

State Geospatial Data Coordination Procedure

Hawaii

Table of Contents

Table of Contents	1
Purpose of the Procedure.....	1
Default Flood Hazard Base Map for the State.....	2
Geospatial Data Coverage	3
Major State Holdings	3
Orthophotos	3
Transportation (roads, railroads, and airports)	4
Hydrography (rivers, streams, lakes, and shorelines).....	4
Political boundaries (county, municipal).....	5
Publicly owned lands (national, state, and local parks, forests, etc).....	5
Cadastral (parcels)	5
Extraterritorial jurisdiction (ETJ) boundaries.....	6
Terrain (elevation).....	6
Data Distribution Process for State Data.....	6
Federal Nationwide Geospatial Data Holdings.....	6
Finding and Accessing Other Existing Geospatial Data	6
Clearinghouses and Inventories for the State.....	7
National Digital Orthophoto Program (NDOP) and National Digital Elevation Program (NDEP) Tracking Systems	8
TED Query Tool	8
Geospatial One-Stop	8
Working with People.....	8
Useful State and Federal Contacts	8
Involving the State’s Geospatial Coordinator in Flood Studies.....	8
State Coordination Process for Building Geospatial Partnerships.....	8
Finding Local Geospatial Contacts	9
Provide Feedback on This Procedure	9
Other Useful Information	9
State of Hawaii I-Plan.....	9

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 geospatial data coordination plays in studies is in the *Geospatial Data Coordination Implementation Guide*, which is available at

State Geospatial Data Coordination Procedure

<<https://hazards.fema.gov/femaportal/docs/GeoDataImplem.pdf>>, and in *Scoping Guidelines: Pre-scoping and the Scoping Meeting*, which is available through the Regional Management Center (RMC).

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 interested. 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 Management Center:

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We appreciate the help of those who reviewed this document, in particular

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Default Flood Hazard Base Map for the State

The preferred basemap for DFIRMs in Hawaii is the same as for all DFIRMs nationwide: recent, black/white, county-wide orthophotography data provided by local government to FEMA as public domain data. The resolution must be 1 meter resolution or better. If not available, locally provided vector basemap data or USGS Digital Orthophoto Quarter Quad imagery are used.

DFIRMs in Kauai, American Samoa, and the Commonwealth of the Northern Mariana Islands (CNMI) have utilized Quickbird satellite imagery purchased from DigitalGlobe under a government license that allows the data to be in the public domain. For the Hawaii County, Maui County and Guam, a recent change in the DigitalGlobe licensing structure dictates that the imagery only be shared among the respective local government

State Geospatial Data Coordination Procedure

departments and with the civil government offices of the respective states. The original QuickBird imagery will not be distributed to the public, the military, or Department of Defense, or used for any commercial purposes. FEMA will distribute the digital DFIRM PNG files to the public on the Map Service Center, along with the other DFIRM GIS data layers, but any distribution of the digital data will not include the original imagery files received from DigitalGlobe when the DFIRMs become effective. Inquiries for the imagery will be directed to DigitalGlobe or to the local community.

Geospatial Data Coverage

Find below 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.

Major State Holdings

Orthophotos

Dataset name: EMERGE Statewide Digital Ortho Quarter Quads (DOQQ's)

Data currentness: 1999-2003

Accuracy/Scale: 1:12,000

Ground sample resolution: 1 meter false color digital infrared

Horizontal datum: NAD 83

Fee associated? No

Available for redistribution? Yes

Dataset source: NRCS Hawaii

Dataset contact: Pat Shade, NRCS Hawaii, Pat.shade@hi.usda.gov, 808-541-2600

Notes: USDA/NRCS had contracted with EMERGE to fly the main eight Hawaiian Islands and to process the data to ortho spatial quality. NRCS owns this data, but makes it available to the geospatial community in Hawai'i in MrSID format. There are missing tiles in this dataset. About 75% of the DOQQ's for the State of Hawaii is covered by EMERGE data.

Dataset name: Hawaii IKONOS Consortium Imagery

Data currentness: 2005

Accuracy/Scale: 1:12,000

Ground sample resolution: 1 meter natural color imagery and 4 meter, 4-band multispectral imagery

Horizontal datum: NAD 83

Fee associated? Yes

Available for redistribution? Restricted

Dataset source: Hawaii IKONOS Consortium; <http://www.hinhp.org/website/hic/hic.asp>

Dataset contact: Shannon McElvaney, Hawai'i Natural Heritage Program Center for Conservation Research and Training, mcelvane@hawaii.edu, 808-587-8600

State Geospatial Data Coordination Procedure

Notes: Imagery for of the state (by 25km² tiles for the main 8 islands). The consortium is a cost saving effort designed to achieve a consistent statewide imagery dataset. Federal, State, nonprofit, and even commercial organizations join the consortium at certain levels of investment and then are given access to all of the available purchased data. The Hawai'i Natural Heritage Program is coordinating this effort. They report that as of 5/26/03, some 162 tiles of 771 for the main 8 Hawaiian Islands have either been purchased have been spoken for. Each tile costs \$2,264 including both 1 meter and 4 meter data and all fees and taxes.

Transportation (roads, railroads, and airports)

Dataset name: Hawaii and Maui County Street Centerline from Hawaii Statewide GIS Program

Data currentness: 2005

Accuracy/Scale: 1:100,000

Horizontal datum: NAD 83

Fee associated? No

Available for redistribution? Yes,

Are road names part of the dataset? Yes

Dataset source: <http://www.hawaii.gov/dbedt/gis/download.htm>

Dataset contact: Hawaii: County of Hawaii, Planning Department, Street Addressing, Section, Aupuni Center, 101 Pauahi Street, Suite 3, Hilo, Hawaii 96720; (808) 961-8469
Maui: Bill Medeiros, Maui County GIS, 2145 Kaohu Street, Wailuku, HI 96793; (808) 270-7518; mauigis@maui.net

Notes: (1) Hawaii County street centerline data was originally downloaded from the Office of Planning's website (Roads - Major, TIGER and Roads - Other, TIGER). Rectified by the County of Hawaii, Planning Dept., 2003. The County of Hawaii's Tax Assessor Parcel Data layer was used as a background to define its location. Street names were researched using an official list compiled by the Planning Dept. and cross-referenced to County Council resolutions, Subdivision files, and The Ready Mapbook of East and West Hawaii.

(2) The Maui street centerline data was developed by Maui County GIS staff based on data originally created by the Maui County Police Department (MPD). Information proprietary to MPD was removed and road centerlines and road names were edited with information from various sources, including the Maui County Dept. of Public Works and Environmental Management, Maui County Real Property Tax Division (Dept. of Finance), subdivision maps, TMK plats, satellite imagery and field checks by Maui County GIS staff with vehicle-mounted GPS.

Hydrography (rivers, streams, lakes, and shorelines)

Dataset name: DAR Streams from Hawaii Statewide GIS Program

Data currentness: 2005

Accuracy/Scale: Unknown

Horizontal datum: NAD 83, other

Fee associated? No

Available for redistribution? Yes

Are hydrography names part of the dataset? Yes

Dataset source: <http://www.hawaii.gov/dbedt/gis/streams.htm>

State Geospatial Data Coordination Procedure

Dataset contact: Joan Delos Santos, Office of Planning, State of Hawaii, PO Box 2359, Honolulu, Hi. 96804; (808) 587-2895; email: JDelos_Santos@dbedt.hawaii.gov

Notes: Arcs were extracted from the 1983 DLG hydrography layers based on the CWRM Hawaii Stream Assessment (HSA) maps and database, then coded with the HSA stream code, and the HSA stream name (1993). DAR added additional streams from the DLG hydrography layer, and added additional attribute data. Further additions, refinement, and editing by DAR in 2003, 2004. Additional streams coded and added (NON-PERENNIAL) in 2005. OP Staff cleaned up and re-ordered attributes in March, 2005, and merged the islands together into one shape file. Not all items have been assigned/populated for all islands.

Political boundaries (county, municipal)

Dataset name: DLG Administrative Boundary Polygons from Hawaii Statewide GIS Program

Data currentness: 1983

Accuracy/Scale: Unknown

Horizontal datum: NAD 83

Fee associated? No

Available for redistribution? Yes

Dataset source: <http://www.hawaii.gov/dbedt/gis/admindlg.htm>

Dataset contact: Joan Delos Santos, Office of Planning, State of Hawaii, PO Box 2359, Honolulu, HI 96804; (808) 587-2895; JDelos_Santos@dbedt.hawaii.gov

Notes: Extracted from the USGS 1983 DLGs for the main hawaiian islands.

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

Dataset name: Parks and reserves from Hawaii Statewide GIS Program

Data currentness: 1998 (parks); 2002 (reserves)

Accuracy/Scale: Unknown

Horizontal datum: NAD 83

Fee associated? No

Available for redistribution? Yes

Dataset source: <http://www.hawaii.gov/dbedt/gis/parks.htm> and

<http://www.hawaii.gov/dbedt/gis/reserves.htm>

Dataset contact: Joan Delos Santos, Office of Planning, State of Hawaii, PO Box 2359, Honolulu, HI 96804; (808) 587-2895; JDelos_Santos@dbedt.hawaii.gov

Notes: Parks data derived from C&C parcel data (Oahu), GDSI parcel data (Kauai and Maui). Reserves data was compiled in 2002 by SOH, DLNR, DOFAW from various sources including the data provided by DSP and the C&C parcel boundaries with input from State foresters and others familiar with the reserve boundaries.

Cadastral (parcels)

Dataset name: TMK Parcels from Hawaii Statewide GIS Program

Data currentness: 2006

Accuracy/Scale: Unknown

Horizontal datum: NAD 83

Fee associated? No

Available for redistribution? Yes

State Geospatial Data Coordination Procedure

Dataset source: <http://www.hawaii.gov/dbedt/gis/tmk.htm>

Dataset contact: Joan Delos Santos, Office of Planning, State of Hawaii, PO Box 2359, Honolulu, HI 96804; (808) 587-2895; JDelos_Santos@dbedt.hawaii.gov

Notes: Parcel data for Counties of Kauai, Maui and Hawaii was Originally created by Geographic Decision Systems International (GDSI). Maintenance assumed by counties in 2004 and 2005. Parcel data for the Island of Oahu was derived from C&C of Honolulu parcel data and GDSI parcel data, and is maintained by the C&C of Honolulu HOLIS.

Extraterritorial jurisdiction (ETJ) boundaries

No statewide coverage available.

Terrain (elevation)

Dataset name: USGS DEM

Data currentness: Varies

Accuracy/Scale: 1:24,000

Vertical datum: NGVD 29

Fee associated? No

Available for redistribution? Yes

Dataset source: <http://data.geocomm.com/dem/demdownload.html>

Dataset contact: <http://data.geocomm.com/dem/>

Notes: 30-meter USGS Digital Elevation Models (DEM) are the only seamless elevation data covering all of Hawaii available in public domain.

There are LiDAR or other higher-quality data for specific areas, but these data are not all produced with consistent standards or made publicly available. LiDAR data sets purchased by the HI Office of Planning for the following area: Oahu-Kakaako, Haleiwa, Kahuku; Lanai-entire Island; Maui-Kihei; Big Island-Kona, Kilauea and Waimea were flown by Airborne 1 and are now public domain. Contact Craig Tasaka (ctasaka@dbedt.hawaii.gov) at the HI Office of Planning for more information.

Data Distribution Process for State Data

The state distributes a wide variety of data freely by making it available for download on-line.

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 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 governments, counties and parishes, municipalities, tribes, universities, and other organizations.

State Geospatial Data Coordination Procedure

Clearinghouses and Inventories for the State

Hawaii Statewide GIS Program: www.hawaii.gov/dbedt/gis: This web site contains a wide variety of GIS data that can be freely downloaded. The data include:

- Physical Features / Basemap Layers
- Political Boundaries / Administrative Layers
- Natural Resource / Environmental Layers
- Hazard Layers
- Coastal / Marine Layers
- State Land Use Boundary Maps
- Major Land Owner Maps
- Land Study Bureau Maps
- Agricultural Lands Of Importance To The State Of Hawaii Maps (Alish)
- Watershed Boundaries Maps
- Reserve Maps

The Hawaii Office of State Planning offers a web site with an interactive map viewer to manipulate and view a wide range of GIS data. The web site is <http://gis.state.hi.us/Website/OPGeneral/viewer.htm>.

City & County of Honolulu Department of Planning and Permitting – Interactive GIS Maps and Data Web Site: <http://gis.hicentral.com/>: This web site allows a variety of GIS data for the City and County of Honolulu to be downloaded. This web site also links to on-line map views for parcel and zoning information and economic development purposes.

Maui Shoreline Atlas: <http://www.co.maui.hi.us/departments/Planning/erosion.htm>: Researchers at the University of Hawaii, under contract from Maui County, have developed maps of coastal erosion hazards along Maui's shoreline. The erosion hazard maps depict the average annual erosion rate calculated by linear regression of historical shoreline positions. Past shoreline positions are measured using geo-rectified nautical and topographic sheets from the pre-WWII era, and all available, temporally spaced sets of aerial photographs covering long continuous segments of shoreline, usually flown in stereo, from the post-WWII era. Pre-WWII N- and T-sheets are made available through the Shoreline Data Rescue Program of the National Oceanographic and Atmospheric Administration Coastal Services Center (<http://www.csc.noaa.gov/>).

State Geospatial Data Coordination Procedure

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 Management 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.

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?pag=HI>

Involving the State’s Geospatial Coordinator in Flood Studies

The RMC has established initial contact with the HI NSGIC Representative to present an overview of FEMA’s Map Modernization Program. Craig Tasaka has expressed concerns over too little coordination between FEMA and the HI Office of Planning. More proactive coordination on the RMC’s part is anticipated in the future.

State Coordination Process for Building Geospatial Partnerships

Statewide GIS Program: www.hawaii.gov/dbedt/gis: The State Office of Planning (OP) GIS Program leads a multi-agency effort to establish, promote, and coordinate the use of geographic information systems (GIS) technology among Hawaii State Government agencies.

State Geospatial Data Coordination Procedure

Hawaii Geographic Information Coordinating Council: <http://www.higicc.org/>: HIGICC is a non-profit body consisting of members of Hawaii's GIS community. The goal is to provide coordination of GIS activities among a wide range of GIS users in order to avoid duplication of effort, promote data sharing, and maintain data standards throughout the state.

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>.

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 Management 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 contact will use this information to maintain this Procedure.

Other Useful Information

State of Hawaii I-Plan

State of Hawaii I-Plan: <http://www.higicc.org/iplan.html>:

The State of Hawai'i is participating in a national initiative directed by the U.S. Office of Management and Budget (OMB) to build a comprehensive inventory of geospatial data for Hawai'i that can be shared among users of geospatial technologies, including government, education, private, and non profit organizations. As directed by OMB, an inventory and review of the issues and the resources required to build the comprehensive data set was performed, which shall be used to set a direction for obtaining the essential geographic data layers.

The Hawai'i Implementation Plan (I-Plan) is the first comprehensive review of the framework data layers as defined by the Federal Geographic Data Committee (FGDC) and expanded upon by the Hawai'i Geographic Information Coordinating Council (HIGICC). The Hawai'i I-Plan is a result of a series of meetings that identified statewide geospatial issues and information needs, and reflects the voluntary collaboration of subject matter

State Geospatial Data Coordination Procedure

experts from government, education, private, and non-profit organizations, known as the Hawai'i Implementation Team (I-Team).

Intended Goals

- To establish a federally recognized Hawai'i I-Team.
- Produce an inventory of geospatial data within the state.
- Identify the completeness of the geospatial data sets.
- Present the current investment made into existing geospatial data sets.
- Identify resources needed to complete the essential datasets for the State.
- Satisfy the requirements for participating in the OMB/FGDC initiatives.
- Compete for resources available from federally funded programs coordinated by the OMB/FGDC.