

FEMA's DFIRM Spatial Database Product Definition

As part of FEMA's Map Modernization Objectives, a new Digital Flood Insurance Rate Map (DFIRM) product is being developed. The new DFIRM product will include a spatial database with options that can be invoked depending on the available data. The DFIRM spatial database will include certain standard features and meet minimum mapping requirements. Additional enhancements will be included depending on community needs, available data, and funding. A review of needs and available data will lead to recommendations concerning which options to exercise.

The DFIRM spatial database will be a vector product containing the flood thematic data combined with either a vector or raster base map. The DFIRM spatial database will provide a platform and framework for multi-hazard mapping as well as the automation of engineering and mapping product development. The different versions of the DFIRM spatial database (i.e., standard and enhanced) are intended to support the requirements of different users including: flood insurance agents, map determination companies, communities, engineering companies, and government agencies. FEMA's goal is to produce new DFIRM products including the database for all National Flood Insurance Program communities.

DFIRM Spatial Database Versions

The Standard DFIRM Spatial Database (SDSD) is the relational database and GIS mapping data that make up a current official DFIRM. The DFIRM data will be made available in user-friendly GIS file formats. The SDSD contains the necessary GIS spatial data elements used to create the DFIRM paper map so that users may identify Base Flood Elevations (BFEs) and Special Flood Hazard Areas on a community or countywide basis. The SDSD will be created for FIRMs that are converted to digital format as well as new DFIRMs that reflect new mapping. The SDSD will be accompanied by an electronic version of the Flood Insurance Study report.

Where produced, the Enhanced DFIRM Spatial Database (EDSD) will contain all elements in the standard version as well as the GIS spatial data elements and the relational database where all available attributes of the engineering, modeling, surveying, topography, and mapping data are archived. Some of the EDSD features may be stored in GIS mapping layers or related tables but not shown on the paper DFIRM product. The EDSD supports DFIRMs that reflect new mapping.

DFIRM Spatial Database Features

1. Base map (community base or DOQ in raster or vector format).
2. Georeferenced spatial data layers including the 1% and 0.2% annual chance floodplains, floodways, Coastal Barrier Resource System areas, BFEs, and cross sections.
3. Relational database structure for the storage of attribute information. These attributes are stored within a set of GIS mapping layers and tables or may be linked to GIS mapping layers through an external relational database.
4. Distributed in two commercial GIS formats (SHP and MIF) for use with the user's own GIS, automated H&H software, or freely available data viewers. The relational database is also distributed in MDB format for use with Microsoft ACCESS.
5. Documentation including:
 - a) Metadata for GIS layers;
 - b) FIS text in electronic format;
 - c) user guide; and
 - d) other documentation (e.g., use policy, qualifications, NFIP Regulations, etc.).
6. Includes most current information on mappable Letters of Map Change.