

Paper #1231

**Paper Title**

Developing Hawaii's Geospatial Implementation Plan (I-Plan) for Framework Data

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**Paper Abstract**

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 experts from government, education, private, and non-profit organizations, known as the Hawai'i Implementation Team (I-Team). The goals of the I-Plan include a statewide inventory of geospatial data, identification of current investments and the resources needed to complete the framework data layers, as well as satisfaction of Office of Management and Budget (OMB) and FGDC requirements for competition for federally funded spatial data proposals. This paper will present the process, the product and the next steps in the geospatial future for the State of Hawai'i.

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**Introduction**

The State of Hawai'i is participating in a national initiative directed by the 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 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.

**A Living Document**

The Hawai'i I-Plan is a living document that will continually be refined. This is the first version in an ongoing process of coordinating the assessment of geospatial data development and future needs. As data sets are completed and resources are obtained to support the creation of geospatial data, the I-Plan will be updated and revised to reflect the current status of data development in Hawai'i.

The HIGICC will administer and approve revisions to the I-Plan and coordinate the activities of the I-Team. HIGICC is the body that will communicate/coordinate the spatial data needs to the OMB and FGDC, and coordinate the implementation of resources provided to the State of Hawai'i.

## **Hawai'i Spatial Data Infrastructure Implementation**

The I-Team Geospatial Information Initiative (I-Team Initiative) is the next phase of efforts to build a National Spatial Data Infrastructure (NSDI). The I-Team Geospatial Information Initiative is a joint project of the Federal Geographic Data Committee (FGDC), Federal Office of Management and Budget (OMB), the Council for Excellence in Government, Urban Logic, TIE, National States Geographic Information Council (NSGIC), National Association of Counties (NACo), and other strategic partners. As part of the effort to build a National Spatial Data Infrastructure (NSDI), the I-Team Initiative addresses the institutional and financial barriers to development of the NSDI at federal, state and local levels. It aims to create a coherent set of institutional and financial incentives to make it easier for all levels of government and the private sector to collaborate in the building of the next generation of framework data. By aligning participant needs and resources, the I-Team Initiative will help all levels of government and the private sector to save money, migrate from existing legacy systems, make better use of existing resources, and build the business case for additional public and private resources.<sup>1</sup>

The Hawai'i Geographic Information Coordinating Council (HIGICC) provides the regional component to the national Initiative. HIGICC has endorsed the OMB's I-Team concept for assessing the status of the FGDC Framework Data Themes. HIGICC established an I-Team committee at the November 7, 2002 Data Products Workshop. The goal of Hawai'i's I-Team Report is to devise a plan for development and long-term maintenance for each theme. This report represents the first phase of that effort.

The Hawai'i Geographic Information Coordinating Council (HIGICC) is an organization providing statewide GIS coordination. It is a "non-profit body consisting of members of Hawai'i's GIS community. Our 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."

The mission of HIGICC is "to bring together and continue to build the geographic community into a cohesive, recognized coordinating body that facilitates the use, development, sharing, and management of geographic data and communicates the value of geographic information to citizens and decision-makers. In the State of Hawai'i, GIS is recognized and effectively used as an invaluable tool by the government, business and the citizens for understanding and managing our aina (environment). The Hawai'i GICC is a shared mechanism for the diverse community to identify, explore, and solve problems with geospatial information."<sup>2</sup>

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<sup>1</sup> <http://www.fgdc.gov/I-Team/library/background/TwoParaITeam.doc>

<sup>2</sup> <http://www.higicc.org/about.asp>

The Hawai'i GIS community has a successful history that makes the I-Team process possible. A 1997 grant through the Framework Demonstration Project Program focused on development of a cadastral framework layer for the Island of Molokai to address issues not faced on the mainland. A Competitive Cooperative Agreements Program (CCAP) grant led to the Metadata workshop series, which then resulted in an FGDC metadata node being managed by the Office of State Planning. Kathy Covert from FGDC attended the April 1998 GISMAP conference to assist the Hawaii GIS community in formalizing the Geographic Information Coordinating Council. In 2001, Ron Matzner of the FGDC's I-Team office made a presentation to HIGICC on the goals of the I-Team process. The attendees at the HIGICC Data Products workshop in November 2002 discussed the priority data themes and the formation of an I-Team for Hawai'i.<sup>3</sup>

### **Overview of the Hawai'i I-Plan**

The Hawai'i GIS community has endorsed the I-Team concept and process championed by the Office of Management and Budget ([OMB I-Team](#))<sup>4</sup>, the Federal Geographic Data Committee ([FGDC](#))<sup>5</sup> and other strategic partners<sup>6</sup> for assessing the status of FGDC's seven Framework data themes. The Geographic Information Professionals throughout the State have identified nine additional data themes as important to the I-Team effort.

This Implementation Plan (I-Plan) identifies the organization structure of the Implementation Team (I-Team) for Hawai'i, defines a process for prioritizing data themes that will contribute to building the NSDI, and summarizes sixteen data themes that will be included in the prioritization process. The goal is to devise a plan for the development, distribution, and long-term maintenance of each theme.

### **Jurisdiction**

This plan addresses issues and information needs statewide for Hawai'i and reflects the collaboration of federal, state, county and local agencies, academia, the private and not for profit sector.

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<sup>3</sup> <http://www.state.hi.us/dbedt/gis/gicc.htm>

<sup>4</sup> [http://www.whitehouse.gov/omb/circulars/a016/a016\\_rev.html](http://www.whitehouse.gov/omb/circulars/a016/a016_rev.html)

<sup>5</sup> <http://www.fgdc.gov>

<sup>6</sup> <http://www.fgdc.gov/I-Team/strategic.html>

## Approach

*Framework Layers.* The I-Team has defined 16 priority data themes. These include the seven framework themes defined by the FGDC. An additional nine layers were defined at the 2002 Data Products Workshop. A listing of these data layers is below.

### NSDI Framework Data:

1. Geodetic Control
2. Elevation/Bathymetry
3. Imagery
4. Hydrography
5. Transportation
6. Cadastral
7. Governmental Units

### Hawai'i Priority Data:

8. Utilities
9. Structures
10. Physical Features
11. Cultural Features
12. Terrestrial Layers
13. Marine Layers
14. Scanned Maps
15. Data Distribution/Publishing
16. Cross-cutting issues

Chapters 1 through 7 are the key chapters for the NSDI Framework layers in our I-Plan. These layers are the most widely used across all disciplines and among all levels of government.

Chapters 8 through 14 are more local to Hawaii, and while not critical to the NSDI Framework, they are important layers locally.

Chapter 15 covers metadata issues and how the data is made available, either for download or through web services.

Chapter 16 covers those issues that crosscut two or more chapters. For example, addressing is part of chapters 5 and 6. Hawaiian names are part of many chapters.

### *Process*

A subcommittee work group of HIGICC's I-Team was formed to address each identified layer, with a group leader. Each work group represents agencies or organizations having mandated responsibility and/or programmatic need for the data. The work group is responsible for the completion of the following for the data layers associated with their respective theme:

- Detailed inventory of the existing data and provide
- Identifying existing standards
- Develop a strategy for completing the data layer
- Develop cost estimates and time requirements for completion of the data layer
- Assign responsibility for creation, integration, maintenance and distribution of the data layer

The I-Team data layers and work group chairs are as follows.

<b>Planning Work Groups:</b>	<b>Planning Work Group Chairs:</b>
Document Editing and Consistency	Susan Bevacqua (NOAA/ National Marine Sanctuaries) and Ronald Salz (US Fish and Wildlife Service)
Geodetic Control	Ed Carlson (NOAA/National Geodetic Survey)
Elevation/Bathymetry	Henry Wolter (USGS National Mapping Div)
Imagery	Rhett Rebold (Pacific Disaster Center)
Hydrography	Pat Shade (USDA/NRCS)
Transportation	Goro Sulijoadikusumo (Hawaii DOT)
Cadastral	Jon Hodge (City and County of Honolulu)
Governmental Units	Craig Tasaka (State of Hawaii-DBEDT/OP/GIS)
Utilities	Ken Schmidt (CCHON) and Royce Jones (ESRI)
Structures	Harley Pennington
Physical Features	Rod Low (ESRI) and Eric Yamashita
Cultural Features	Melia Lane-Kamahele (National Park Service)
Terrestrial Layers	Shannon McElvaney (Hawaii Heritage Program)
Marine Layers	Darcee Killpack (NOAA/Pacific Services Center)
Scanned Maps	Craig Clouet (Kamehameha Schools)
Data Distribution/Publishing	Joan Esposito (State of Hawaii-DBEDT/OP/GIS)
Cross-Cutting Issues	Royce Jones (ESRI)

The first template document was sent to the work group chairs in February 2003. Their submissions were combined into the first draft of the Hawai'i I-Plan. The first draft was distributed for comment to the HIGICC and members of HIGICC and the greater Hawai'i GIS community on April 18, 2003. Comments and final edits were completed and the Final Draft Hawai'i I-Plan distributed on June 9, 2003. The document was reviewed at the HIGICC General Meeting on June 12, 2003. This led to modifications and suggestions for future versions, such as additional chapters needed to account for overlooked data sets, such as demographics, language, safety or disaster response planning. More input from colleagues and organizations must be addressed to make the I-Plan even more inclusive. And development of a Hawai'i geospatial strategic plan should be a top priority. The current document, found at <http://www.higicc.org>, will have a positive and long-term impact on spatial data development, integration and availability throughout the State of Hawai'i. All contributors should feel proud of the work we have accomplished together.

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