RiskMAP
Increasing Resilience Together

BASE LEVEL ENGINEERING for the Rural Arkansas Community

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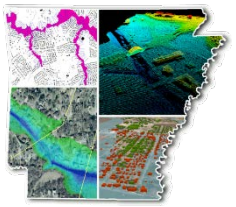
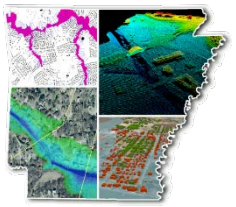
Cleveland, Ohio

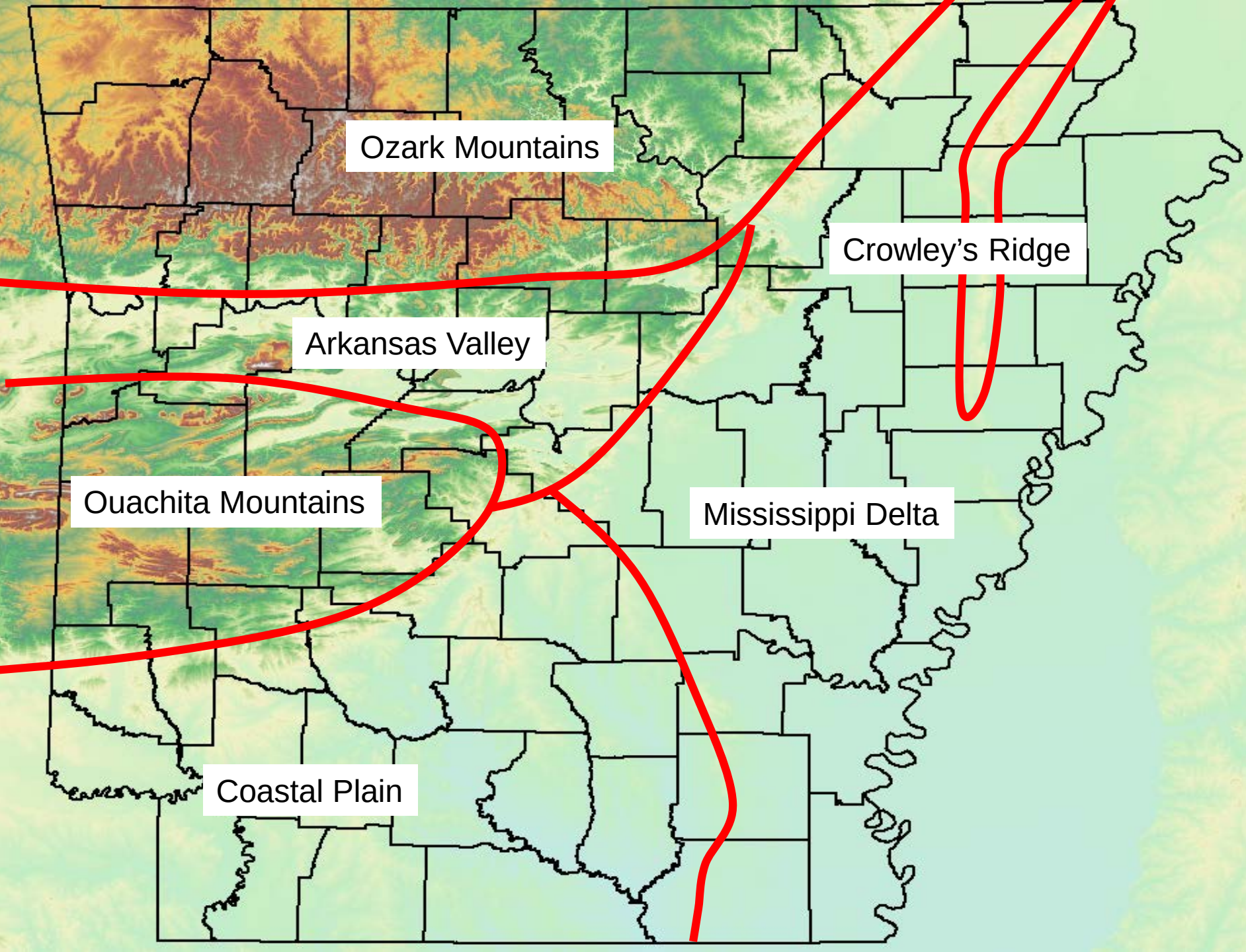


Outline

- Background Information
- Normal Risk MAP approach
- Special Project
  - Goals
  - Procedure
- Lessons Learned

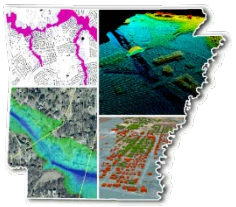


Arkansas… Where are We?


Ozark Mountains
Crowley's Ridge
Arkansas Valley
Ouachita Mountains
Mississippi Delta
Coastal Plain

Arkansas…

- Arkansas is rural…
  - 500+ incorporated communities
  - 75 Counties
  - 3.014 Million in total population (smaller than NY and LA)
  - 95%+ of land is Agriculture/Forestry



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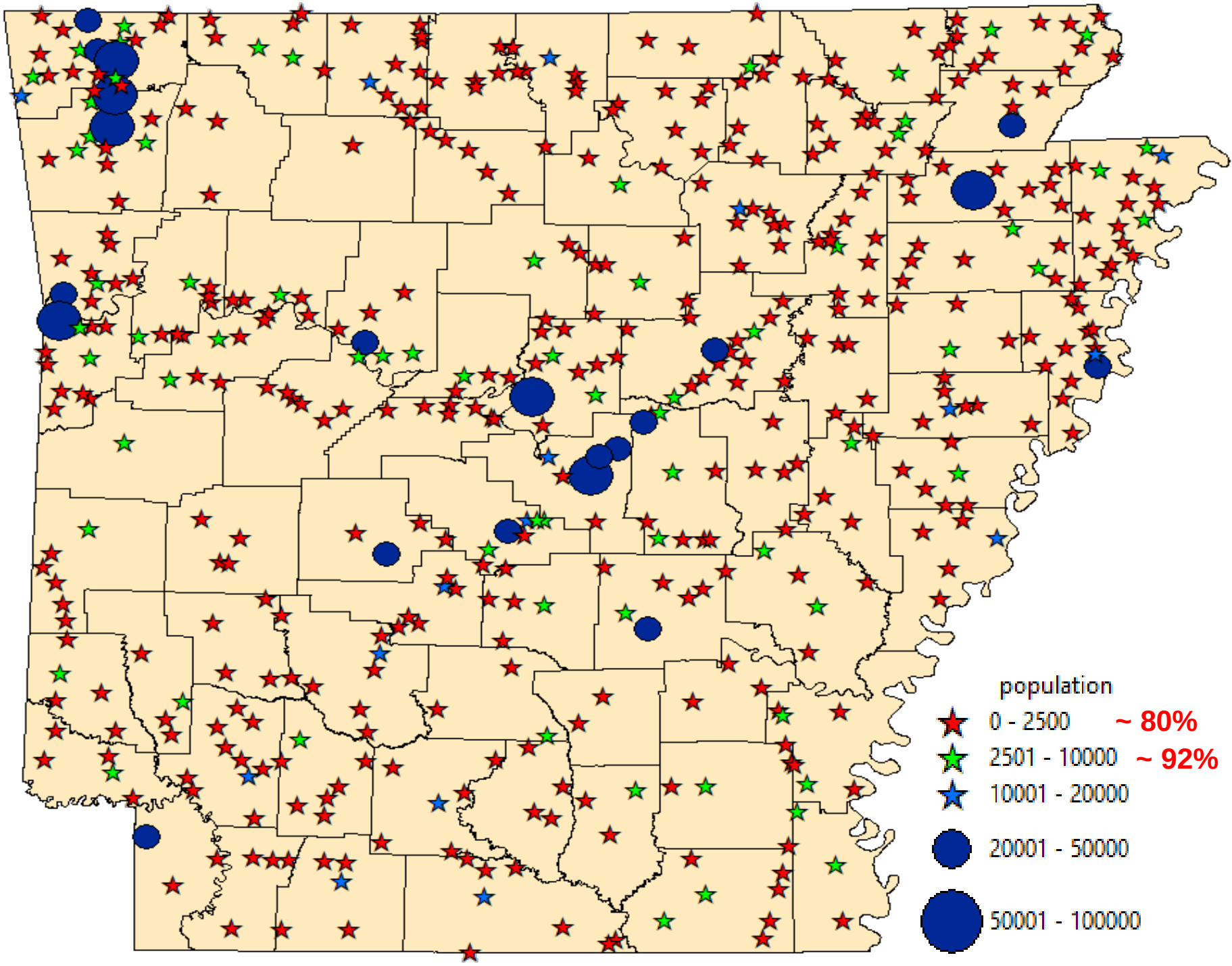
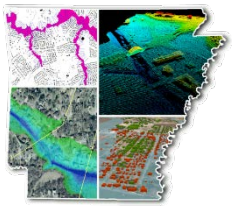

population
0 - 2500
~ 80%
2501 - 10000
~ 92%
10001 - 20000
20001 - 50000
50001 - 100000

Normal Approach

- Outreach/meetings
  - Pre-Discovery
  - Discovery
  - Data & Product Development
  - Flood Risk Review Meeting

- Send out notifications
  - (emails, letters, phone calls)
- Follow-up on attendance



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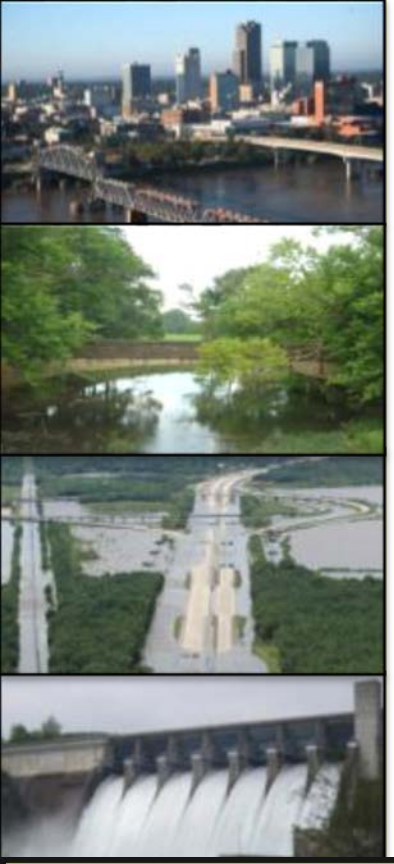
River of Time
1927 Flood
Base Level Engineering (BLE) Data
FY17 Discovery Watersheds
ARKANSAS
Louisiana Purchase State Park
Headwater Swamp



Normal Approach

- At the meetings
  - Describe everything done
  - Show them the information

- Everyone leaves happy!!

Normal Approach

- Is it really being used?

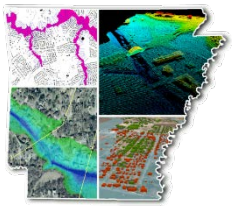
  Not as much as it could be.

- Do FPAs truly understand it?

  From our view…some do, some don't.

- Are we focusing only on the "haves"?

  Gravitate to those who are familiar w/ it.



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The Special Project

- Invested in the products
  - BLEs, updated data, technology
- Needed a new approach
  - Usable across all levels
    - Big vs. small community
    - Technical vs Non-technical
    - CEOs vs. FPAs
  - Flexible to adjust
    - One size does not fit all!

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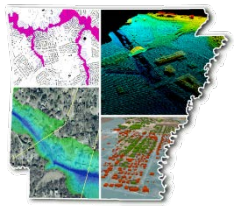
The Special Project

- Focused on using data
  - Hands on training
  - Workshops & Conferences
- Multiple ways to communicate
  - Google Earth
  - FEMA BLE Viewer
  - Traditional Workmaps

STEP BACK & SLOW DOWN



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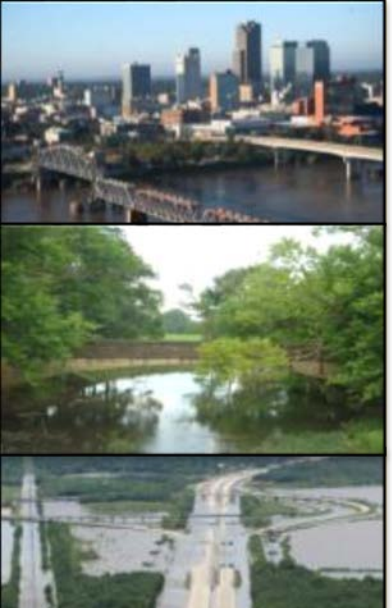
The Plan

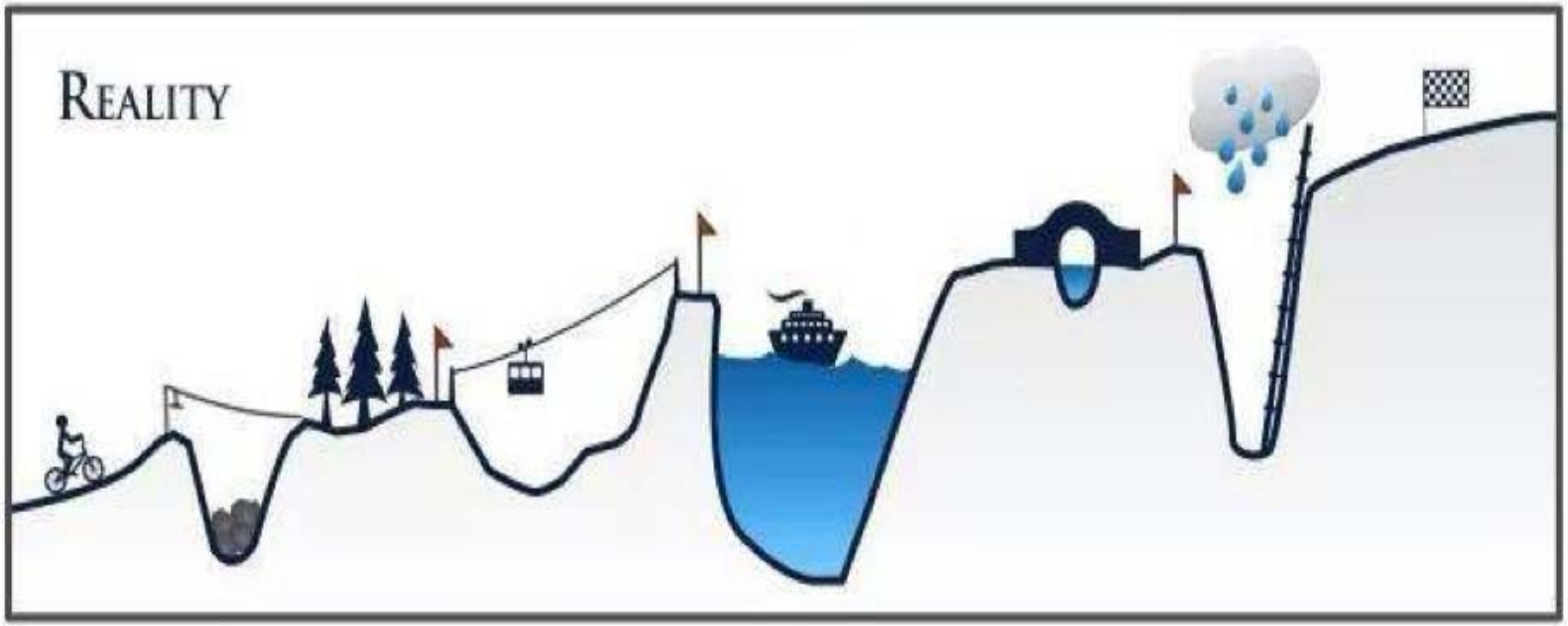
- 4 total workshops
  - Small, underserved communities
  - Morning – Local Officials
  - Afternoon – Local FPAs (interactive)

Graphic: Big Data Science



Reality

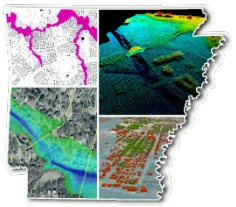
- Held 2 initial workshops
  - Lots of interest in holding workshops
  - Little attendance



Graphic: Big Data Science

The “REVISED” Plan

- Final 2 workshops
  - This time as part of State Sponsored FPA training (afternoon)
    - Had big and small communities
  - More hands-on
    - User filling out worksheets
  - Roll into 1 session, not all day
  - Provide quick guide to take home
  - Conduct survey before and after
    - Get input



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The “EXTENDED” Plan

- BLE Workshops included in 7 one-day FPA training workshops

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File Edit View History Bookmarks Tools Help
FEMA's Estimated Base Flood E
https://webapps.usgs.gov/infrm/estBFe/
Search
Bing Maps
Google Maps
News
FEMA MSC
FEMA MIP
FEMA Sharepoint
FEMA
FEMA Apps (BLE)
OwnCloud
Atlas14
USACE NLD
NationalMap
LIDAR inventory
Data Gateway
RAS Blog
Estimated Base Flood
FEMA
Report
Base Map: Topographic
Map View
Base Map
Welcome to the
Estimated Base Flood Elevation Viewer
Base Level Engineering assessments are produced using high resolution ground data to create technically creditable flood hazard information that may be used to expand and modernize FEMA's current flood hazard inventory.
I Want to
Download
Download Datasets & Models
Download the Base Level Engineering data presented in the viewer.
Click the DATA LAYERS button and add the DOWNLOADABLE DATA layer.
Click shaded areas in the map to open a dialog for choosing datasets to download.
I Want to
Explore
View Base Level Engineering Data
Access all available Base Level Engineering data without GIS software.
Click the DATA LAYERS button to add or remove map layers.
Click the LEGEND tab to view an explanation of all data shown.
Click the MAP VIEW button to open or close a second viewing window for side-by-side comparisons.
What Is My
Flood Risk?
Property Look Up
Where data is available, produce a property-specific report with estimated base flood information.
Click the REPORT tab to create a flood risk report for a specific location.
Click a topic to get started!
Comments: This base map includes administrative boundaries, cities, water features, physiographic fea
parks, landmarks, highways, roads, railways, and air
Data Source: ESRI ArcGIS Online
Quick Start
Glossary
About
Scale: 1 : 9,244,649
U.S. Departm
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www.infrm.us/estbfe

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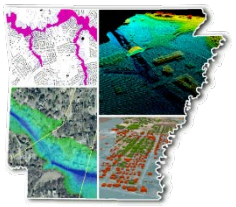
Case Studies



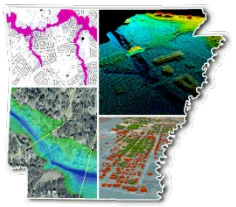
Example 1

Property Owner wants to build a structure in Humphrey.

Coordinates:

34.4228

-91.7046



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Example 1

Example 1

Flood Event	Estimated Flood Depth*	Estimated Base Flood Elevation*
1 Percent (100 Year)	3.2 feet above land surface	192.8 feet NAVD 1988
0.2 Percent (500 Year)	3.5 feet above land surface	193.1 feet NAVD 1988

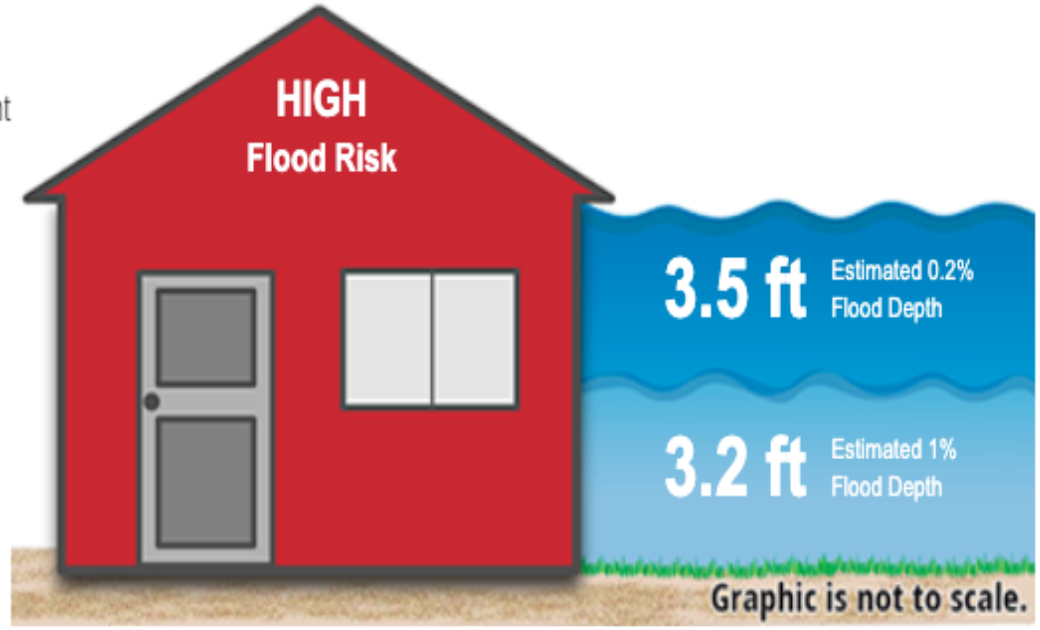
* The information included in this report is based on the location marker shown in the map. Results are not considered an official determination.

Information made available from the Estimated BFE Viewer needs to be accepted by local community officials to be used for insurance rating purposes.

Knowing Your Risk

Base Level Engineering data availability and analysis information is important because it can be used to:

- Inform floodplain management decisions and ordinance administration;
- Identify significant floodplain changes;
- Serve as base modeling for map revisions; and
- Support the Zone A BFE information for a Letter of Map Amendment (LOMA) request.



Example 2

Property Owner wants to build a home, NOT in Zone A, but prone to flooding.

34.988205

-90.781277

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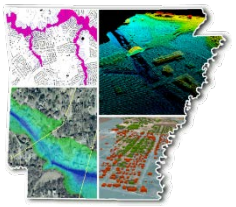
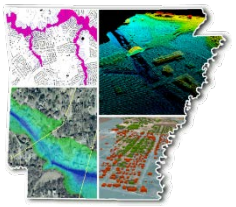


Example 2

- What do you do?
- What does the homeowner need?
- How can the BLE Viewer help?
- Any other tools that can help?



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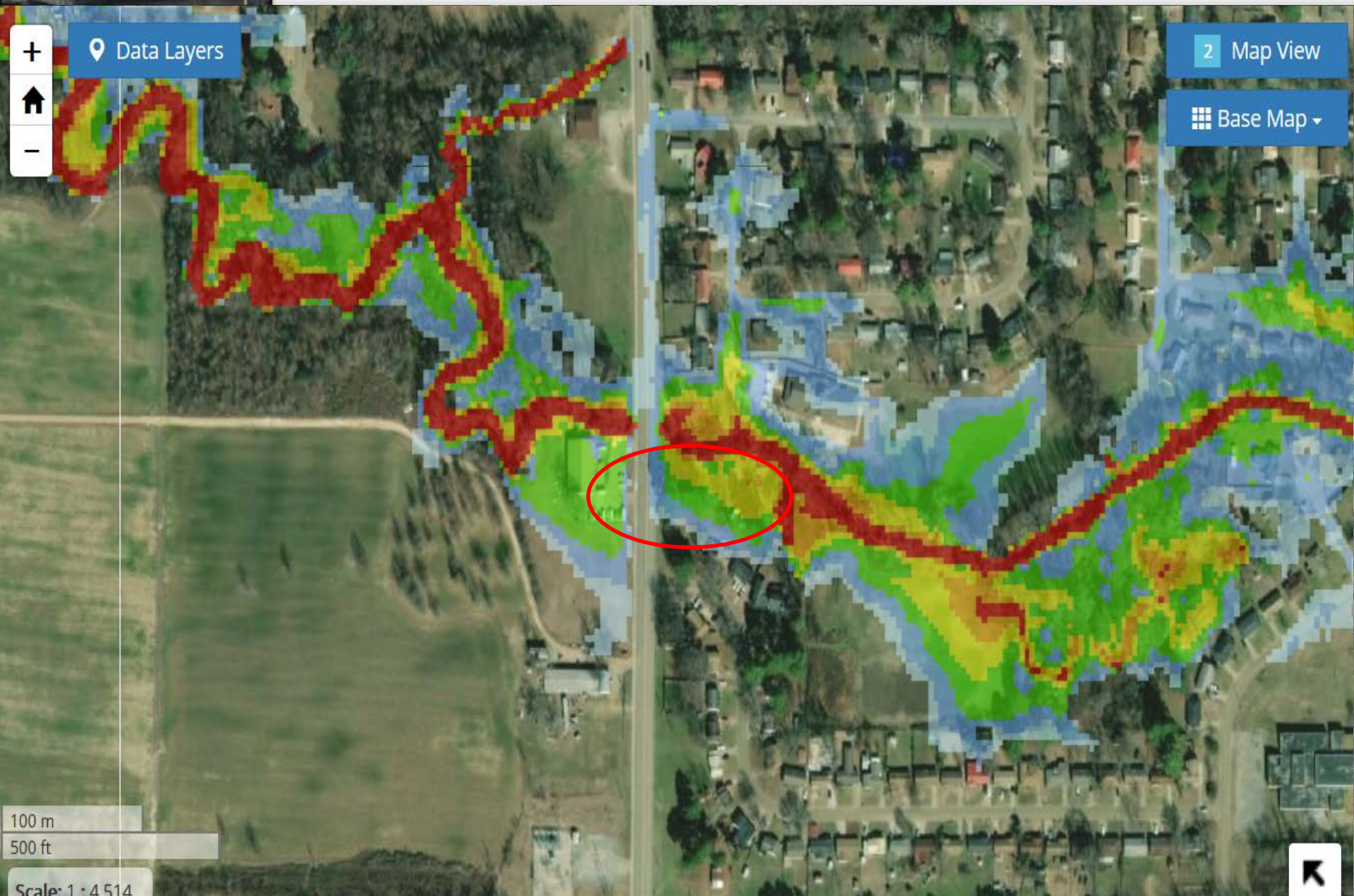
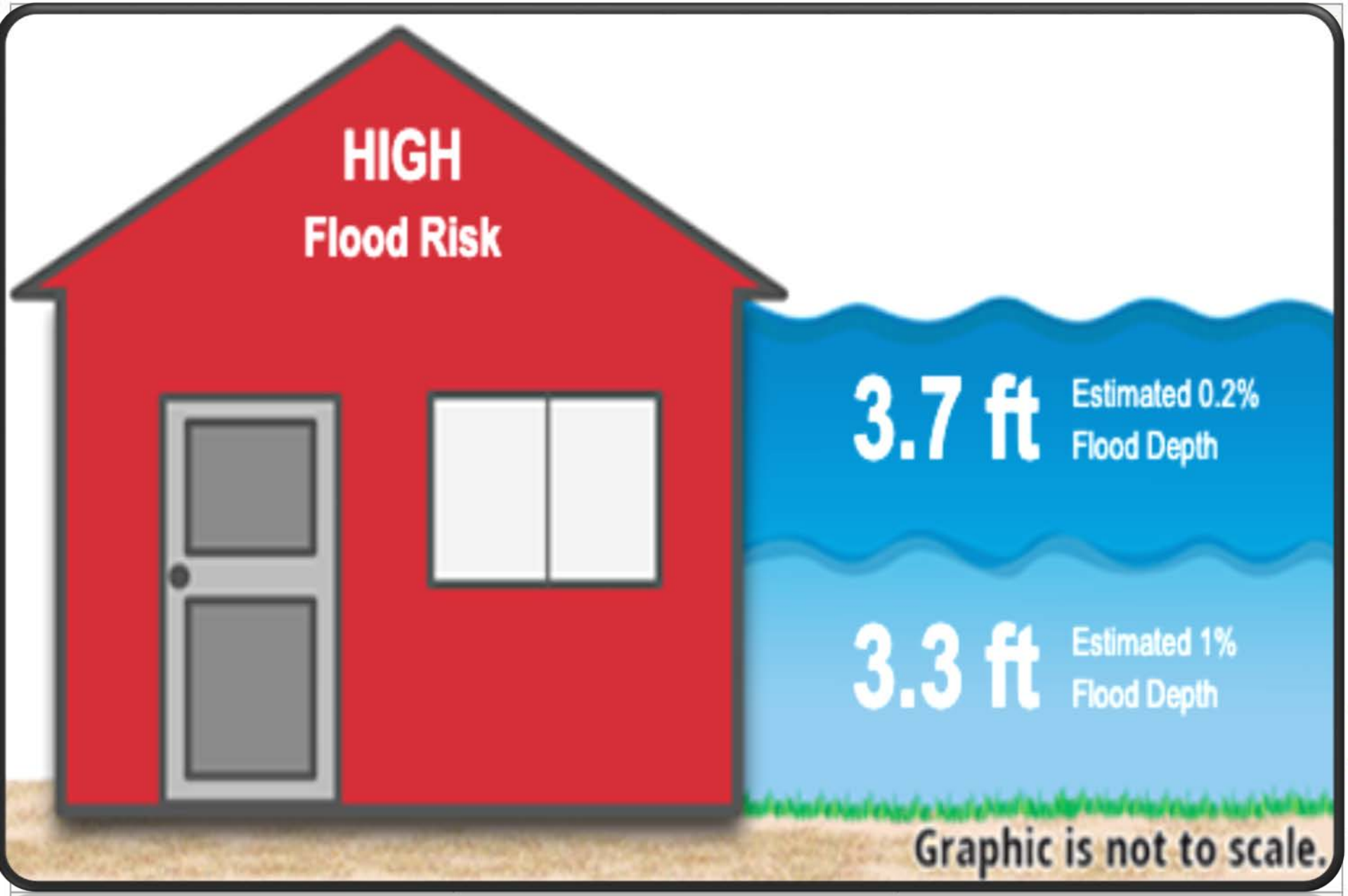
Example 2



Example 2


HIGH
Flood Risk
3.7 ft
Estimated 0.2%
Flood Depth
3.3 ft
Estimated 1%
Flood Depth
Graphic is not to scale.

Example Worksheet

Example No. _____ **Town:** _____

Coordinates: _____

STEP 1: FLOODPLAIN DETERMINATION

Is the property in the floodplain? YES NO

Which zone? _____

What is the BFE? _____ Cannot be determined

STEP 2: BASE LEVEL ENGINEERING

Is the property located within a BLE **watershed**? YES NO

Is the property located within the BLE **floodplain**? YES NO

If so, what is the estimated BFE? _____

If so, what is the depth of flooding? _____

RECOMMENDATIONS

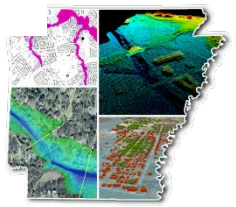
What are your recommendations for the builder/property owner?

Other Examples:

Developer wants to develop a large area for residential homes and new businesses.

35.2186

-90.2139



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LESSONS LEARNED

- Just because it's there, doesn't mean its used or understood.

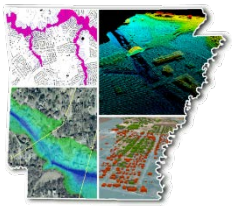
  Back to the Basics !!

- It's a process & still being developed.

  Patience !!

- Just because people nod, don't assume anything.

  You know the saying!!



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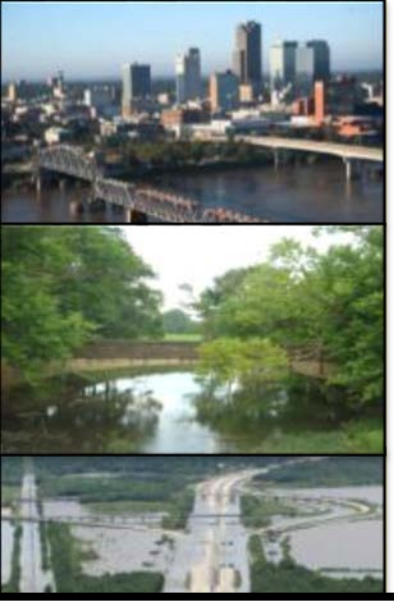

OTHER RESULTS

Four communities have now explicitly incorporated BLE data into their Flood Damage Prevention Codes.

(b) Where Base Level Engineering is available:

(1) Base Level Engineering data shall be reviewed and reasonably used in FEMA-identified Special Flood Hazard Areas where base flood elevation and floodway data have not been identified and in areas where FEMA has not identified Special Flood Hazard Areas.

(2) Base flood elevations and designated floodway boundaries on FIRMs and in Flood Insurance Studies shall take precedence over base flood elevations and floodway boundaries delineated by Base Level Engineering if such source shows reduced floodway widths and/or lower base flood elevations.

(3) Base Level Engineering data shall be reasonably used if such source shows increased base flood elevations and/or larger floodway areas than are shown on FIRMs and in Flood Insurance Studies.

Questions

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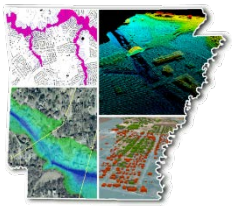

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