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Flood Risk Assessment

Summary

Flood Risk Assessments help guide community mitigation efforts by highlighting areas where risk reduction actions may produce the highest return on investment. The Flood Risk Assessment spatial dataset, named "S_FRAC_Ar" in the Flood Risk Database, include loss estimates from the Federal Emergency Management Agency (FEMA)'s Hazus model, presented as estimates expressed in dollar values. The estimates included in these products come from a nationwide model called Hazus, a Geographic Information Systems (GIS)-based planning tool that estimates structural, economic, and social losses resulting from flood, earthquake, and wind events.

The Risk Assessment information can be used to identify flood prone areas, communicate flood risk, provide potential damage severity information for various flooding events, and identify possible locations for mitigation action, as shown in Figure 1. Refined Hazus loss estimation analyses will be done for new or updated flooding sources with default Hazus building stock

How do I find out more about Flood Risk Assessment?

In Colorado, contact: Thuy Patton, CWCB thuy.patton.state.co.us 303-866-3441 x3230

Marta Blanco Castaño, CWCB marta.blancocastano@state.co.us 303-866-3441 x3225

For all inquiries regarding FIRMs and FRPs, as well as general inquiries, please contact the FEMA Map Information eXchange (FMIX): 1-877-FEMA-MAP (1-877-336-2627) Monday - Friday, 8:00 a.m. - 6:30 p.m. Eastern Standard Time (EST)

For flood insurance inquiries, please contact FloodSmart: 1-888-379-9531

information. Where local built environment data is available, risk assessments can be performed at the building or structure level.



Figure 1: Hazus results shown in dollar loss estimates per census block in the S_FRAC_Ar dataset.

What are the benefits of the Risk Assessment dataset?

- Label areas of flood risk by census block.
- Identify potential losses and improve the ability to identify mitigation actions for hazard mitigation planning.
 For instance, areas with higher losses could require morestringent building code requirements and the use of flood resistant designs and construction materials.
- Examine the costs from disasters and provide return on investment estimates for protective mitigation measures.
- Encourage disaster recovery planning by showing areas of highest potential losses.



Why should I use the Estimate losses?

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The Risk Assessment dataset is a strong communication tool to engage stakeholders. Just as people learn in different ways, people are motivated to take action in different ways. Using a variety of tools to communicate risk and prioritize actions helps to engage more stakeholders.

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The dataset is a valuable tool that presents loss estimates in dollar values. In a hazard mitigation plan, it can be used to improve the risk assessment, and to select, evaluate, and prioritize mitigation measures. The dollar values can compare to the cost of mitigation projects to examine the return on investment in a Benefit Cost Analysis (BCA), Figure 2. The dataset helps determine if one mitigation project could "pay for itself" in one, or several years, with losses avoided.



The dataset can be used to effectively communicate with property owners to advance partnerships on mitigation measures—for instance, explaining the cost-effectiveness of a floodwall, or the need to obtain right-of-way grants for the construction of a dune. It is also an effective tool to explain why a requirement to have freeboard above the base flood elevation could save money over time, even if it increases the initial cost of construction.

Combine with Local Data

Communities are encouraged to pursue enhanced analysis where possible by providing FEMA with additional GIS data such as parcel data, building footprints or elevation certificates. Communities may also provide additional funding to support analysis enhancement. The results of these flood risk assessments can be used in conjunction with the Areas of Mitigation Interest (AOMI) dataset to help communities prioritize mitigation opportunities and can be incorporated into hazard mitigation plans.

Pairing the Risk Assessment Dataset with local information helps enhance risk awareness and support mitigation planning efforts.