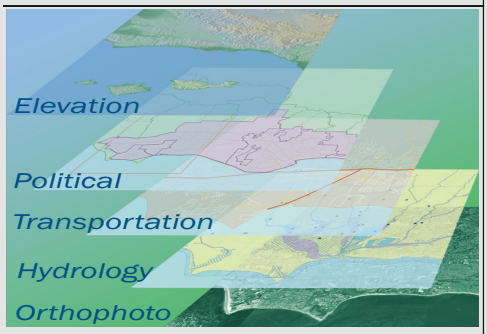
GIS in Flood Map Modernization

CREATING PARTNERSHIPS TO MAP AMERICA



BACKGROUND

Flood Map Modernization (Map Mod) is an ambitious multi-year effort with a set of goals established by the Federal Emergency Management Agency (FEMA) to modernize the Nation's flood hazard maps.

Map Mod will upgrade the 100,000 panel flood map inventory into seamless flood data publicly available in Geographic Information System (GIS) format. The aggressive schedule necessary to meet the goals of Map Mod requires the support of local governments from all over the country. When complete, Map Mod will have:

- Developed up-to-date flood hazard data for all floodprone areas nationwide
- Provided digital flood maps and data in an industry-standard GIS format to improve the efficiency and precision with which mapping program customers can use these data
- Fully integrated FEMA's local, regional, and State government partners into the mapping process to build on their local knowledge and data development efforts

Local government can provide support by contributing GIS base map data to Map Mod. FEMA and its contractors will incorporate the base map data into FEMA's digital flood maps, called Digital Flood Insurance Rate Maps (DFIRMs).

The flood data will be provided to local governments to improve their GIS—creating a win-win opportunity for local governments and FEMA.

WHAT IS A DFIRM?

A DFIRM is a collection of all digital data required to reproduce a hardcopy Flood Insurance Rate Map according to FEMA standards and specifications. It includes base map data, flood data, graphics, text, shading, and other information. The table at the right lists the major map layers that are included in or used to produce a DFIRM.

DFIRM specifications are defined in Appendices L and N of FEMA's ***Guidelines and Specifications for Flood Hazard Mapping Partners***, located at www.fema.gov/fhm/dl_cgs.shtm

HOW DOES FEMA REDISTRIBUTE THE DATA?

Data submitted to FEMA for inclusion in a DFIRM will be stored in a national database and can be redistributed upon request from localities and partners. If a local government data contributor has developed a data-sharing agreement or Memorandum of Understanding, FEMA will work with the data contributor to ensure that all aspects of the agreement are followed. DFIRM data will be redistributed as ESRI Shapefiles, ESRI ArcInfo Export (e00) files, MapInfo Interchange Format (MIF) files, and raster images.

DFIRM Digital Layers:

- Flood Zones and Boundaries
- Base Flood Elevations
- Cross Sections
- Streams
- Coastal Barrier Resources System
- Political Areas (FEMA Communities)

Community Base Map layers meeting the National Map Accuracy Standards used to ensure accurate positioning of the derived layers:

- Digital Orthophotography
- Transportation - Street centerlines, bridges, unimproved roads, rail
- Hydrography – Stream centerlines, rivers, lakes, shorelines

Additional data that can be provided by communities to derive the final flood data:

- High-resolution terrain data
- Soils
- Jurisdictional Boundaries
- Land Use
- Structures

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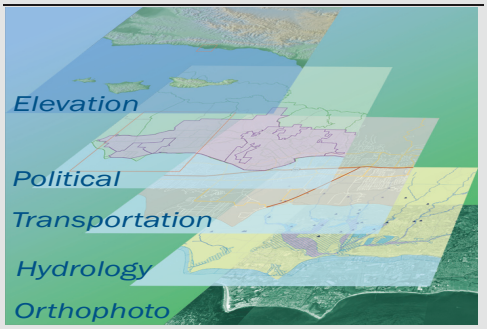

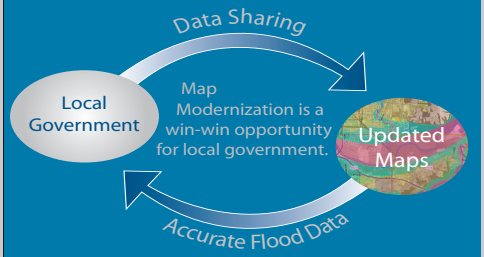

WHAT ARE THE BENEFITS TO MY COMMUNITY?

Map Mod will reduce the loss of life and property, minimize suffering and disruption caused by disaster, and better prepare the Nation to address the consequences of flooding and other hazards.

- Less long-term flood damage in the community as a result of insuring properties more accurately
- Access to more reliable floodplain, floodway, Base Flood Elevation, cross section, and other data that has been adjusted to the local government's base map
- Ability to overlay/query reliable flood data in relation to other data that the local government may have (i.e., cadastral data)

HOW CAN MY COMMUNITY GET INVOLVED?

There are two ways to get involved:

1. Provide base map data to FEMA for inclusion in DFIRMs
2. Become a Cooperating Technical Partner (CTP)

The CTP Program is a formal way your community can get involved as a direct, cost-sharing partner with FEMA. CTPs are local government, State, or regional agencies that have the interest, capabilities, and resources to be active partners in flood hazard mapping.

CTPs enter into an agreement with FEMA that formalizes their contribution and commitment to help ensure their flood maps are reliable, up-to-date, and reflect local conditions. The CTP Program is the most cost-effective approach for both the CTP and FEMA.

If your community can provide support in any way, contact the CTP Coordinator in your FEMA Regional Office. You can find contact information for each Regional Office at www.fema.gov/regions. Your efforts to help map the Nation into a flood safe future will be greatly appreciated.

For more information on the CTP Program, please visit the CTP Web site at www.fema.gov/fhm/ctp_main.shtm.

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