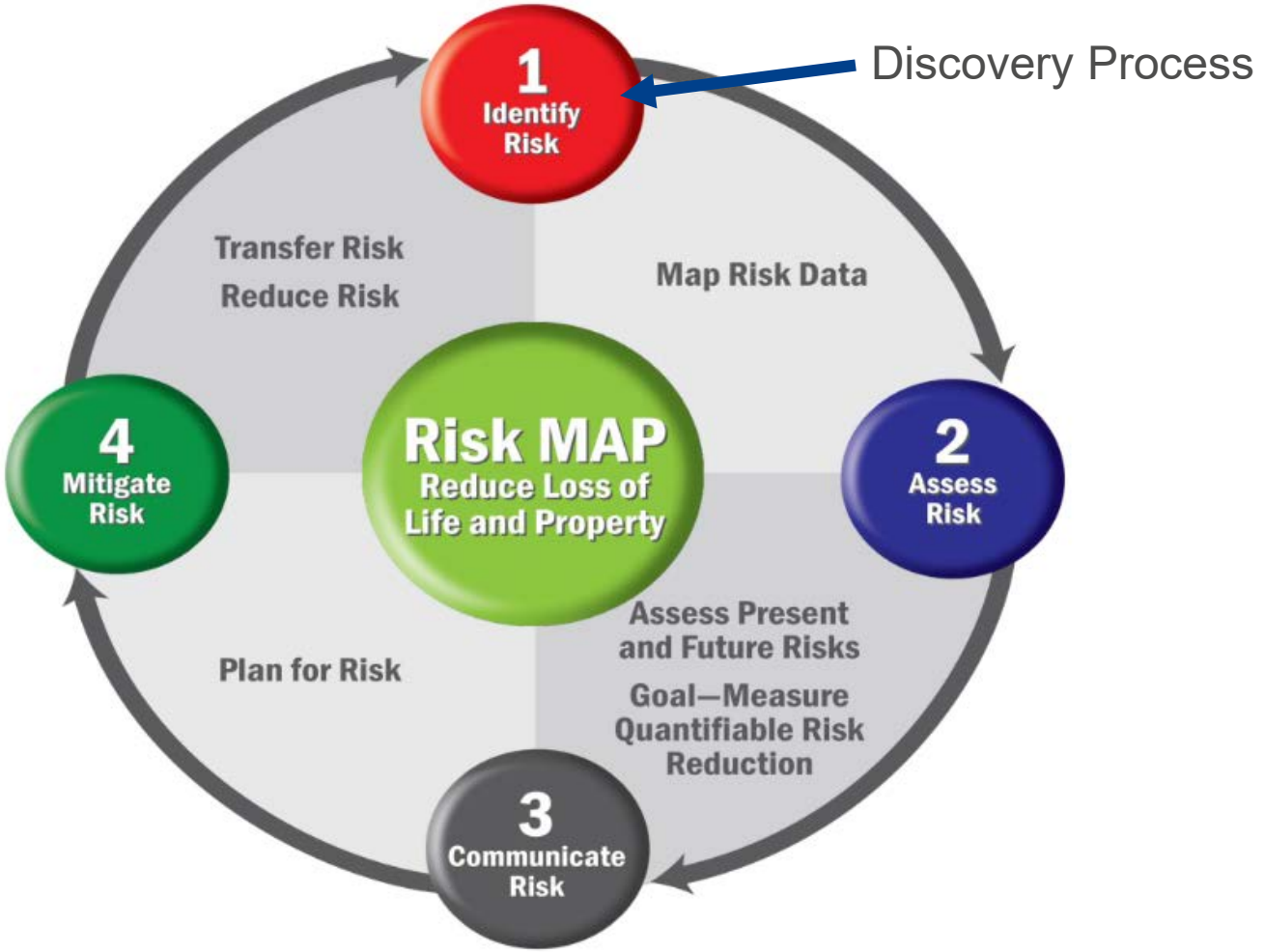
FEMA'S RISK MAPPING, ASSESSMENT, AND PLANNING (MAP) PROGRAM



QUESTIONS?

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