State Geospatial Data Coordination Procedure

MINNESOTA

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FEMA

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Minnesota

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Purpose of the Procedure

Flood insurance studies search for geospatial data during pre-scoping and scoping tasks. If needed data are not available, studies might fund the collection of new data and would like to know about other organizations that might share in these costs. Detailed information about the role of geospatial data coordination plays in studies is in the *Geospatial Data Coordination Implementation Guide*, which is available at https://hazards.fema.gov/femaportal/docs/GeoDataImplem_V3.pdf, and in *Scoping Guidelines: Pre-scoping and the Scoping Meeting*, which is available through the Regional Support Center (RSC).

Resources developed through FEMA's geospatial data coordination activities provide information about data and contacts for organizations that have geospatial data that cover large areas (like states) in which many studies are initiated. Studies can avoid wasting time with dead-end searches and cold calls by starting with these proven sources of information.

One resource is this Geospatial Data Coordination Procedure. It outlines sources of geospatial data and contact information, preferences for base map data and state geospatial participation in studies, and other useful information for the State.

If you have questions about this procedure or other geospatial data coordination resources, contact the geospatial data coordination lead in your Regional Support Center:

Brian Killen, Geospatial Data Coordination Lead
Region V Service Center
(312) 262-2283
brian.killen@starr-team.com

Default Flood Hazard Base Map for the State

The default base map for flood hazard maps for the State is an image base map (orthophoto).

Geospatial Data Coverage

Find below the information about and links to statewide (and Federal agencies' national) geospatial datasets. The list is provided to save time during pre-scoping and scoping activities when building a list of candidate geospatial datasets available for the study; it is not a prescription of datasets that must be used in a flood insurance study.

Datasets for DFIRM Production

Orthophotos

Dataset name: Farm Service Agency (FSA) Color Orthophotos 2003-2004.
Data currentness: 2003-2004, some 2010 photos are becoming available
Accuracy/Scale: Within 5 meters of the reference USGS digital orthophotos (1-meter resolution, 1991-92).
Ground sample resolution: 1 meter resolution.
Horizontal datum: NAD 83
Fee associated? No.
Available for redistribution? Yes
Dataset source: Land Management Information Center, DNR
Metadata: http://www.mngeo.state.mn.us/chouse/metadata/naip09.html
Data download: See http://www.mngeo.state.mn.us/chouse/airphoto/index.html for many options to obtain this data. The WMS service option is highly recommended, but the files are also available for download as ECW-compressed tiles and MrSID county tiles.
Dataset contact: Nancy Rader, GIS Data Coordinator, Minnesota Geospatial Information Office, 658 Cedar Street, St. Paul, MN 55155; (651) 201-2489; nancy.rader@state.mn.us
Notes: NAIP imagery has many uses, and many states participate in NAIP. NAIP is leaf-on imagery and is not cloud-free, and so the ground might be obscured. So, while NAIP (and other such imagery) can be used as a base maps, the imagery must be checked to ensure that it provides a clear view of important features on the ground for areas of significance for flooding (see Appendix C of the Geospatial Data Coordination Implementation Guide for more discussion).

Dataset name: U.S. Geological Survey Orthophotos 1991-92.
Data currentness: 1991-92.
Accuracy/Scale: USGS Digital Orthophoto standards;
http://rockyweb.cr.usgs.gov/nmpstds/doqstds.html
Ground sample resolution: 1 meter resolution
Horizontal datum: NAD 83
Fee associated? No
Available for redistribution? Yes
Dataset source: Land Management Information Center
Metadata: http://www.mngeo.state.mn.us/chouse/metadata/doq.html
Data download: WMS service:
http://www.mngeo.state.mn.us/chouse/wms/wms_image_server_description.html
Dataset contact: Nancy Rader, GIS Data Coordinator, Minnesota Geospatial Information Office, 658 Cedar Street, St. Paul, MN 55155; (651) 201-2489; nancy.rader@state.mn.us

- For more information on other sources of air photos for Minnesota, either currently available or planned, see MnGeo's Aerial Photography first-stop information webpage at http://www.mngeo.state.mn.us/chouse/airphoto/index.html For example, the Minnesota DNR provides color-infrared photography for the forested areas of the state,

and also scanned historical photography. Also, there is higher-resolution photography available for the Twin Cities metropolitan area from several different years.

- MnGeo's Statewide Elevation and Imagery Inventory: http://www.mngeo.state.mn.us/SEII/

Transportation (roads, railroads, and airports)

Dataset name: Mn/DOT Basemap Roads – All Types (county data sets)
Data currentness: Basemap roads data is current through 1/1/2004
Accuracy/Scale: The Mn/DOT Basemap Roads originally contained roadway centerlines for roads found on the USGS 1:24,000-scale quadrangle maps; updated information has been provided by Mn/DOT and local agencies.
Horizontal datum: NAD 83
Fee associated? No
Available for redistribution? Yes
Are road names part of the dataset? Yes
Dataset source: Minnesota Dept of Transportation:
Data download: http://www.dot.state.mn.us/maps/gisbase/html/county_text.html
Dataset contact: Bob Wolbeck, Mn/DOT BaseMap Coordinator (Data Content), Geographic Information and Mapping Section, Office of Transportation Data and Analysis, Mn Department of Transportation, 395 John Ireland Blvd, Mail Stop 450, St. Paul, MN 55155. Phone: 651-215-1973; gisinfo@dot.state.mn.us
Notes: These are are also viewable using an interactive mapping tool at: http://www.dot.state.mn.us/maps/gisweb/

Dataset name: Mn/DOT Basemap Railroads, Runways, Navigable Waterways (3 statewide data sets)
Data currentness: These datasets are current through early 2003
Accuracy/Scale: These layers contain railroad and runway arcs originally found on the USGS 1:24,000-scale quadrangle maps, and navigable waterway arcs originally provided by the U.S. Army Corps of Engineers. Updated information has been provided by Mn/DOT and local agencies.
Horizontal datum: NAD 83.
Fee associated? No.
Available for redistribution? Yes
Are names part of the datasets? Yes
Dataset source: Minnesota Dept of Transportation
Data download: http://www.dot.state.mn.us/maps/gisbase/html/statewide.html
Dataset contact: Bob Wolbeck, Mn/DOT BaseMap Coordinator (Data Content), Geographic Information and Mapping Section, Office of Transportation Data and Analysis, Mn Department of Transportation, 395 John Ireland Blvd, Mail Stop 450, St. Paul, MN 55155. Phone: 651-215-1973; gisinfo@dot.state.mn.us
Notes: These are are also viewable using an interactive mapping tool at http://www.dot.state.mn.us/maps/gisweb/ . The dataset dates on the download page (1/10/06) indicate that the data may be newer than indicated by the metadata.

Dataset name: Mn/DOT Official County Highway Map – Georeferenced Image files

Data currentness: County Highway Map data is 2002 for Mn DOT core concerns (roads, railroads, airports, and city boundaries); all other map features (farms, industrial sites, recreation site, pipelines, high voltage transmission lines, etc.) are 1979.
Accuracy/Scale: The DOT Basemap Roads contain roadway centerlines for roads found on the USGS 1:24,000-scale quadrangle maps, with updates from Mn/DOT and local agencies. The DOT Official County Highway Map is produced by combining GIS layers and exporting the map, creating an image product. The 2002 Map Series images were georeferenced.
Horizontal datum: NAD 83.
Fee associated? No.
Available for redistribution? Yes
Are road names part of the dataset? Image file only – names are on image.
Dataset source: Mn/Dept of Transportation and LMIC
Data Download: http://www.dot.state.mn.us/maps/gisbase/html/statewide.html
Dataset contact: Richard Schlosser, Geographic Informaiton and Mapping Unit, Mn Dept of Transportation, MN 642, Transportation Building, John Ireland Blvd, St. Paul, MN, 55155. 651-296-5131 richard.schlosser@state.mn.us
Notes: Individual GIS Layers used to create these maps are available from Mn/DOT Basemap page: http://www.dot.state.mn.us/tda/basemap/index.html
**PDF versions of the County Highway Map and City Highway Map sheets updated to 2006 are available from: http://www.dot.state.mn.us/tda/html/GIM.html . There are no corresponding downloadable georeferenced image maps.

Dataset name: The Lawrence Group (TLG) Street Centerlines and Address Ranges.
Data currentness: 12/1/2006
Accuracy/Scale: This street centerline and address range dataset for the Twin Cities Metropolitan Area and beyond includes the Minnesota counties of Anoka, Benton, Blue Earth, Carlton, Carver, Chisago, Dakota, Goodhue, Hennepin, Isanti, LeSueur, McLeod, Morrison, Olmsted, Ramsey, Rice, St. Louis, Scott, Sherburne, Stearns, Washington and Wright; as well as the western portions of the three Wisconsin counties of Pierce, Polk, and St. Croix. Dataset was created using multiple reference sources – see metadata.
Horizontal datum: NAD 83.
Fee associated? MetroGIS Endorsed dataset – available via license only
Available for redistribution? No
Are road names part of the dataset? Yes
Dataset source: The Lawrence Group and MetroGIS
Metadata: http://www.datafinder.org/metadata/tlg_roads.htm
Data download (via license only):
http://www.metrogis.org/data/datasets/street_centerlines/order_info/index.shtml
Dataset contact: Non-MN Public Users: Jim Maxwell VP - GIS Services, The Lawrence Group, 1328 Helmo Avenue North, Oakdale, Minnesota 55128, Phone: 612-676-3950, max@lawrencegroup.com
Minnesota Public Users: GIS Administrative Assistant, Metropolitan Council, 390 Robert Street North, St. Paul, Minnesota 55101-1805, 651-602-1363, gis_contact@metc.state.mn.us

Notes: Same date, same distribution restrictions, see also: TLG Landmarks Data Set http://www.datafinder.org/metadata/tlg_landmarks.htm

Notes: Some local road data is submitted to Mn/DOT for use in updating the state BaseMap data. For information on other county Transportation GIS holdings contact the counties directly. For county GIS contacts see http://www.mngeo.state.mn.us/cty_contacts.html. County E-911 activities may also have data.

Hydrography (rivers, streams, lakes, and shorelines)

Dataset name: High-Resolution National Hydrography Dataset (NHD) for Minnesota
Data currentness: Streams linework originally based on 1:24,000-scale USGS quadrangle maps; lakes linework based on National Wetlands Inventory; updates are ongoing; last updates 1/30/2007 (MN site)
Accuracy/Scale: 1:24,000-scale; based on linework on USGS 1:24,000-scale quadrangle maps; lakes linework based on NWI open water and fringe wetlands categories; streams and lakes are integrated; wetlands (swamp/marsh category of waterbody) not included. Updates made by referring to various sources incl. 1991 DOQ and 2003 FSA imagery, local information. In Minnesota the DNR 24K Streams and Lakes layers (described below) became the basis for the high-resolution NHD.
Horizontal datum: NAD 83.
Fee associated? No.
Available for redistribution? Yes
Are hydrography names part of the dataset? Yes
Dataset source: United States Geological Survey (& Mn partners)
Metadata: (Mn): http://www.mngeo.state.mn.us/chouse/metadata/nhd_24k.html
Data Download (USGS): http://nhd.usgs.gov
Data Download (Mn): http://geoserver2.lmic.state.mn.us/nhdgeo_minn/viewer.htm
Dataset contact: (Mn): Susanne Maeder, Land Management Information Center, Mn Dept of Administration, 658 Cedar Street, Suite 300, St. Paul, MN 55155 651-201-2488 susanne.maeder@state.mn.us

Dataset name: DNR 24K Streams; DNR 24K Lakes;
Data currentness: Various
Accuracy/Scale: The DNR 24K Streams data is 1:24,000-scale scale captured from USGS seven and one-half minute quadrangle maps. The DNR 24K Lakes are derived from the National Wetlands Inventory (NWI) polygons (open water and fringe wetlands – approximating Circular 39 category 5 wetlands) and MnDOT Basemap, and integrated with the DNR 24K Streams layer. Southeastern Minnesota streams linework was updated by DNR Fisheries to realign streams to the 1991 DOQ.
Horizontal datum: NAD 83.
Fee associated? No.
Available for redistribution? Yes
Are hydrography names part of the dataset? Partial
Dataset source: Minnesota DNR

Metadata: http://deli.dnr.state.mn.us/metadata/strm_baseln3.html – DNR 24K Streams
http://deli.dnr.state.mn.us/metadata/lake_openwpy3.html – DNR 24K Lakes
Data download: http://deli.dnr.state.mn.us/index.html
Dataset contact: Hal Watson (Data Content), GIS Database Administrator, Minnesota DNR-MIS Bureau, 500 Lafayette Road, Saint Paul, MN 55155; (651) 259-5508; hal.watson@dnr.state.mn.us

Dataset name: Public Waters Inventory (PWI) Basin Delineations
Data currentness: not stated
Accuracy/Scale: Based on NWI Open Water and fringe wetland features, also based on DNR legal Public Waters Inventory maps – DNR used NWI, imagery, etc to approximate named, mapped wetland and lake features on DNR Public Waters Inventory base maps.
Horizontal datum: NAD 83
Fee associated? No.
Available for redistribution? Yes
Are hydrography names part of the dataset? Yes
Dataset source: Minnesota DNR
Metadata: http://deli.dnr.state.mn.us/metadata/pwi_lakepy3.html
Data download: http://deli.dnr.state.mn.us/index.html
Dataset contact: Hal Watson (Data Content), GIS Database Administrator, Minnesota DNR-MIS Bureau, 500 Lafayette Road, Saint Paul, MN 55155; (651) 259-5508; hal.watson@dnr.state.mn.us

Dataset name: National Wetlands Inventory (NWI) Wetlands
Data currentness: 1970s and1980s
Accuracy/Scale: Compiled from multiple sources onto a USGS 1:24,000-scale quadrangle map base.
Horizontal datum: NAD 83
Fee associated? No
Available for redistribution? Yes
Are hydrography names part of the dataset? No
Dataset source: U S Fish and Wildlife Service. National Data Download: http://www.fws.gov/wetlands/Data/DataDownload.html
Minnesota Data Download: Minnesota DNR
Metadata: http://deli.dnr.state.mn.us/metadata/wetl_nwipy3.html
Data download: http://deli.dnr.state.mn.us/index.html
Dataset contact: (Mn) Hal Watson (Data Content), GIS Database Administrator, Minnesota DNR-MIS Bureau, 500 Lafayette Road, Saint Paul, MN 55155; (651) 259-5508; hal.watson@dnr.state.mn.us
Notes: There are issues with NWI in NE part of the state; some incorrect interpretations have been noted.

Political boundaries (county, municipal)

Dataset name: 2000 Minnesota Counties
Data currentness: 2000
Accuracy/Scale: From U.S. Census TIGER data
Horizontal datum: NAD 83

Fee associated? No.
Available for redistribution? Yes.

Dataset source: Land Management Information Center;
http://www.lmic.state.mn.us/chouse/metadata/counties.html
Dataset contact: Nancy Rader, GIS Data Coordinator, Minnesota Geospatial Information Office, 658 Cedar Street, St. Paul, MN 55155; (651) 201-2489; nancy.rader@state.mn.us
Notes: These county boundaries match Census data.

Dataset name: Minnesota County Boundaries
Data currentness: Variable
Accuracy/Scale: Variable; 1:24,000-scale
Horizontal datum: NAD 83
Fee associated? No
Available for redistribution? Yes
Dataset source: Minnesota DNR
Metadata: http://deli.dnr.state.mn.us/metadata/bdry_counpy2.html
Data download: http://deli.dnr.state.mn.us/index.html
Dataset contact: Hal Watson (Data Content), GIS Database Administrator, Minnesota DNR-MIS Bureau, 500 Lafayette Road, Saint Paul, MN 55155; (651) 259-5508; hal.watson@dnr.state.mn.us
Notes: These county boundaries were created from several source data sets and are widely used to tile DNR data and other Minnesota GIS data sets.

Dataset name: Mn/DOT BaseMap - County.
Data currentness: Variable.
Accuracy/Scale: Variable; 1:24,000-scale
Horizontal datum: NAD 83
Fee associated? No.
Available for redistribution? Yes.
Dataset source: Minnesota Department of Transportation;
http://www.dot.state.mn.us/tda/basemap/metadata/County.htm
Dataset contact: Bob Wolbeck, Mn/DOT BaseMap Coordinator (Data Content), Geographic Information and Mapping Section, Office of Transportation Data and Analysis, Mn Department of Transportation, 395 John Ireland Blvd, Mail Stop 450, St. Paul, MN 55155. Phone: 651-215-1973; gisinfo@dot.state.mn.us
Notes: These county boundaries were digitized from USGS topographic quadrangle maps and are used to tile Mn/DOT data.

Dataset name: Minnesota Minor Civil Division Boundaries (minor civil divisions are cities, townships and unorganized territories)
Data currentness: 2003.
Accuracy/Scale: Variable (see metadata).
Horizontal datum: NAD 83.
Fee associated? No.
Available for redistribution? Yes.

Dataset source: Land Management Information Center;
http://www.mngeo.state.mn.us/chouse/metadata/mcd2003.html

Dataset contact: Nancy Rader, GIS Data Coordinator, Minnesota Geospatial Information Office, 658 Cedar Street, St. Paul, MN 55155; (651) 201-2489; nancy.rader@state.mn.us

Notes: For other statewide political boundaries (e.g., school districts, legislative districts, census geography), see:
http://www.mngeo.state.mn.us/chouse/metalong.html#admin or for the Twin Cities metropolitan area, see:
http://www.datafinder.org/catalog/index.asp#Administrative%20and%20Political%20Boundaries

Publicly owned lands (national, state, and local parks, forests, etc)

Dataset name: State Land Ownership (separate layers showing Land Administration for: County; Ecological Services; Fisheries; Forestry; Parks and Recreation; Small Holdings; Trails and Waterways; and Wildlife, as well as DNR Fisheries Acquisitions).
Data currentness: 2003.
Accuracy/Scale: 1:24,000-scale; horizontal position accuracy variable; at its least accurate, the data is based upon points derived from manual digitizing of PLS section corners.
Horizontal datum: NAD 83.
Fee associated? No.
Available for redistribution? Yes.
Dataset source: Minnesota DNR; See "Land Ownership" section at
http://deli.dnr.state.mn.us/data_catalog.html
Dataset contact: Hal Watson (Data Content), GIS Database Administrator, Minnesota DNR-MIS Bureau, 500 Lafayette Road, Saint Paul, MN 55155; (651) 259-5508;
hal.watson@dnr.state.mn.us

Dataset name: 1983 Minnesota Public Lands.
Data currentness: Some 1983 but mostly earlier.
Accuracy/Scale: Highly variable; see metadata and report introduction.
Horizontal datum: NAD 83.
Fee associated? No.
Available for redistribution? Yes.
Dataset source: Land Management Information Center;
http://www.mngeo.state.mn.us/chouse/metadata/pub_own.html
Dataset contact: Nancy Rader, GIS Data Coordinator, Minnesota Geospatial Information Office, 658 Cedar Street, St. Paul, MN 55155; (651) 201-2489; nancy.rader@state.mn.us

Notes: For more resources, see M's Land Ownership first-stop information webpage at: http://www.mngeo.state.mn.us/chouse/land_own.html, especially the Statewide Inventories page: http://www.mngeo.state.mn.us/chouse/land_own_general.html and the Data Sources for Property Boundaries page:

http://www.mngeo.state.mn.us/chouse/land_own_property.html#data. Many county websites have information on publicly owned lands.

Public land survey system (PLSS) (township and section lines)

Dataset name: Control Point Generated PLS – polygons.
Data currentness: Variable.
Accuracy/Scale: 1:24,000-scale; The positional accuracy of the data varies greatly, ranging from 40 feet to sub-meter accuracy in some areas.
Horizontal datum: NAD 83.
Fee associated? No.
Available for redistribution? Yes.
Dataset source: Minnesota DNR; http://deli.dnr.state.mn.us/metadata/pls_fortypy3.html
Dataset contact: Hal Watson (Data Content), GIS Database Administrator, Minnesota DNR-MIS Bureau, 500 Lafayette Road, Saint Paul, MN 55155; (651) 259-5508; hal.watson@dnr.state.mn.us

Dataset name: Public Land Survey System: Sections (TRS), Minnesota.
Data currentness: Between 1976 and 1994.
Accuracy/Scale: 1:100,000; The positional accuracy is no better than the source USGS 1:100,000-scale topographic maps.
Horizontal datum: NAD 83.
Fee associated? No.
Available for redistribution? Yes.
Dataset source: Land Management Information Center; http://www.lmic.state.mn.us/chouse/metadata/trs.html
Dataset contact: Nancy Rader, GIS Data Coordinator, Minnesota Geospatial Information Office, 658 Cedar Street, St. Paul, MN 55155; (651) 201-2489; nancy.rader@state.mn.us

Notes: The Control Point Generated PLS is the most accurate data source, but if the quarter-quarter section detail is too much, the TRS provides a useful statewide file.

Cadastral (parcels)

Dataset name: MetroGIS Regional Parcel Dataset – (7 Metropolitan Counties: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, Washington)
Data currentness: 1/1/2007. Updated Quarterly; tax parcel polygon and point data provided by the seven named counties. Data is avilable through license only.
Accuracy/Scale: Varies by county; see metadata (Lineage and horizontal positional accuracy) for the 7 county datasets – see http://www.datafinder.org/catalog/index.asp#Land%20Ownership. Tax parcel layers provided by the counties; combined into a single layer by Metropolitan Council; county data sets are not edgematched together.
Horizontal datum: NAD 83.
Fee associated? Depends on the requestor. MetroGIS license is required. (See Note)
Available for redistribution? No

Dataset source: Metropolitan Council (MetroGIS) and the counties of Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, Washington.
http://www.datafinder.org/metadata/metrogis_regional_parcels.htm
Dataset contact: Mark Kotz, GIS Database Administrator, Metropolitan Council, 390 Robert Street North, St. Paul, Minnesota, 55101, 651-602-1644, mark.kotz@metc.state.mn.us
Notes: This is a licensed dataset. The licensing and data acquisition procedures differ depending upon the type of organization requesting the datasets. Qualifying governmental units and academic interests may obtain the dataset without fee directly from MetroGIS. More information about licensing for these organizations can be found at http://www.metrogis.org/data/datasets/parcels/public/index.shtml. All other organizations and individuals must obtain the dataset directly from each county. In most cases a fee is required.

Dataset name: Statewide Parcel Map Inventory (SPMI): Inventory of the current status of digital parcel data throughout Minnesota. There is no geospatial parcel data at this site, but contact information for inventory respondents is provided.
Inventory currentness: 2004
Accuracy/Scale: N/A.
Horizontal datum: N/A.
Fee associated? N/A.
Available for redistribution? N/A.
Dataset source: Minnesota Department of Transportation, Land Management Unit – and Land Management Information Center, Minnesota Department of Administration. See: http://www.mngeo.state.mn.us/chouse/SPMI/Reporting/
Dataset contact: Jay Krafthefer – Project Principal, Minnesota Department of Transportation, 395 John Ireland Blvd, 651-366-3463, jay.krafthefer@state.mn.us
Notes: Inventory will be updated in 2007. Contact information for each couny is provided within the county report. See also state GIS County Contact List: http://www.mngeo.state.mn.us/cty_contacts.html

Terrain (elevation)

Dataset name: Minnesota 1:24,000-scale Digital Elevation Model, statewide.
Data currentness: Unknown.
Accuracy/Scale: 1:24,000-scale; 30 Meter Resolution
Vertical datum: NGVD 29.
Fee associated? No.
Available for redistribution? Yes.
Dataset source: Land Management Information Center;
http://www.mngeo.state.mn.us/chouse/metadata/dem24ras.html
Dataset contact: Nancy Rader, GIS Data Coordinator, Minnesota Geospatial Information Office, 658 Cedar Street, St. Paul, MN 55155; (651) 201-2489; nancy.rader@state.mn.us
Notes: This 30 Meter DEM was created from the USGS 1:24,000-scale scale Level 2 DEMs for the state. There are three quadrangles known to be Level 1 DEM data: Town Line Lake (q1925), Grand Portage (q1261), and Grand Portage OE N (q1161).

For more information on other sources of elevation data for Minnesota, either currently available or planned, including local LIDAR projects, especially in the Red River Basin, see: MnGEO's Statewide Elevation and Imagery Inventory: http://www.mngeo.state.mn.us/SEII/

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 on accessing the Discovery Data Repository are given in the national Geospatial Data Coordination Procedure document.

Table 1 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).

Table 1. Discovery Data Resources

Data	Data Source	Location
Watershed boundaries	National	Discovery Data Repository
Jurisdictional boundaries	National	Discovery Data Repository
Tribal land boundaries	National	Discovery Data Repository
State lands	Regional/State/Local	
Federal lands	National	Discovery Data Repository
Major roads	Regional/State/Local National	Discovery Data Repository
Streams	Regional/State/Local National	Discovery Data Repository
Coastal Barrier Resource Areas	National	Discovery Data Repository
Coordinated Needs Management Strategy	National	See National Operating Procedure

Data	Data Source	Location
Topographic/ bathymetric data	National	See National Operating Procedure
AAL data from HAZUS	State	https://starrtrac.pbsjteamaccess.com/library/AAL/Forms/AllItems.aspx Contact the RSC if help is needed retrieving the data.
Coverage areas for known community and Tribal risk assessment data	Regional/State/Local	
Status of Hazard Mitigation Plans	Regional	Richard.Foody@fema.dhs.gov
Flood control structure data	National	See National Operating Procedure
Locations of stream gages	National	Discovery Data Repository
Locations of past flood claims and repetitive loss properties	CIS Report	Contact the geospatial data coordination lead at your RSC referenced earlier in this document.
Locations of clusters of Letters of Map Change	National	See National Operating Procedure
Known flooding issues not represented on effective FIRMs or listed in Coordinated Needs Management Strategy database	Regional/State/Local	
Areas of planned development	Regional/State/Local	
Areas of land use change datasets	National Regional/State/Local	
Locations of ongoing projects or updated stream studies (e.g. highway improvements)	Regional/State/Local	
Locations of wave and tide gauges	National	N/A
Locations of wind gauges	National	N/A
Proposed inland limit of the Primary Frontal Dune, if present	Regional/State/Local	N/A
Locations of any beach nourishment or dune restoration projects	SLOSH Zones	N/A
Comparison of preliminary stillwater elevations with effective stillwater elevations	Regional/State/Local	

Data	Data Source	Location
Available effective study data	National	See National Operating Procedure
Orthophotography	National	See National Operating Procedure
Proposed discussion areas, problem areas, areas of proposed mitigation projects	Regional/State/Local	
Land use and soil information	Land Use Soils	 See National Operating Procedure
Reference points to locate areas with flooding issues	Regional/State/Local	
Hydraulic structures	Culverts Levees, Dams, Bridges	Regional/State/or Local See National Operating Procedure
Coastal structures, including flood protection structures, shoreline structures, manmade embankments, surge conveyance pathways, and shoreline change data	Regional/State/Local	N/A
Local structure and topographic data from the existing hazard mitigation plans	Regional/State/Local	
Historic inundation areas and high water marks	Historic Riverine Inundation Areas Storm Surge Inundation Areas High Water Marks	See National Operating Procedure See National Operating Procedure Regional/State/ or Local
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	Regional/State/Local	HMA Tracking Tool

Data	Data Source	Location
Any data deficiencies identified in hazard mitigation plans	Regional/State/Local	
Information from FloodSmart on market penetration	FEMA	http://www.floodsmart.gov/floodsmart/
Community Assistance Visits / Community Assistance Contacts	National	Discovery Data Repository
Community Rating System class information	National	See National Operating Procedure
Information from other Federal agencies	National Only	See National Operating Procedure
Information from State agencies, non-profit organizations, universities, etc.	Regional/State/Local	
Current community plans, ordinances, or programs to alleviate flooding or manage stormwater	Regional/State/Local	
Other known hazards with geographical boundaries (e.g. earthquake faults)	Tsunami Landslide Volcanic Eruptions Wildfire	Discovery Data Repository Discovery Data Repository Discovery Data Repository Discovery Data Repository
Information on active disasters	Regional/State/Local	Rusty.Rickart@fema.dhs.gov
Campgrounds, recreational areas, emergency access routes, etc.	National	Discovery Data Repository
Federal Grants Pre /Post Disaster	Regional	Greg.Tatara@fema.dhs.gov
Critical Facilities	Regional	Lee.Traeger@fema.dhs.gov

Data Distribution Process for State Data

Almost all state government data is considered public data under the provisions of the Minnesota Data Practices Act and is, therefore, available at little or no cost.

The primary mechanism for redistribution of state-generated geospatial data is through browser-based web services, the most important of which can be accessed through the Minnesota Geographic Data Clearinghouse (MGDC). Redistribution policy, use limitations and warrantee information is provided in metadata.

- Access the clearinghouse at: http://www.mngeo.state.mn.us/chouse/
- Questions or comments should be sent to: clearing.house@state.mn.us

The MetroGIS program, representing the Twin Cities Metropolitan Region, provides many data sets at no cost through the Clearinghouse, but does distribute a selection of shared data under license to members of the cooperative. County Governments establish their own data distribution policies and those vary across the state.

Federal Nationwide Geospatial Data Holdings

Information about nationwide holdings and programs of Federal agencies is available from the Mapping Information Platform web site at https://hazards.fema.gov/femaportal/docs/ProgFacts.pdf.

Finding and Accessing Other Existing Geospatial Data

Find below the information about and links to ways of searching for additional geospatial data available for the State. These capabilities can be useful for finding geospatial data other than the statewide and Federal data listed above, including those of special government districts, counties and parishes, municipalities, tribes, universities, and other organizations.

Clearinghouses and Inventories for the State

The Minnesota Geographic Data Clearinghouse (MGDC) serves as a convenient source for geographic data, ranging from simple state maps to complex geospatial data needed to power Geographic Information Systems.

Coordinated by the Minnesota Geospatial Information Office, the MGDC provides access to a wide variety of sources making it your "First Stop" for geographic data for Minnesota. MGDC partners include the USGS, Bureau of the Census, Minnesota's DNR, DOT and PCA, the MetroGIS program and many others.

Access Minnesota's Clearinghouse at http://www.mngeo.state.mn.us/chouse/

Important features of the Clearinghouse include:

- GeoGateway: a tool to help you quickly search for geographic data about Minnesota and its neighboring regions. http://geogateway.state.mn.us
- Department of Natural Resources Data Deli: http://deli.dnr.state.mn.us/index.html
- Metropolitan Council of the Twin Cities DataFinder: http://www.datafinder.org/catalog/
- Legislative Coordinating Commission Geographic Information Services: http://www.gis.leg.mn/

- Statewide Elevation and Imagery Inventory: Sponsored by FEMA, the Minnesota SEII is a community effort designed to gather and share information about high density elevation and digital aerial photography data in and around the state. http://www.mngeo.state.mn.us/SEII/
- Statewide Parcel Map Inventory: SPMI provides a snapshot of digital parcel data development across Minnesota. http://www.mngeo.state.mn.us/chouse/SPMI/

National Digital Orthophoto Program (NDOP) and National Digital Elevation Program (NDEP) Tracking Systems

These systems allow the search of orthophoto and elevation project information entered by federal and other organizations. To access the NDOP system, go to the NDOP web site at http://www.ndop.gov and follow the link "Project Tracking." For the NDEP system, go to the NDEP web site at http://www.ndep.gov and follow the link "Project Tracking."

TED Query Tool

This tool provides access to information about Federal, state, and local government agency and private sector data holdings gathered by the Census Bureau. It is available through the geospatial data coordination lead at the Regional Support Center.

Geospatial One-Stop

Geospatial One-Stop, available at http://www.geodata.gov, provides access to geospatial data from many sources. Two parts of the site that should be investigated are the "data categories" for existing data and the "marketplace" for data that are planned or in-work and for potential partners for new data collection activities.

Notes: Because of Geospatial One-Stop (GOS) metadata publishing requirements that were not part of the original FGDC geospatial metadata content standard, the GOS search results mischaracterize many Minnesota GIS datasets that are freely downloadable as 'offline data' or 'documents'. When using GOS to find data produced in Minnesota, search on 'All Formats' and read the FULL metadata very carefully to determine its availability.

As an alternative, Minnesota recommends searching for the data using the FGDC Metadata Clearinghouse Search or the Minnesota GeoGateway Search tool at http://geogateway.state.mn.us/index.html. See also the data catalog list outlined under 'Clearinghouses and Inventories'. GOS can be used to supplement these searches to find data produced by the federal government or by neighboring states.

Working with People

Useful State and Federal Contacts

The main contacts for the State's geospatial activities and Federal agencies' representatives in State are available on the Mapping Information Platform web site at https://hazards.fema.gov/contacts/statecontacts/contacts.asp?page=MN

Additional useful contacts for the State can be found at Minnesota Governor's Council on Geographic Information http://www.gis.state.mn.us/Members/index.htm.

Involving the State's Geospatial Coordinator in Flood Studies

In order to participate in the FEMA flood hazard mapping effort, please contact:

State National Floodplain Insurance Program (NFIP) Coordinator
Ceil Strauss, CFM
Minnesota Dept Natural Res. - Waters
500 Lafayette Road
St. Paul, MN 55155-4032
651-259-5713 FAX 651-296-0445
ceil.strauss@dnr.state.mn.us
or
State Flood Mapping Coordinator
Suzanne Jiwani
651-259-5681 FAX 651-296-0445
suzanne.jiwani@dnr.state.mn.us

State Coordination Process for Building Geospatial Partnerships

Minnesota Governor's Council on Geographic Information http://www.gis.state.mn.us (651) 201-2491: The mission of the council is to promote efficient and effective use of geographic information in Minnesota. The council makes recommendations in areas including, but not limited to: policies, institutional arrangements, standards, education, and stewardship. Administrative support for the council is provided by the Land Management Information Center. Much of the council's work is accomplished through its committees: Digital Elevation; Emergency Preparedness; Geospatial Architecture (Standards); Hydrography; Land Records Modernization; Outreach; Strategic Plan.

Minnesota GIS/LIS Consortium: http://www.mngislis.org/: The Minnesota GIS/LIS Consortium is a forum for communicating information to, and improving cooperation among, those interested in Geographic Information Systems (GIS) and Land Information Systems (LIS) in the State of Minnesota. Members include GIS users in local, state and federal government agencies; business and industry; and educational institutions. The

Consortium hosts an annual statewide conference, establishes committees that deal with specific GIS/LIS-related issues, and publishes a quarterly newsletter.

Finding Local Geospatial Contacts

Local contacts, including those from special government districts (for example, a regional planning commission); counties, parishes, or equivalent governments; tribes, municipal governments; and other organizations (for example, local universities) also have geospatial data that can help a flood insurance study. Contact information is available from the FEMA archive and web searches at government link portals such as http://www.statelocalgov.net.

The State also maintains information about local geospatial contacts:

- County GIS Contacts: http://www.mngeo.state.mn.us/cty_contacts.html
- Local government websites, including city, county, township, associations, local government programs, special districts and regional government : http://www.state.mn.us/portal/mn/jsp/content.do?subchannel=-536879913&id=-8494&agency=NorthStar
- Tribal websites: http://www.state.mn.us/portal/mn/jsp/content.do?subchannel=-536888182&id=-8494&agency=NorthStar
- Minnesota Regional Development Organizations: http://www.mrdo.org/
- MetroGIS – is a collaborative organization representing over 250 local governments and other organizations established to foster sharing of geospatial data in the seven-county Twin City Metropolitan Area of Minnesota. http://www.metrogis.org
- University of Minnesota Remote Sensing and Geospatial Analysis Lab: http://rsgl.gis.umn.edu/
- Regional GIS users groups:
- Southeast Minnesota GIS Users Group: http://www.co.goodhue.mn.us/ (click on Departments, Land Use Management, GIS)
- Southwest Minnesota GIS Users Group: http://www.smsu.edu/swmngis/

Provide Feedback on This Procedure

When you find information in this Procedure or in other FEMA or State resources that are outdated, please tell the geospatial data coordination lead in the Regional Support Center what was wrong and the correct information (if you know it). Use the contact information for the lead listed in the section Purpose of the Procedure.

The lead will use your feedback to update and redistribute this Procedure.