

Issue 4: Local Base Data/Maps

Background

When no other base map is available, the United States Geological Survey (USGS) Digital Orthophoto Quadrangles (DOQs) will be used as the default base map. However, if a community maintains a local base map, consideration should be given to using it in place of, or in conjunction with, the DOQs. The Federal Emergency Management Agency (FEMA) maintains base map specifications for Flood Insurance Rate Maps (FIRMs). In addition to these specifications, some of the questions to consider when evaluating whether to use a local base map include:

- Does the local base map contain the necessary information?
- Does it have equal or greater accuracy than the DOQ?
- Can the community release the base map for unrestricted use?
- Does the community have a preference for which base map is used?
- Is there an advantage to having uniformity in appearance offered by using all DOQs?
- How much of the county does the base map cover?
- Can the local base map be used in conjunction with the DOQ (e.g., vector information overlaid on the DOQs)?

Even if DOQs are used as the base map, supplemental community information (such as streams and road names) is desirable for digital FIRM use. Decisions regarding base maps will need to be made no later than the Scoping Phase of the Mapping Program.

Discussion Summary

Date Discussed: 10/6/2000
Discussion Attendees: Karen Siderelis, North Carolina (NC); Zsolt Nagy, NC; Ken Taylor, NC; Ken Shaffer, NC; David Giordano, NC; Cheryl Pierce; Sue Hoegberg, Dewberry & Davis LLC (D&D)

Summary of Discussion

The North Carolina Center for Geographic Information and Analysis (CGIA) would like to use the best data available for flood hazard mapping. However, a mechanism is needed to determine what data are available from the communities. A more detailed Geographic Information System (GIS) survey should be added to the scoping process. Ideally, the survey would result in metadata for each community's GIS layer.

The layers of base map data that are of most interest for DFIRM use include orthophotography, transportation, road names, streams, and topography. CGIA is also interested in cadastral data.

Community data could be used in the DFIRM production process as a "work map" if data distribution is a problem. The printed DFIRM and FEMA-distributed data could be prepared

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using USGS DOQs. This would allow the best fit of floodplains to local base map features to be achieved while protecting the community's data.

Stream data that fit the modeling and ortho imagery are needed. CGIA's 1:24,000 scale stream data will most likely not be adequate. Options for developing the stream data layer include photo interpretation, use of local data, or possibly use of Airborne Light Detection and Ranging (LIDAR) data to aid in locating stream channels.

Final Guidelines

- CGIA would like to use the best available base map data.
- A detailed GIS survey will be included in the scoping process.
- CGIA will prepare a report on base map issues. It will include recommendations on sources of GIS data, published DFIRM base maps, and a work plan outlining responsibilities.
- All communities/counties that provide base data are required to sign a Memorandum of Agreement (MOA). The MOA is between the community/county and the CGIA. The purpose is to enable and advance the sharing of strategic geospatial data resources and associated documentation between the agencies and among their data users.
- The above-mentioned MOA states that all parties agree:
 - 1) To identify the primary point of contact for data sharing;
 - 2) To identify sharable data layers, associated documentation (metadata), transfer formats, transfer media, schedules for transfer, and disclaimers (if any);
 - 3) To waive agency fees, if any, for data sharing between agencies; and
 - 4) To allow data shared under this agreement to be further redistributed with applicable metadata by either agency without fees in the public domain and without restriction, unless otherwise noted and/or unless subject to public laws of governing authorities.
- In the above-mentioned MOA, the CGIA further agrees:
 - 5) To develop Internet capabilities as the primary mechanism for no-fee access to the corporate geographic database, including community data shared under this agreement; and
 - 6) To provide training and assistance, if requested and when resources are available, in the area of metadata creation and dissemination as part of the North Carolina Geographic Data Clearinghouse.

Point of Contact

Zsolt Nagy, North Carolina Center for Geographic Information and Analysis

Discussion Summary

Date Discussed: 1/21/2004 NCFMP Contractors Meeting

Discussion Attendees: John Dorman, Abdul Rahmani, Rodger Durham, Ed Curtis, Cassandre` Haynesworth, Aaron Lowery, Tara Schmitz, Ken Ashe, Joan Craft, Rich Umbarger, David Key, Ben Pope

Summary of Discussion

It is a standard of the North Carolina Floodplain Mapping Program to use aerial imagery without road vectors as the base maps of the printed DFIRM panels. However, in some urban areas it is often difficult to distinguish roads in the aerial imagery due to the dense road networks and/or the clarity of the image. In these instances, road vectors would be helpful to the engineering teams and to the end users; unfortunately, many communities do not have updated, detailed road vector data that registers with the orthophotos. In this instance, the data would then have to be manually digitized – a laborious process that would not be cost effective – to ensure the road centerlines register properly.

If road vectors are to be added to the aerial imagery on the printed DFIRM panels, the aerial imagery and the road vector data must be from the same source and the data must be well registered. CGIA will review the base data before base map production begins to make the decision regarding road vector inclusion on printed DFIRM panels on a case by case basis.

Point of Contact

John Dorman, North Carolina Floodplain Mapping Program
Tara Schmitz, Dewberry