

State Geospatial Data Coordination Procedure

Colorado

FINAL

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FEMA

State Geospatial Data Coordination Procedure

Colorado

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State Geospatial Data Coordination Procedure

Purpose of the Procedure

The Department of Homeland Security's (DHS) Federal Emergency Management Agency (FEMA) prepared the Geospatial Data Coordination Procedures to outline sources of geospatial data and contact information, preferences for base map data and state geospatial participation in flood insurance studies, information for the project Discovery stage, and other useful information. The Procedures provide information of common interest to the multiple flood insurance studies that occur in a State, and save the studies the effort required to repeatedly discover this information independently.

Updates to these Procedures occur regularly and involve coordination and input between FEMA Region VIII, The State of Colorado, US Geological Survey Liaisons, and FEMA's Regional Service Center (RSC) VIII. FEMA Region VIII has reached out to the following individuals and is appreciative of any comments and information provided:

- Ms. Thuy Patton, Risk MAP Program Coordinator, Colorado Water Conservation Board (CWCB)
- Mr. Jon Gottsegen, State GIS Coordinator, Colorado Department of Local Affairs
- Ms. Dawn Gladwell, Risk MAP Specialist, FEMA Region VIII
- Ms. Carol Giffin, Geospatial Liaison for Colorado, USGS

If you have questions, updates, or comments about this procedure or other geospatial data coordination resources, contact the geospatial data coordination lead at your RSC:

- Ms. Mary Gilliland, Geospatial Data Coordination Lead - RSC VIII
(303) 308-3572 / Mary.Gilliland@aecom.com

This document and additional information relating to geospatial coordination can be found on FEMA's Mapping Information Platform (MIP) [<http://www.hazards.fema.gov>]. Navigate to the 'Tools & Links' page and then locate the 'Additional Resources' section.

Preferred Base Map Sources

Table 1 at the end of this document identifies the preferred geospatial data sources for mapping partners to use when performing updates to Flood Insurance Rate Maps (FIRMs). Although this table is not a prescription of data sets that must be used, those listed below have been successfully leveraged during FEMA's Map Modernization and Risk MAP programs.

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Useful Risk MAP Discovery Data Sources

Preliminary information on Discovery data sources is provided in this document to reduce the level of effort needed on each subsequent Discovery data collection effort.

Coordination with local community sponsors for additional local data still remains an integral part of Discovery and local data should be used where appropriate.

The National Geospatial Data Coordination Procedure document contains information on data resources available from other Federal agencies (OFAs), including those that FEMA maintains at the national level, and should be used in conjunction with this State Geospatial Data Coordination Procedure document. In addition, FEMA and its contractors have created a geospatial Discovery Data Repository to host data that are not readily accessible through direct sources such as Web sites or subscription services and/or are not updated on a frequent basis. Instructions for accessing the Discovery Data Repository are provided in the National Geospatial Data Coordination Procedure document. Details on the Discovery Data Repository can be found in the National Geospatial Data Coordination Procedure document.

Table 2 at the end of this document identifies data resources that are available at the regional and State levels, and also if there are no data available other than the national datasets. Resources in this table have been identified as appropriate for Discovery projects and may not represent the best data sources for FIRM production (please see the Preferred Base Map Sources section of this document for geospatial data that meets FIRM production requirements).

Geospatial Data Resources

Listed below are useful links to geospatial data resources applicable to FEMA's Risk Map project life cycle.

- Colorado Department of Transportation (CDOT)
[\[http://dtdapps.coloradodot.info/otis\]](http://dtdapps.coloradodot.info/otis)
- Colorado Division of Water Resources
[\[http://water.state.co.us/Home/Pages/default.aspx\]](http://water.state.co.us/Home/Pages/default.aspx)
- Colorado Bureau of Land Management
[\[http://www.blm.gov/co/st/en.html\]](http://www.blm.gov/co/st/en.html)
- GeoCommunicator
[\[http://www.geocommunicator.gov/GeoComm/\]](http://www.geocommunicator.gov/GeoComm/)
- National Digital Orthophoto Program (NDOP)
[\[http://www.ndop.gov\]](http://www.ndop.gov)

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- National Digital Elevation Program (NDEP)
[<http://www.ndep.gov>]
- Geospatial One-Stop
[<http://geo.data.gov/geoportal/catalog/main/home.page>]
- The National Map
[<http://viewer.nationalmap.gov/viewer/>]
- FEMA's Map Service Center (MSC)
[<http://www.msc.fema.gov>]
- FEMA's Mapping Information Platform (MIP)
[<http://www.hazards.fema.gov>]

State and Federal Contacts

The main contacts for the State's geospatial activities and Federal agencies' representatives in the State are available on the MIP:

[<https://hazards.fema.gov/contacts/statecontacts/contacts.asp?page=CO>]

Local Geospatial Contacts

Local contacts, including those from counties, special government districts, tribes, municipal governments, and other organizations may also have useful geospatial data holdings. Contact information may be available from the state, FEMA regional office, web searches, and government link portals such as [<http://www.statelocalgov.net>].

GIS Colorado also maintains a list of local GIS contacts [<http://www.giscolorado.org>]. Their contact list includes GIS personnel on the city, county, and state levels of government as well as private industry.

State Coordination Process for Building Geospatial Partnerships

The State GIS Coordination's duties include encouraging the development of geospatial partnerships.

GIS Colorado is a private organization established to represent and foster GIS activities throughout Colorado. The object of this organization is to provide development, support, and coordination for regional GIS and related technology user groups and activities in the State of Colorado. See [<http://www.giscolorado.org>].

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Involving all Shareholders in Flood Studies

To ensure communication channels remain open between all interested parties, FEMA Region VIII will provide a FIRM project status map to all participating groups that are involved in updates to this Procedure. These maps will be distributed along with this Procedure during the regular document update process. Additionally, CWCB and UDFCD will include members of this group on invitations to attend project Discovery meetings.

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Table 1: Base Map Sources

Table 1: Base Map Sources	Option 1	Option 2	Additional
Orthophotos	Local Community Supplied Data - check on availability	National Agriculture Imagery Program (NAIP) Imagery	Black and White Digital Orthophoto Quads (DOQ)
<i>location</i>		http://datagateway.nrcs.usda.gov	http://nationalmap.gov/viewer.html
<i>notes</i>	Reference the National Digital Orthophoto Program for updated information [http://www.ndop.gov] .		
Transportation (roads, railroads, and airports)	Local Community Supplied Data - check on availability	Colorado Department of Transportation	2013 TIGER/Line Files
<i>location</i>		http://dtdapps.coloradodot.info/otis	http://www.census.gov/cgi-bin/geo/shapefiles2013/main
<i>notes</i>			
Hydrography (rivers, streams, lakes, and shorelines)	Local Community Supplied Data - check on availability	Colorado Division of Water Resources	National Hydrography Datasets (NHD)
<i>location</i>		http://water.state.co.us/DataMaps/GISandMaps/Pages/GISDownloads.aspx	http://nhd.usgs.gov/
<i>notes</i>			
Political Boundaries (county, municipal)	Local Community Supplied Data - check on availability	Colorado Department of Transportation	2013 TIGER/Line Files
<i>location</i>		http://dtdapps.coloradodot.info/otis	http://www.census.gov/cgi-bin/geo/shapefiles2013/main
<i>notes</i>	Reference the National Flood Hazard Layer (NFHL) to help identify possible edge-matching issues.		
Public Lands (national, state, and local parks, forests, etc)	Local Community Supplied Data - check on availability	Colorado Bureau of Land Management	
<i>location</i>		http://www.blm.gov/co/st/en/BLM_Programs/geographical_sciences/gis/GeospatialData.html	
<i>notes</i>			

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Table 1: Base Map Sources	Option 1	Option 2	Additional
Cadastre (parcels)	Local Community Supplied Data - check on availability	National Integrated Land System - Land Survey Information System	
<i>location</i>		http://www.geocommunicator.gov/GeoComm/Isis_home/home/	
<i>notes</i>			
Extraterritorial Jurisdiction (ETJ) Boundaries	Local Community Supplied Data - check on availability		
<i>location</i>			
<i>notes</i>			
Terrain/Topo (elevation)	Local Community Supplied Data - check on availability	National Elevation Dataset	
<i>location</i>		http://nationalmap.gov/viewer.html	
<i>notes</i>	Reference the National Digital Elevation Program for updated information [http://www.ndep.gov].		

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Table 2: Discovery Sources

Table 2: Discovery Sources	Data Source	Location
Watershed boundaries	National	See National Operating Procedure
Jurisdictional boundaries	See Table 1	See Above
Tribal land boundaries	National	See National Operating Procedure
State lands	See Table 1	See Above
Federal lands	National	See National Operating Procedure
Major roads	National	See National Operating Procedure
Streams	See Table 1	See Above
Coastal Barrier Resource Areas	N/A	Not applicable in the State of Colorado
Coordinated Needs Management Strategy	National	CNMS data is available by request from each of FEMA's Regional Service Centers (RSC). Contact information for each RSC is available at the following website: https://hazards.fema.gov/femaportal/wps/portal/usercare_guidesAndDocs#Contact List
Topographic/ bathymetric data	National	See National Operating Procedure
AAL data from HAZUS	National	See National Operating Procedure
Coverage areas for known community and Tribal risk assessment data	FEMA Regional Office	Contact FEMA Region VIII
Status of Hazard Mitigation Plans	FEMA Regional Office	Contact FEMA Region VIII See Also National Operating Procedure
Flood control structure data	National	See National Operating Procedure
Locations of stream gages	National – USGS	See National Operating Procedure
Locations of past flood claims and repetitive loss properties	National	See National Operating Procedure
Locations of clusters of Letters of Map Change	National - FEMA	See National Operating Procedure
Known flooding issues not represented on effective FIRMs or listed in Coordinated Needs Management Strategy database	Local	No Statewide Coverage

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Table 2: Discovery Sources	Data Source	Location
Areas of planned development	Local	No Statewide Coverage
Areas of land use change datasets	National – USGS	The USGS Land Cover Institute (LCI) provides access to a wide variety of land use change and land cover data sets including the National Land Cover Dataset (NLCD). Data sets can be downloaded from the USGS at http://landcover.usgs.gov/
Locations of ongoing projects or updated stream studies (e.g. highway improvements)	Local	No Statewide Coverage
Locations of wave and tide gauges	N/A	Not applicable in the State of Colorado
Locations of wind gauges	N/A	Not applicable in the State of Colorado
Proposed inland limit of the Primary Frontal Dune , if present	N/A	Not applicable in the State of Colorado
Locations of any beach nourishment or dune restoration projects	N/A	Not applicable in the State of Colorado
Comparison of preliminary stillwater elevations with effective stillwater elevations	Local	No Statewide Coverage
Available effective study data	FEMA	See National Operating Procedure
Orthophotography	National	See National Operating Procedure
Proposed discussion areas, problem areas, areas of proposed mitigation projects	FEMA Regional Office	RSC8 Geospatial Data Coordination Lead maintains records of known flooding issues on Region's communications with local communities and logs them as CNMS "ad hoc" requests
Land use and soil information	National – NRCS	The USDA Natural Resources Conservation Service (NRCS) maintains national soil data in a GIS format. Data can be downloaded from their online Web Soil Survey (http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm) or from the NRCS Data Gateway listed in the Other Resources section of this document.
Reference points to locate areas with flooding issues	FEMA Regional Office	RSC8 Geospatial Data Coordination Lead maintains records of known flooding issues on Region's communications with local communities and logs them as CNMS "ad hoc" requests
Hydraulic structures	National	See National Operating Procedure

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Table 2: Discovery Sources	Data Source	Location
Coastal structures , including flood protection structures, shoreline structures, manmade embankments, surge conveyance pathways, and shoreline change data	N/A	Not applicable in the State of Colorado
Local structure and topographic data from the existing hazard mitigation plans	Local	No Statewide Coverage
Historic inundation areas and high water marks	Local	No Statewide Coverage
Clusters or locations of Individual Assistance/Public Assistance grants and locations of grant projects completed, planned, or underway	National	See National Operating Procedure
Locations of projects and structures completed or planned for FEMA Hazard Mitigation Assistance grant programs or mitigation funds from other agencies or entities, such as the Small Business Administration	National	See National Operating Procedure
Other information on FEMA grants, as described in G&S Appendix I	National	See National Operating Procedure
Any data deficiencies identified in hazard mitigation plans	N/A	No Statewide Coverage
Information from FloodSmart on market penetration	National	See National Operating Procedure
Community Assistance Visits / Community Assistance Contacts	FEMA Regional Office	Contact FEMA Region VIII See Also National Operating Procedure
Community Rating System class information	National	See National Operating Procedure

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Table 2: Discovery Sources	Data Source	Location
Information from other Federal agencies	National	See National Operating Procedure
Information from State agencies, non-profit organizations, universities, etc.	Local	No Statewide Coverage
Current community plans, ordinances, or programs to alleviate flooding or manage stormwater	Local	No Statewide Coverage
Other known hazards with geographical boundaries (e.g. earthquake faults)	Local	No Statewide Coverage
Information on active disasters	FEMA Regional Office	http://www.fema.gov/disasters
Campgrounds, recreational areas, emergency access routes, etc.	National	See National Operating Procedure
Any other data that might be appropriate	Local	No Statewide Coverage