

Using the FEMA Region 6 Estimated Base Flood Elevation Viewer (estBFE Viewer)

The estBFE Viewer is a free, interactive tool. It gives users access to Base Level Engineering (BLE) datasets, models, maps and reports. The estBFE Viewer lets users visualize and download flood risk data for their community. It also gives property owners site-specific flood risk information. This helps them understand the possible risk to their homes and businesses and make informed decisions to reduce damage from future floods.

BLE Data and the estBFE Viewer

FEMA is performing BLE analyses across the nation. By making this flood risk data locally available, the results give communities a better understanding of their flood hazards. The analyses combine detailed ground elevation data with the latest flood models to produce data that meet FEMA's standards for flood risk analysis and mapping. BLE data can supplement the effective Flood Insurance Rate Map (FIRM). BLE also provides data for unmapped areas and areas with outdated flood risk information. Local officials can use these data to make more informed decisions and work toward reducing flood risk.

In FEMA Region 6, BLE data and datasets are stored online in the free estBFE Viewer. It offers different ways to view and download BLE data, datasets and reports without any additional software.

Adopting BLE Data Helps Communities Stay Resilient to Current and Future Flood Risks

BLE can be adopted where flood risk data are outdated or unknown. Adopting BLE makes building and development decisions easier. It creates a clear, official source for permitting based on the latest flood risk data. BLE can be adopted at any time and also used to set higher standards that reflect anticipated future conditions.



FEMA

Using the Viewer

The estBFE Viewer can be launched by typing <https://webapps.usgs.gov/infrm/estBFE/> in an internet browser window. The first thing you will see is a disclaimer screen; click “OK” to clear this message. Next, the Quick Start screen (Figure 1) offers you different ways to explore BLE data and modeling results. You can choose between three options:

- Property Look Up.
- View Base Level Engineering Data.
- Download Datasets and Models.

After you’ve chosen one option, you can still explore the others. Click on the gray “Quick Start” button in the lower left corner to return to the Quick Start screen.

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.

File Name	Size	
12030106_Models.zip	383.9 MB	Download
12030106_Depth01.zip	82.8 MB	Download
12030106_Depth002.zip	91.3 MB	Download
12030106_Elev01.zip	19.5 MB	Download
12030106_Elev002.zip	20.1 MB	Download
12030106_VectorData.zip	263.7 MB	Download

High Flood Risk
 This location is in a 1% (100 year) flood zone.
[View Report](#)

Property Look Up
 Where data are available, produce a property-specific report with estimated base flood information.
[What's My Flood Risk?](#)

View Base Level Engineering Data
 Access all available Base Level Engineering data without GIS software.
[I Want to Explore](#)

Download Datasets & Models
 Download the Base Level Engineering data presented in the viewer.
[I Want to Download](#)

Figure 1. The EstBFE Viewer Quick Start gives users choices on what to do with the data.

Key Terms in the estBFE Viewer to Help Understand Local Flood Risk:

- **1% annual chance flood:** There is a 1 in 100 chance that a flood event of this size will occur in any given year. This is less common than an average rain event, but larger in magnitude. If a flood event of this size or bigger occurs, water will cover the indicated area.
- **0.2% annual chance flood:** There is a 1 in 500 chance that a flood event of this size will occur in any given year. This is a rare but possible rain event that is large in magnitude. If a flood event of this size or bigger occurs, water will cover the indicated area.
- **Estimated flood elevations:** These measure how high flood waters may reach during a flood event in terms of feet above sea level. Using sea level makes it possible to compare flood risk in two places, such as Little Rock, Arkansas versus Albuquerque, New Mexico.
- **Estimated flood depths:** These measure how deep flood waters may be during a flood event in feet. They are specific to the location and give an idea of how high above the ground flood waters could rise.

View Base Level Engineering Data

Choosing **View Base Level Engineering Data** (Figure 2) displays a map showing floodplain extents color-coded by flood depth. Coastal influence areas are shown in pink on the map.

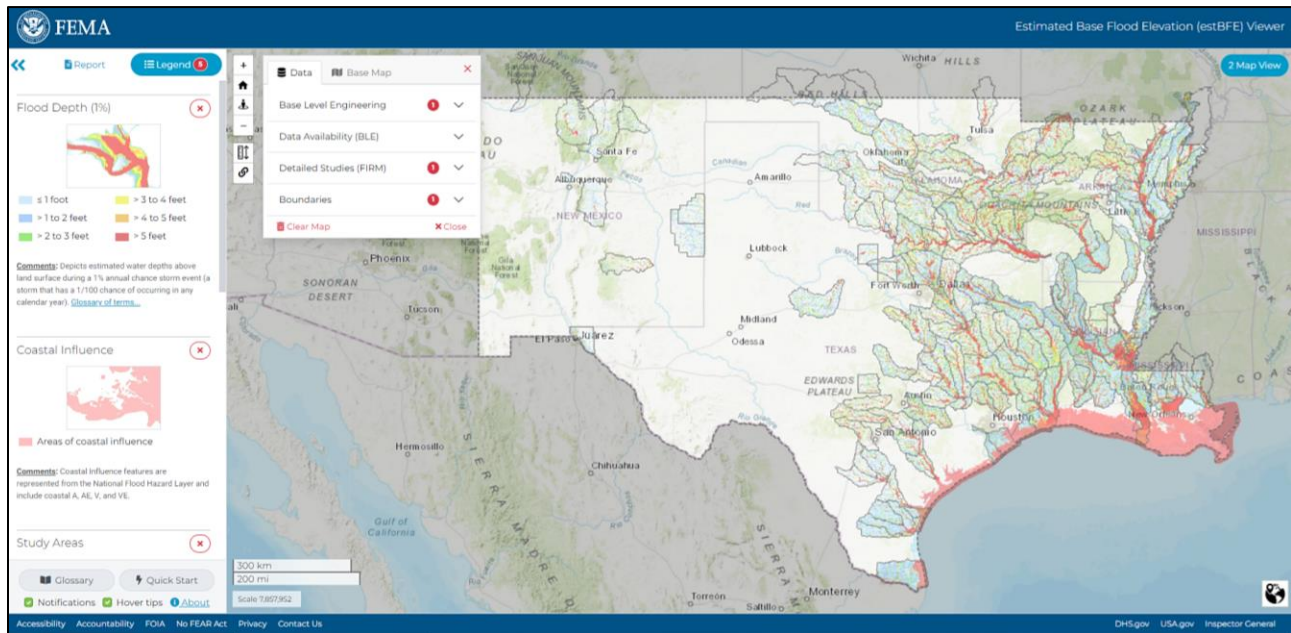


Figure 2. View BLE data like flood extent, depth and elevations on the estBFE Viewer.

Features include:

- The blue **Legend** button on the left lets you choose what you want shown on the map, e.g., flood depth, coastal influence, study areas.
- The blue **Map Layers** button lets you choose what data you want shown and the type of base map you wish to use. Data choices include flood extent, flood depth, flood elevations and detailed study availability.
- The blue **Map View** button in the upper right corner will open a second map for side-by-side comparison. This lets you compare different data layers or base maps.
- Zoom in to see the floodplain extents with the + and – buttons at the top left of the screen.

Download Datasets and Models

This option in the viewer gives you access to the geospatial datasets and underlying engineering models. A color-coded map shows the study areas that have data ready for download (Figure 3). Areas in green have data ready for download. Areas in blue are studies still in progress with no available data to view. Datasets can easily be downloaded by hovering your mouse over the study area of interest and clicking. A pop-up will give you the option to download the datasets and models.

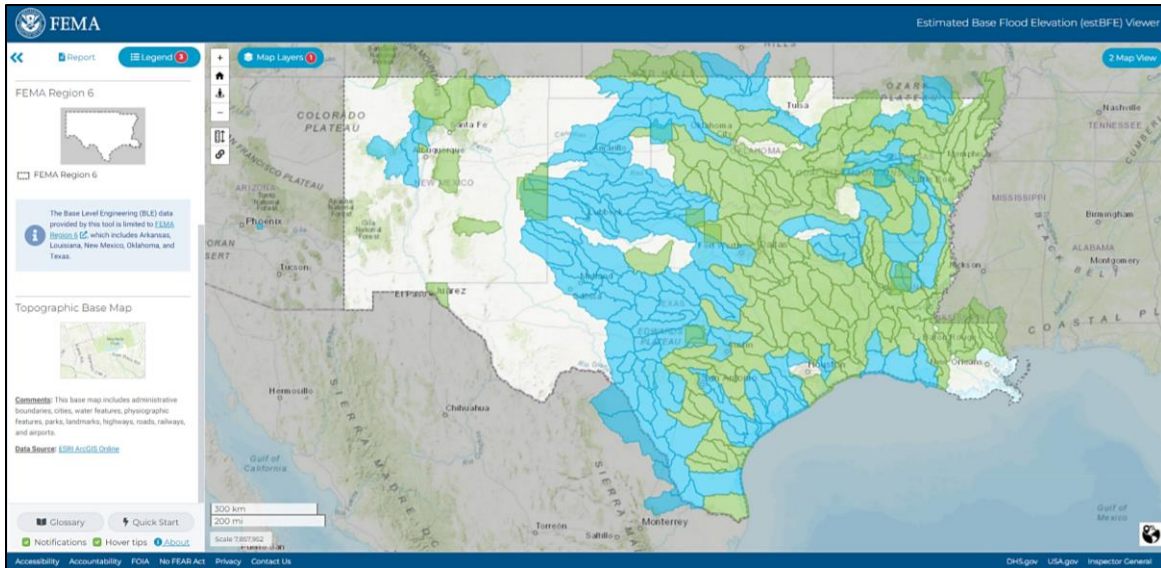


Figure 3. Download datasets and models for areas shown in green on the estBFE Viewer.

After you click on **Download Datasets and Models**, a table will pop up that lists the available items for download. You can also download the entire table. This creates an Excel spreadsheet for the user with hyperlinks to the datasets and models. You can use the data from the viewer to perform other local modeling, like assessing future rainfall scenarios.

The datasets and reports included in a BLE study are:

- HEC-RAS models:** These are the hydraulic models that all BLE studies use.
- Vector and raster geographic information system data:** This database includes all of the raster data for water surface elevations and flood depth grids. The vector data represent stream center lines, flood hazard areas and more.
- Reports and documents:** These detail the modeling and mapping methodology for the study. They may also include work maps or other files created during the study.
- Dataset reference guide:** This guide explains the different data piece by piece. This can help you navigate the data if you want to use them for your own local modeling and analysis.

Property Look Up

The **Property Look Up** option shows side-by-side maps. The left-hand map shows floodplains based on BLE (1% and 0.2% flood events). The right-hand map shows flood depths (Figure 4).

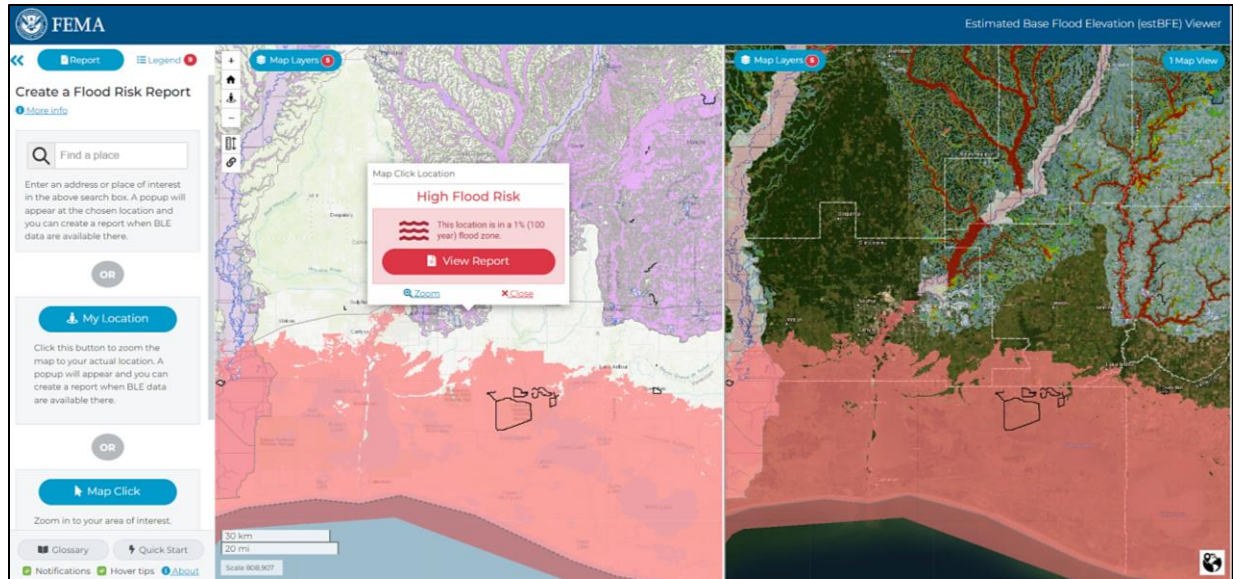


Figure 4. Search for a structure to look up your property’s flood risk in the estBFE Viewer.

You have a few options to navigate to a property using the **Create a Flood Risk Report** menu on the far left:

- Search for a specific property by typing an address into the **Find a place** search bar.
- Click **My Location** to zoom in on the map to your actual location.
- Zoom in on your area of interest. Select **Map Click** and then click the property of interest where BLE data are available.

Once you complete one of these options, a pop-up will appear describing the level of flood risk and an option to view a report. If the pop-up shows that BLE data are unavailable for the selected location, exit the pop-up and zoom out on the map. There may be BLE data nearby to investigate. BLE could affect the property of interest, but not be available at the exact location selected on the map.

If the property is within the purple area on the map on the left, then BLE data are available for that location. Click on the center of the structure of interest. Click **View Report** to open the **Flood Risk Information Report** in a new window.

Using Property Look Up to View FEMA FIRMS

The viewer also identifies where community FIRMs show detailed study areas. If you click on an area that has detailed information available, a pop-up will ask you if you want to explore more detailed data in FEMA’s National Flood Hazard Layer Viewer. This option leads to the most detailed flood data available. You can then print a FIRM for the area of interest, known as a FIRMette. If your home or business falls within a detailed study area, contact your local floodplain administrator to talk about your flood risk and ways to reduce it.

Site-Specific Flood Risk Information Reports

A site-specific **Flood Risk Information Report** (Figure 5) gives individual results based on available data for the chosen location. Results are shown with graphics, maps and tables. This report helps with visualizing and understanding your flood risk. It provides estimated elevations and depths of flooding for the 1% (high risk) and

0.2% (moderate risk) annual chance floods. Flood risk is also graphically shown. A red house means the property is in a high flood risk area. While a yellow house means the risk is low to moderate. Finally, a unique web address is generated for each report. This lets you share or bookmark the link to the report.

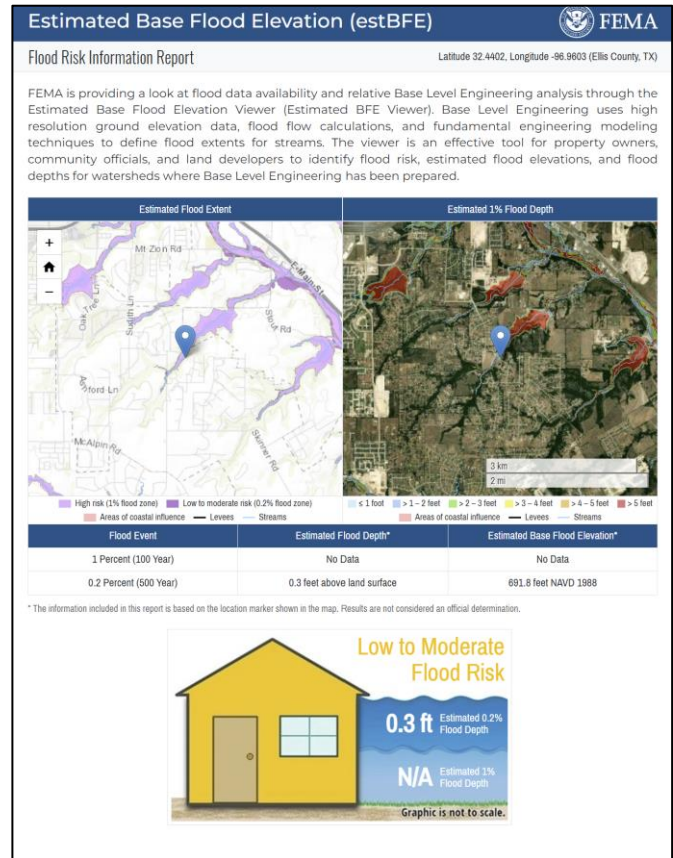
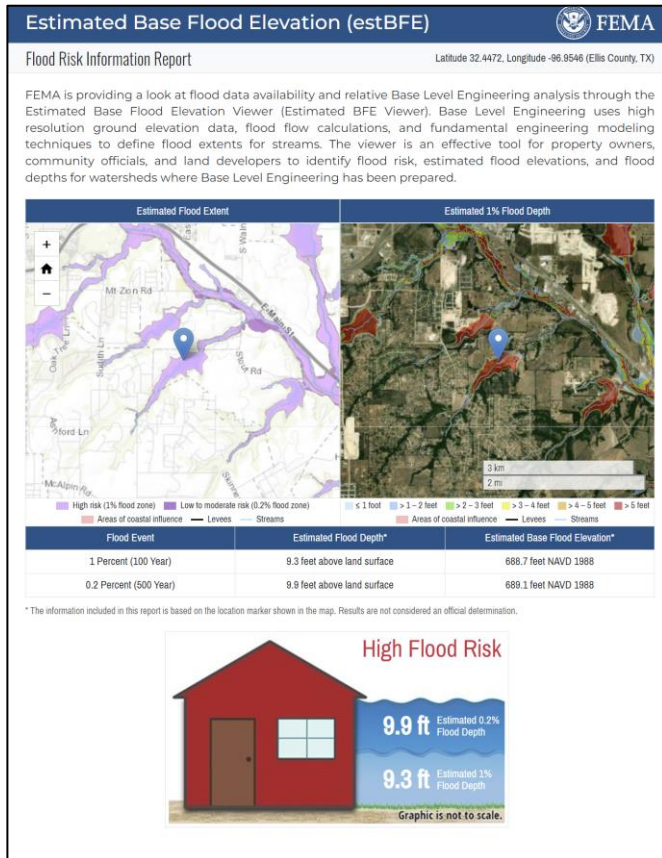


Figure 5. Download a Flood Risk Information Report for your property from the estBFE Viewer.

The second page of the report explains the information, how it can be used, and actions you can take to reduce your flood risk. For more information, visit FEMA Region 6’s BLE Resource library at www.fema.gov/about/organization/region-6/base-level-engineering-ble-tools-and-resources. There you can learn how BLE can be used for floodplain management, emergency management, community planning, hazard mitigation planning and more.

Acknowledgements

The estBFE Viewer was a collaborative effort. The Data and Spatial Studies team of the U.S. Geological Survey’s Texas Water Science Center brought it to life. The collaboration within the Region 6 Interagency Flood Risk Management (InFRM) team has allowed this vision to become a reality. The InFRM team strives to collaborate nationally and empower locally. Learn more at www.inFRM.us.