



FEMA

RECIPES FOR RESILIENCE: TECHNICAL

Using the CSLF Dataset to Better Communicate Risk

The Changes Since Last FIRM (CSLF) data delivered in the Flood Risk Database highlights changes to the footprint of the floodplain that have occurred since the last Flood Insurance Rate Map (FIRM) was adopted. These modifications may be due to changes in storm climatology, precipitation patterns, and development, or may be based on updated methods of flood analysis. When CSLF data is paired with local building footprints or address points, community officials can see the new extents of flooding and the resulting vulnerability of specific structures. With this information, community officials can educate residents and business owners about steps they can take to minimize their risk to this natural hazard.

Potential Uses for the CSLF Dataset

Individual Property Owners

- The dataset provides a starting point for discussing how property owners can reduce their risk through mitigation and protect their investment by obtaining flood insurance.
- Current homeowners can review the mapped flood hazards and consider purchasing insurance or pursuing a Letter of Map Amendment (LOMA).
- Having access to the updated flood hazard information will help prospective home buyers make an informed purchase and prevent unwelcome surprises afterward.

Insurance Agents, Lenders, and Real Estate Agents

- Agents can be better prepared for discussing flood risk and insurance requirements with their clients.
- Lenders and mortgage brokers have a visual tool that helps them better explain potential changes to flood insurance requirements to prospective borrowers.
- Insurance professionals can use CSLF to find new customers whose properties have been identified as having a higher risk.

Elected Officials and Community Staff

- Officials can prioritize capital improvement projects where they are most needed, based on changing flood risk.
- Communities can identify where a significant number of households/businesses may be affected and to raise awareness by targeting outreach efforts in those areas.
- CSLF can be used to facilitate discussions about flood hazard extent changes and causes. The extent of these changes can be incorporated into the local Hazard Mitigation Plan.
- The CSLF dataset identifies changes to the Special Flood Hazard Area boundaries and flood zone designations and gives local communities the opportunity to review their floodplain management ordinance and consider enhanced disaster-resilient building practices and standards.
- Community decision makers can use the dataset to help them select and prioritize actions to mitigate or reduce potential flood risk and damage.

Engineering and Technical Staff

- The dataset captures and inventories changes in mapped floodplain, floodway, and Coastal High Hazard Area (Zone VE) boundaries.
- When combined with address points or building footprint data, available from other sources, these changes can be used for a targeted outreach campaign.
- The information in CSLF can help facilitate discussions between floodplain administrators and the public about changes in flood risk.

Community and Technical Staff Can Use the CSLF Data and ArcGIS to Identify Properties in Areas Newly Designated within the Floodplain/Floodway/Coastal High Hazard Area

Step 1: Use the ADD DATA function to add the S_CSLF_Ar from the Flood Risk Database.

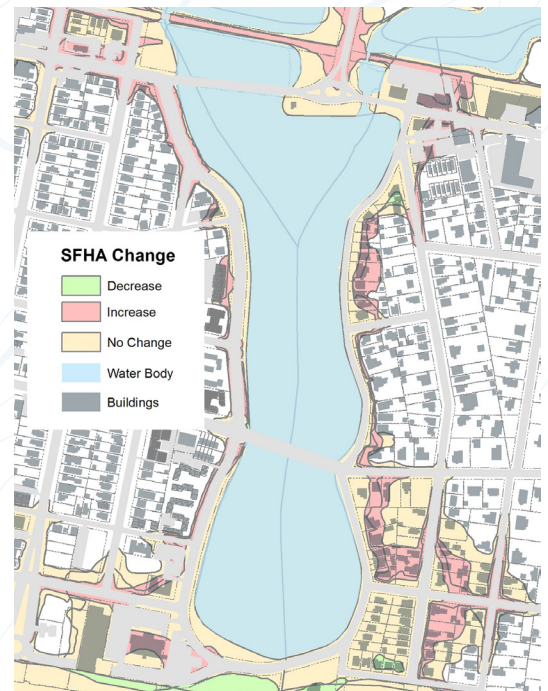
Step 2: Right-click on S_CSLF_Ar and select PROPERTIES, then navigate to the DEFINITION QUERY tab. In the box, enter SFHACHG = 'I' to display only the areas where the flood risk has increased.

Note: Floodway and Coastal High Hazard Area changes are available under the fields "FLDWYCHG" and "CHHACHG" and can be queried in a similar manner (FLDWYCHG = 'I' or CHHACHG = 'I').

Step 3: Add local point or polygon data, such as address points or building footprints, using the ADD DATA function. This data, if available, is often distributed by local or State GIS offices.

Step 4: Use SELECT BY LOCATION to select buildings or address points in the new SFHA. Set the local data as the target layer and set the source layer to S_CSLF_Ar, and use the Spatial Selection method. Intersect the source layer feature and click OK. Properties affected by the increase in flood risk will be highlighted. This selection may also include buildings that were already half in-half out of the effective floodplain.

Step 5: If you used SELECT BY LOCATION for address points, open the attribute table. From the attribute table, EXPORT Selected Records and save the table as a dbf, which can be opened in Microsoft Excel. This export can then be used to create a contact list and mail information to affected property owners.

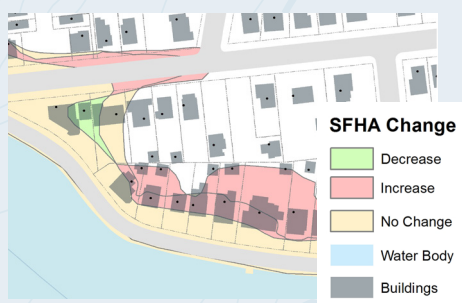


The figure is an example of identifying the structures or addresses of properties in areas newly identified to be at risk of flooding.

Other possible analyses...

Identifying Structures that are not at or Above the Base Flood Elevations in Recently Changed Flood Zones.

If a community has a database of Finished Floor Elevations (FfEs) for each structure in their community, they can use it to analyze if the current elevations meet the Base Flood Elevation (BFE) requirements reported on FIRMs for any new SFHA changes.



Other Information on Buildings and Structures:

Building footprints can also be linked to available local building stock inventories, which include descriptions of building materials, use, design, structural systems, and occupancy characteristics. These inventories help to better estimate potential damages and losses.

Predominant Building Material
Predominant Type Of Windows
Type Of Heat Generation System
Locally Produced Renewable Energy
Type Of Internal Heating System
Type Of Mechanical Ventilation System
Type Of Domestic Hot Water System
Type Of Dominant Lighting System
Type Of Air Conditioning System
Energy Consumption (Last 3 Years)
Water Consumption (Last 3 Years)

Understanding Properties at Risk of Flooding and Potential Impacts to the Fiscal Health of Communities:

Local parcel and land record information contains property tax information, such as annual property tax and assessment values for each parcel. In ArcGIS, these values can be spatially linked to structures vulnerable to future flooding.

An estimate of potential municipal revenue lost due to damage from flooding events can be compiled using the CSLF dataset and local tax information. A loss in municipal revenue can reduce the services a community can provide in the future.

It is important to note that the estimate of loss is based on tax assessment values and not on current market-rate values. Market-rate values or estimates can be obtained through sources such as Zillow.