Homeland Infrastructure Foundation Level Data (HIFLD) Working Group

Homeland Security Enterprise Enablement Part I
HIFLD/HSIP Overview
11 February 2014

Presentation Agenda

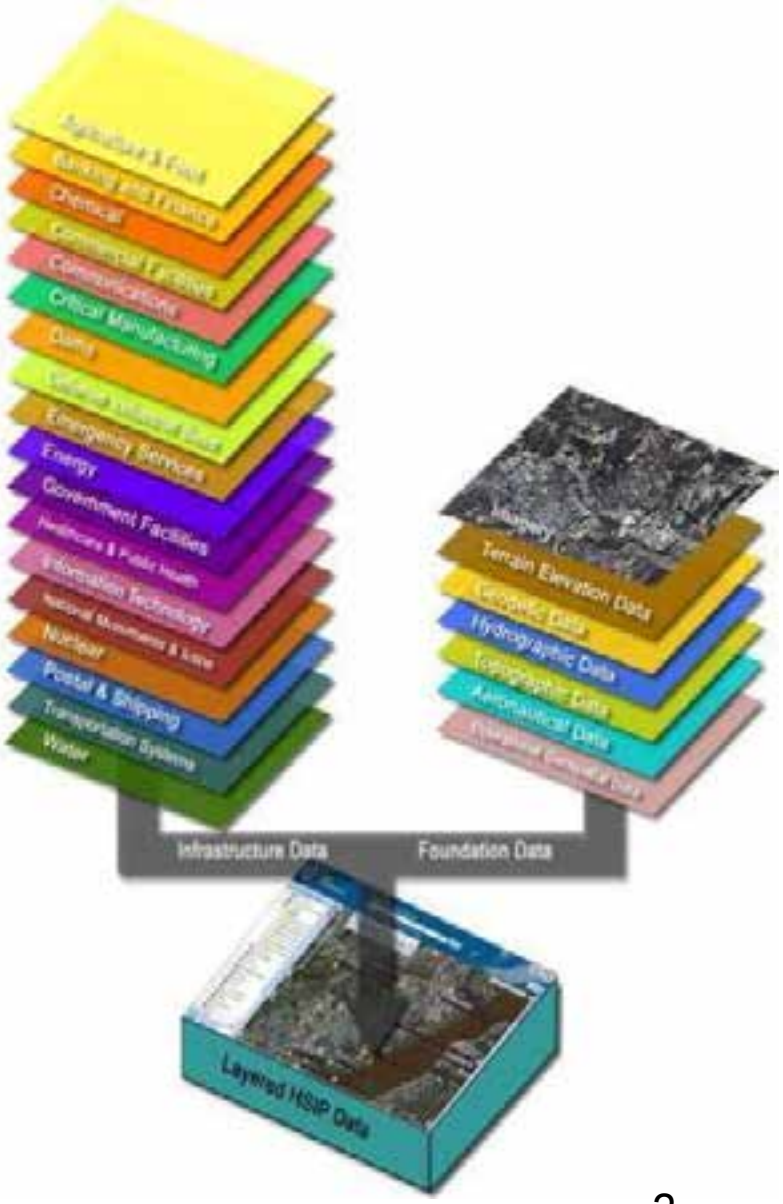
- HIFLD Overview
- HSIP Overview
- Ongoing Efforts
- Summary

HIFLD Objective

Support Domestic Infrastructure Data Gathering, Sharing and Protection, Visualization, and Spatial Knowledge Management for Homeland Defense, Homeland Security and National Preparedness – Prevention, Protection, Mitigation, Response and Recovery Communities

- **Everyone Wants Situational Awareness**
- **Everyone Wants a Common Operational Picture**

HIFLD Builds Partnerships and Obtains Best Available Data that is Useful, Usable and Used



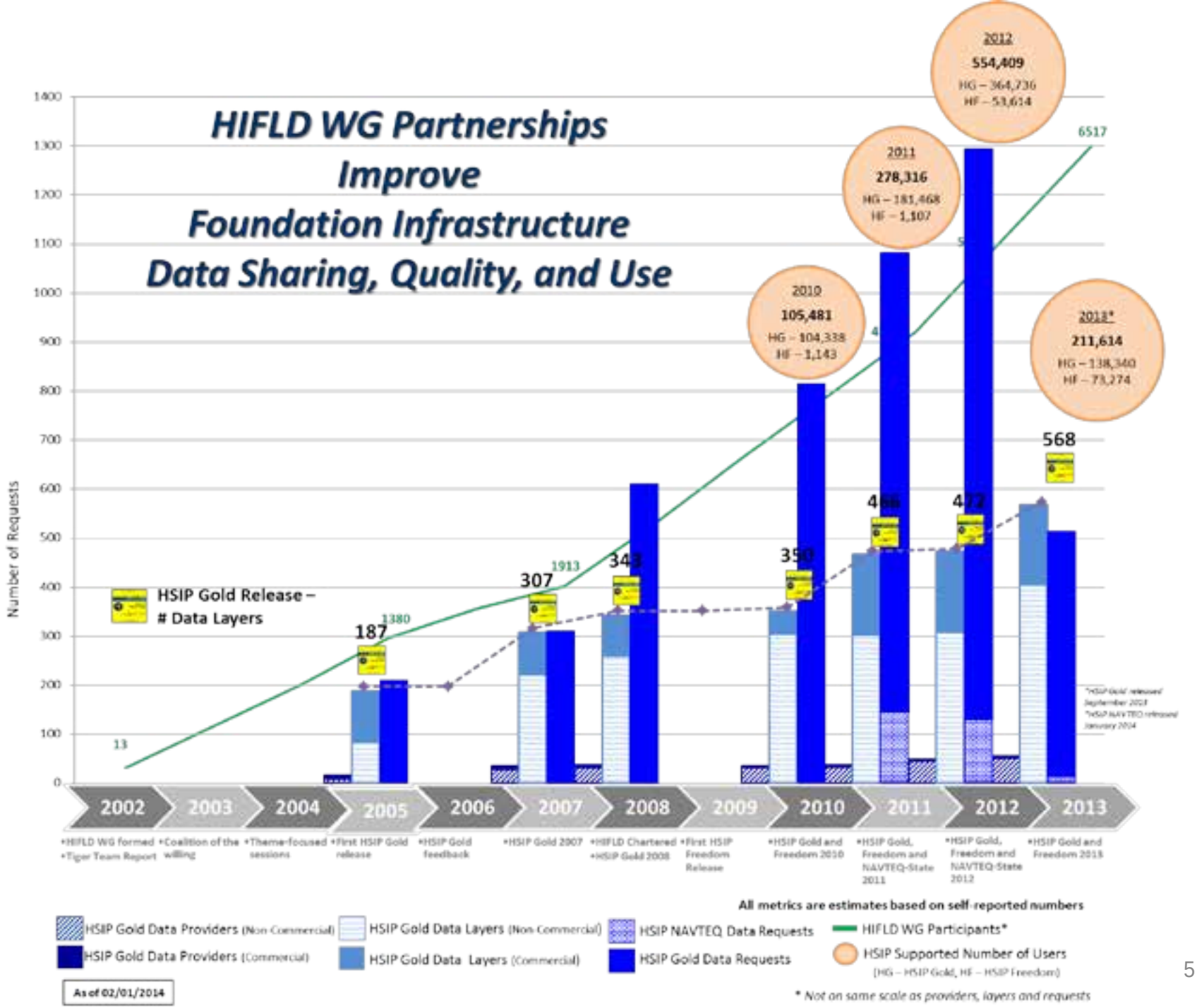
Homeland Infrastructure Foundation Level Data (HIFLD) Working Group

HIFLD Official Members

Over 6,510 Participants From

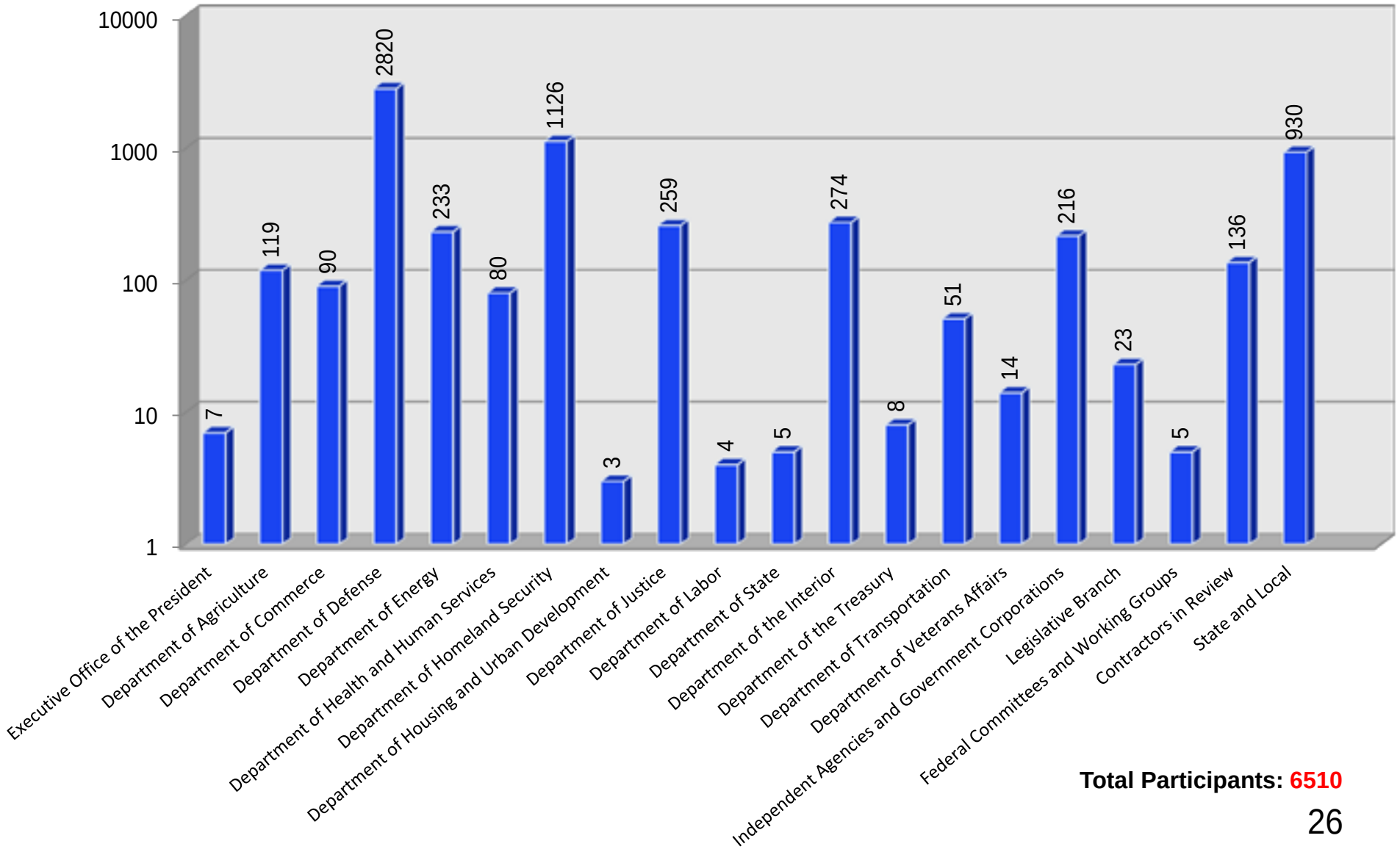
14 Executive Departments, 102 Agencies and 53 States/Territories

Homeland Infrastructure Foundation Level Data (HIFLD) Working Group


HIFLD WG Partnerships
Improve
Foundation Infrastructure
Data Sharing, Quality, and Use
Number of Requests
HSIP Gold Release – # Data Layers
2012
554,409
HG – 364,736
HF – 53,614
2011
278,316
HG – 181,468
HF – 1,107
2010
105,481
HG – 104,338
HF – 1,143
2013*
211,614
HG – 138,340
HF – 73,274
6517
1913
1380
187
307
343
350
568
13
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
*HIFLD WG formed
*Tiger Team Report
*Coalition of the willing
*Theme-focused sessions
*First HSIP Gold release
*HSIP Gold feedback
*HSIP Gold 2007
*HIFLD Chartered
*HSIP Gold 2008
*First HSIP Freedom Release
*HSIP Gold and Freedom 2010
*HSIP Gold, Freedom and NAVTEQ-State 2011
*HSIP Gold, Freedom and NAVTEQ-State 2012
*HSIP Gold and Freedom 2013
All metrics are estimates based on self-reported numbers
HSIP Gold Data Providers (Non-Commercial)
HSIP Gold Data Providers (Commercial)
HSIP Gold Data Layers (Non-Commercial)
HSIP Gold Data Layers (Commercial)
HSIP NAVTEQ Data Requests
HSIP Gold Data Requests
HIFLD WG Participants*
HSIP Supported Number of Users
(HG – HSIP Gold, HF – HSIP Freedom)
As of 02/01/2014
* Not on same scale as providers, layers and requests

HIFLD WG Participants

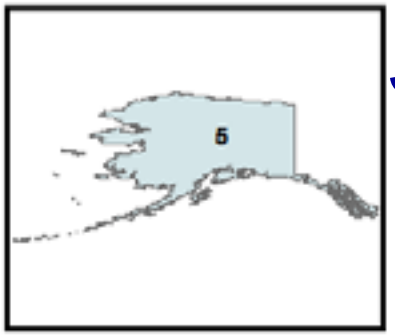
02/01/2014



Total Participants: 6510

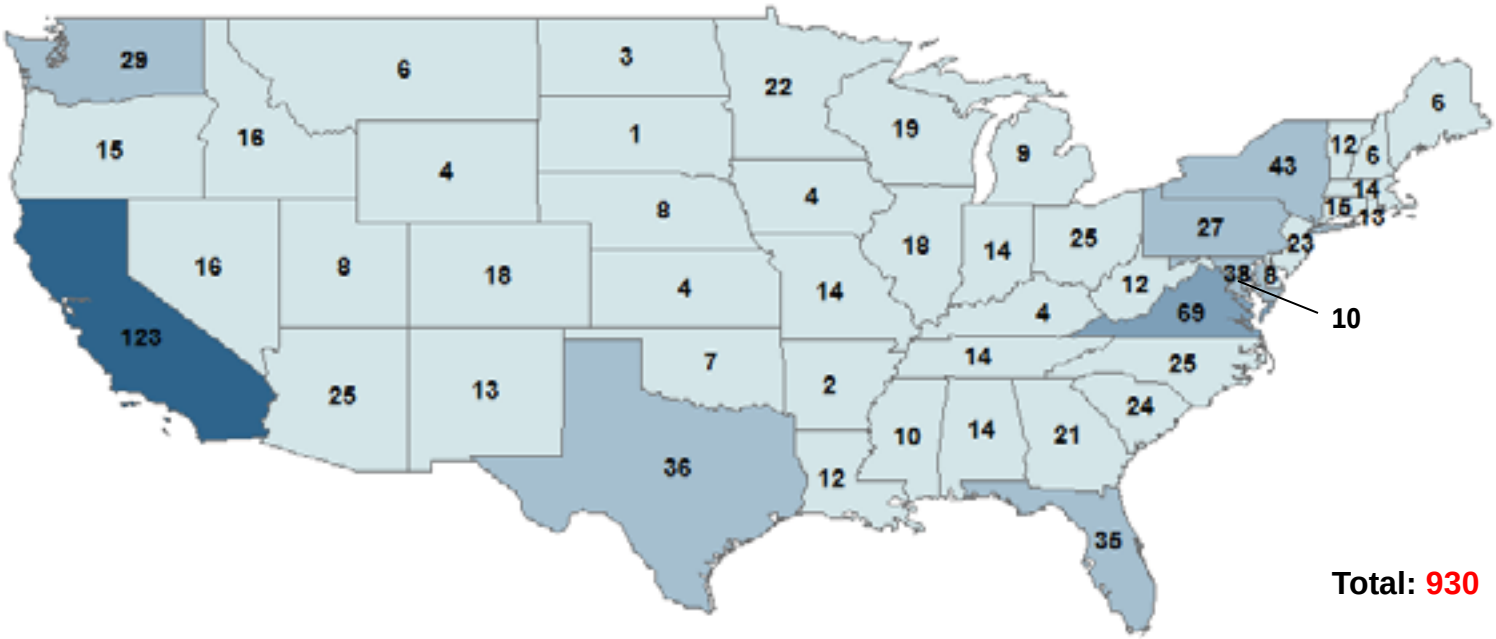
State/Local Government HIFLD WG Participants

02/01/2014



Alaska

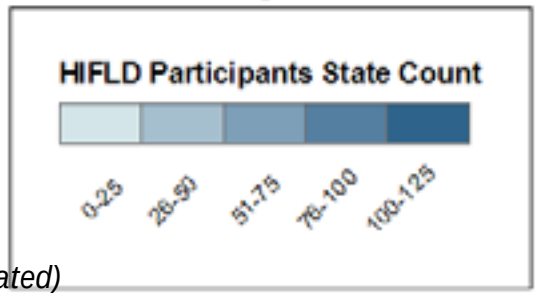
Guam



Total: 930

Hawaii

Legend



Puerto Rico and Virgin Islands

Approved for Public Release - NGA Case 11-366 (updated)

HIFLD Completed Sessions

Focused on National and Defense Critical Infrastructure Sectors:

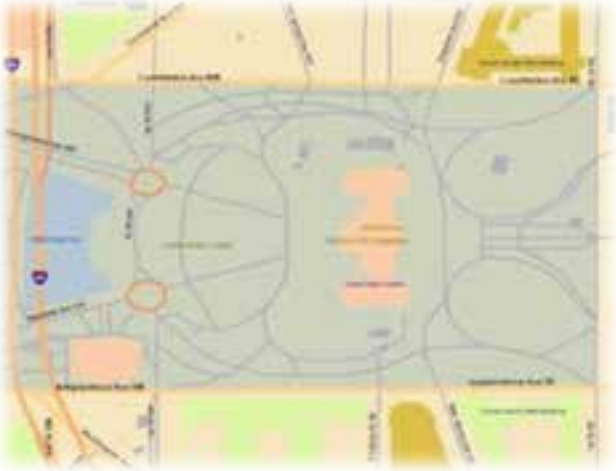
Jul 04:	Transportation
Sep 04:	ISR and Threat (S)
Nov 04:	Public Works / Energy
Feb 05:	Health Affairs / Emergency Services
Apr 05:	Telecom / Global Info Grid (GIG)
Jun 05:	Defense Industrial Base
Aug 05:	Chemical Industry & HAZMAT / Water
Oct 05:	Postal & Shipping / Defense Logistics
Feb 06:	HSIP Gold V1 Data Feedback Session
Feb 06:	Banking & Finance / Food & Agriculture
Apr 06:	National Lab Geospatial HD/HLS Projects
Jun 06:	Emergency Operations Centers
Oct 06:	Intel / Threat Monitoring and Reporting (S)
Jan 07:	Government and Commercial Facilities
Apr 07:	Energy and Defense Public Works
Jun 07:	Man Made and Natural Hazards Modeling
Aug 07:	HSIP Gold V2, DHS HLS Data Model
Nov 07:	HSIP Gold Data V2 Feedback Session
Jan 08:	Sharing and Protecting Infrastructure Information
Mar 08:	Health / Pandemic Influenza and EAs
Jun 08:	Chemical / Noble Resolve 2008
Oct 08:	Interdependency Modeling and Analysis
Jan 09:	HSIP 2008 Feedback / Cross Border Infrastructure
Mar 09:	"Tools, Models, Viewers"
Jul 09:	Transportation
Sep 09:	H1N1 Geospatial Sharing
Jan 10:	Emergency Management
May 10:	Energy
Jul 10:	HSIP Gold 2010 Feedback
Nov 10:	Telecom / Global Info Grid (GIG)
Feb 11:	Defense Industrial Base / Critical Manufacturing
Apr 11:	Nuclear / CBRNE Response
Jul 11:	HSIP Gold 2011 Feedback / Symbology
Sep 11:	Remote Sensing, Imagery and Enhanced Elevation for the Nation
Jan 12:	Cross Border Information Sharing and Supply Chain
Apr 12:	Flooding and Hurricane Response
Jul 12:	HSIP Gold 2012 Feedback Live Feeds
Oct 12:	Cyber security and Energy Resilience
Jan 13:	Wild Fires and Formalizing Data Partnerships: API Standards and SLAs
May 13:	Current National Policies, Domestic Infrastructure Security and Geospatial Data
Sept 13:	HSIP Gold/Freedom Feedback Session and Online Dynamic Services
Nov 13:	Climate Data and Mapping for Infrastructure Resilience
Feb 14:	*Law Enforcement - Geospatial Data Sharing and Requirements for Enhanced Situational Awareness*

Homeland Infrastructure Foundation Level Data (HIFLD) Working Group

Homeland Security Infrastructure Program (HSIP)

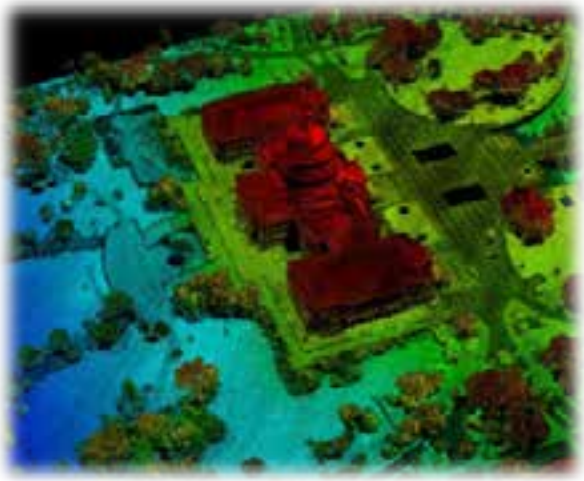
Vector (HSIP Gold)

- Compilation of 568 Vector layers comprised of Commercial, Federal and State level Acquisitions.
- Delivers Common Operational Data to the GEOINT Analyst



Elevation

- Acquire unclassified high-fidelity 1 meter elevation data over HSIP 133 major urban core areas of the U.S. – 5 year refresh schedule…shorter cycles as needed

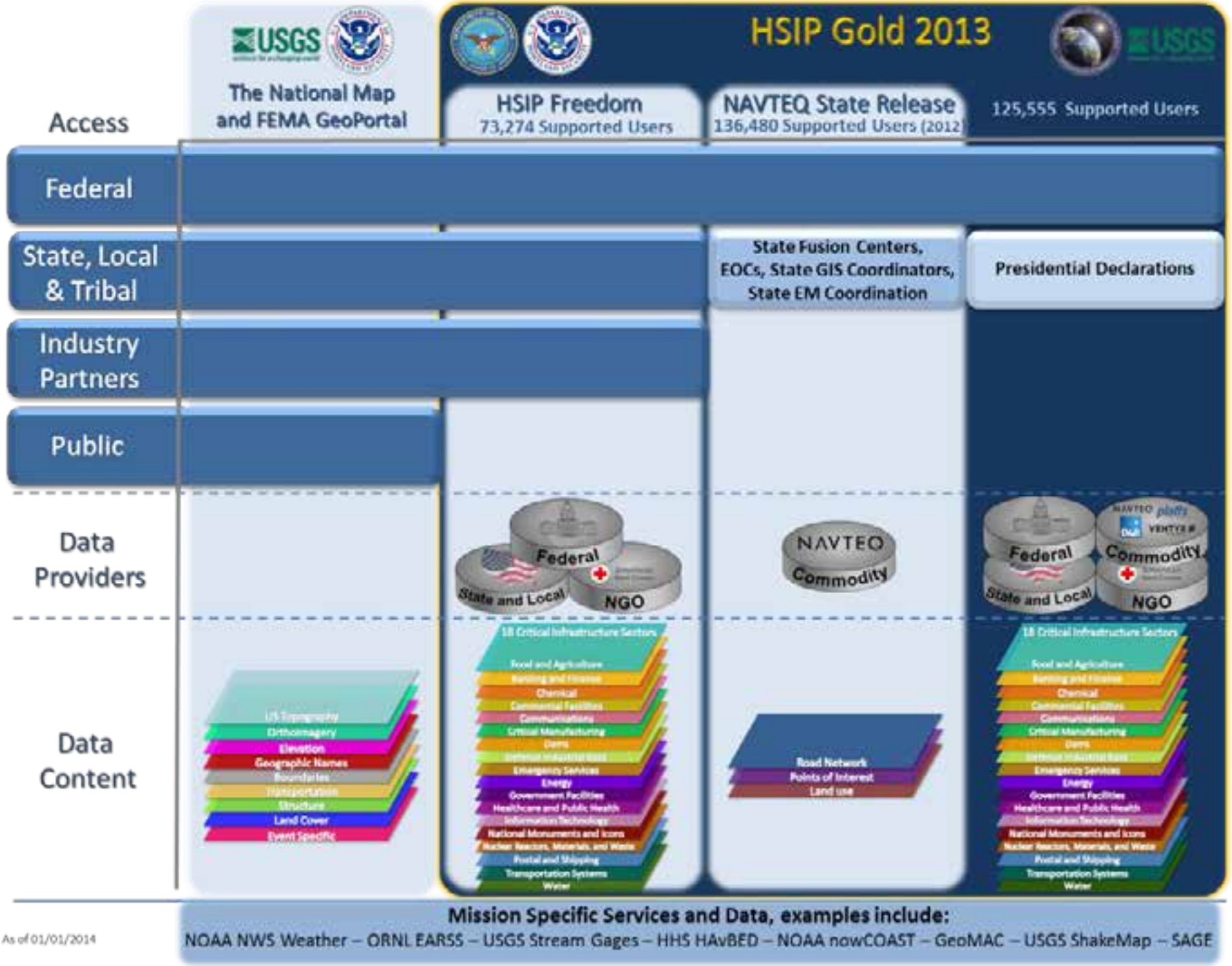


Imagery

- Acquire unclassified high-resolution ortho-imagery *(12 inch GSD or better)* over HSIP 133 major urban areas of the U.S. – 2 to 4 year refresh schedule

"HSIP Gold is the most widely used infrastructure data set across the Federal Government."

– Ms. Caitlin Durkovich, Assistant Secretary for Infrastructure Protection, DHS


HSIP Gold 2013
USGS
The National Map and FEMA GeoPortal
HSIP Freedom
73,274 Supported Users
NAVTEQ State Release
136,480 Supported Users (2012)
125,555 Supported Users
Access
Federal
State, Local & Tribal
Industry Partners
Public
State Fusion Centers, EOCs, State GIS Coordinators, State EM Coordination
Presidential Declarations
Data Providers
Federal
State and Local
NGO
NAVTEQ
Commodity
Data Content
US Topography
Orthoimagery
Elevation
Geographic Names
Boundaries
Transportation
Structure
Land Cover
Event Specific
18 Critical Infrastructure Sectors
Food and Agriculture
Banking and Finance
Chemical
Commercial Facilities
Communications
Critical Manufacturing
Dams
Defense Industrial Base
Emergency Services
Energy
Government Facilities
Healthcare and Public Health
Information Technology
National Monuments and Icons
Nuclear Reactors, Materials, and Waste
Postal and Shipping
Transportation Systems
Water
Road Network
Points of Interest
Land use
Mission Specific Services and Data, examples include:
NOAA NWS Weather – ORNL EARSS – USGS Stream Gages – HHS HAvBED – NOAA nowCOAST – GeoMAC – USGS ShakeMap – SAGE
As of 01/01/2014

Data	What is it?	Who can access it?	How can I access it?	What do I need?
HSIP Gold 	A compilation of Common Operational Geospatially Enabled Base-Line Data to support to Homeland Security, Homeland Defense and National Preparedness – Prevention, Protection, Mitigation, Response and Recovery mission communities. Data is U//FOUO.	**Federal Government** Agencies *(to include National Guard Bureau – JFHQ State)*	Request DVD set on **HIFLD site** at https://www.hifldwg.org/hsip_gold *Requests handled by NGA.* *Data is in vector format, organized in geodatabases.*	**HIFLD account.** http://www.hifldwg.org/ *(Government sponsor and contract information is required for anyone who is not a federal, state or local government employee.)*
		State and Local Government Agencies **sponsored by FEMA** with a **Presidential Disaster or Emergency Declaration.**		**HIFLD account.** http://www.hifldwg.org/ **FEMA Sponsor** **Presidential Declaration #** http://www.fema.gov/disasters
		All Federal, State, Local, Tribal and Territorial Government Agencies and **Industry Partners can view when served by a password protected Federal System.**	Access via Map Services on the **DHS Geospatial Information Infrastructure (GII)** at https://gii.dhs.gov/ *"GII Services" for WMS, REST, SOAP, API or KML.* *"DHS Earth" for Google Earth KML file.* *"OneView" for web-based analytic viewer.*	**HSIN account.** https://hsin.dhs.gov *(No specific Community of Interest (COI) required).* *(Government sponsor information is required for anyone who is not a federal, state or local government employee.)*
HSIP Freedom https://hsin.dhs.gov 	Subset of HSIP Gold data that is license-free and does not include the commodity data. Data is U//FOUO.	**Federal, State, Local, Tribal and Territorial** Government Agencies and **Private Industry Partners.**	Download from **DHS GII HSIP Freedom page** (instructions online) *Requests handled by DHS.* *Data is in vector format, organized in geodatabases.*	**HSIN account.** Access the **Geospatial Resources Community (GRC).** https://hsin.dhs.gov/fed/gis/Pages/default.aspx *(Government sponsor information is required for anyone who is not a federal, state or local government employee.)*
HSIP NAVTEQ State Release 	The HSIP-NAVTEQ data uplifted by NGA is also a subset of HSIP Gold and includes street data, points of interest data, and route analysis. Data is U//FOUO.	State **Fusion Centers**, State Emergency Operation Centers (**EOC**), State **Emergency Management** Coordinators and State **GIS Coordinators.**	Request DVD set on **HIFLD site** at https://www.hifldwg.org/navteq *Data is in Smart Data Compression (SDC) format.*	**HIFLD account.** http://www.hifldwg.org/

Government Data Providers

U.S. Department of Agriculture (USDA)
- Forest Service

U.S. Department of Commerce (DOC)
- U.S. Census Bureau
- National Oceanic and Atmospheric Administration (NOAA)

U.S. Department of Defense (DoD)
- National Geospatial-Intelligence Agency (NGA)
- Defense Installation Spatial Data Infrastructure (DISDI)
- Defense Contract Management Agency (DCMA)
- U.S. Army
- U.S. Army Corps of Engineers (USACE)
- National Guard Bureau (NGB)
- Air National Guard (ANG)
- Army National Guard (ARNG)

U.S. Department of Education (DOEd)

U.S. Department of Energy (DOE)
- Office of Energy Efficiency & Renewable Energy
- National Renewable Energy Lab (NREL)
- Office of Science
- Oak Ridge National Laboratory (ORNL)

U.S. Department of Health & Human Services (HHS)

U.S. Department of Homeland Security (DHS)
- Federal Emergency Management Agency (FEMA)
- Directorate for National Protection and Programs (NPPD)
- U.S. Coast Guard (USCG)
- U.S. Customs and Border Protection (CBP)

U.S. Department of the Interior (DOI)
- Bureau of Indian Affairs (BIA)
- Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE)
- Minerals Management Service (MMS)
- U.S. Fish and Wildlife Service
- U.S. Geological Survey (USGS)
- National Park Service (NPS)

U.S. Department of Justice
- Federal Bureau of Investigations (FBI)

U.S. Department of Transportation (DOT)
- Federal Aviation Administration (FAA)
- Federal Highway Administration (FHA)
- Federal Railroad Administration (FRA)
- Bureau of Transportation Statistics

U.S. Department of Veterans Affairs (VA)

U.S. Environmental Protection Agency (EPA)

U.S. General Services Administration (GSA)

U.S. Nuclear Regulatory Commission (NRC)

U.S. Postal Service (USPS)

Federal Communications Commission (FCC)

Federal Deposit Insurance Corporation (FDIC)

National Credit Union Administration (NCUA)

Non-Governmental Organizations
- American Red Cross (ARC)
- Geospatial Multi-Agency Coordination

State/Local Governments

HSIP Gold 2013 Commodity Data

- **NAVTEQ Corporation**
  - *Transportation*
  - *Core Points of Interest (hotels, restaurants, gas stations etc)*
  - *Routing and Address matching*
    - Standalone locators built for ArcGIS 9.3 and 10.0
    - Improved data dictionary for the 3Q2011 SDC deliverable
    - SDC Definition queries and layer files that utilize Street Restrictions (such as Hazardous Material Restrictions, Semi or Tractor Trailer Restrictions, etc…)
- **Ventyx**
  - *Electrical Energy*
- **PLATTS**
  - *Oil and Natural Gas*
- **Dun and Bradstreet (D&B)**
  - *Manufacturing and Business Points*

HSIP Gold 2013 Data Licensing

- **HSIP Gold Base Licensing (NGA Funded)**
  - *United States Federal Government License*
  - *Canadian Government Partnership License*
  - *Non-Federal Emergency Data Release License*
    - *The designated lead federal agency shall determine which non-Federal agencies receive access to the licensed data under a presidentially declared national emergencies or crisis.*

- **HSIP Gold Data Disclosure Non-Emergency (NGA Funded)**
  - *Non-Federal government disaster/emergency response agencies and/or personnel supporting the Homeland Security mission to "view" the data via a Federal Government owned, secure (i.e., password protected) system – restricted from downloading the data*

- **HSIP Gold Data Release & Disclosure Non-Emergency (NGA Funded for NAVTEQ Data Release)**
  - *In support of State Fusion Centers, EOCs, State GIS Coordinators and State Emergency Management Coordination*

HIFLD works to make HSIP data more readily accessible to all levels of Government and increase the use of common operational data

HSIP Gold 2013 Update

Total Number of 2010 Data Layers:	336
Total Number of 2011 Data Layers:	451 *
Total Number of 2012 Data Layers:	478 *
Total Number of 2013 Data Layers:	568 *
Change in Total Number of Layers	+19%

Unchanged Layers:	186 (32%)
New Layers:	115 (20%)
Updated Layers: **	278 (48%)
Replacement Layers: ***	4 (<1%)
2011 Layers Deleted w/o Replacement:	1

* Does not include 5 core road layers (e.g., streets) which are logically part of the Infrastructure TransGround sector that are provided in the NAVTEQ SDC product.

** Updated Data Layers were provided by the same source for 2012 and 2013

*** Replacement Data Layers were provided by a different source in 2013 (vs. 2012)

WWW.HIFLDWG.ORG

Infrastructure Information Community Model

- Graphical representation of the infrastructure information community which includes HIFLD WG members and participants (6,396+)
- Depiction of data, technical, and operational interactions
  - Mission Areas
  - Mission Partners
  - Data/Production Capability
  - Data users/providers
  - Event types (subject areas)

- HSIP Gold: Common operational, geospatially enabled baseline data

Summary

- HIFLD partnership is a great model of good government
- HIFLD partnership connects operational users with content providers
- HIFLD community participation continues to steadily grow
- Provides increased access to data, products and best practices
- Provides improved geospatial capability for HLS, HD and NP - PPMR &R communities
- HIFLD partners seek continued support and advocacy

HIFLD works to continuously improve HSIP data, keep it useful, usable and used and get it into the hands of the users at all levels of government...

WWW.HIFLDWG.ORG

Thanks For Your Time and Discussion

http://www.youtube.com/watch?v=IEhjN2y-o54

Homeland Infrastructure Foundation
Level Data (HIFLD) Working Group

HIFLD Points of Contact

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HOMELAND INFRASTRUCTURE FOUNDATION LEVEL DATA WORKING GROUP

HIFLD – FGDC Strategic Alignment

Prepared by DHS Geospatial Management Office

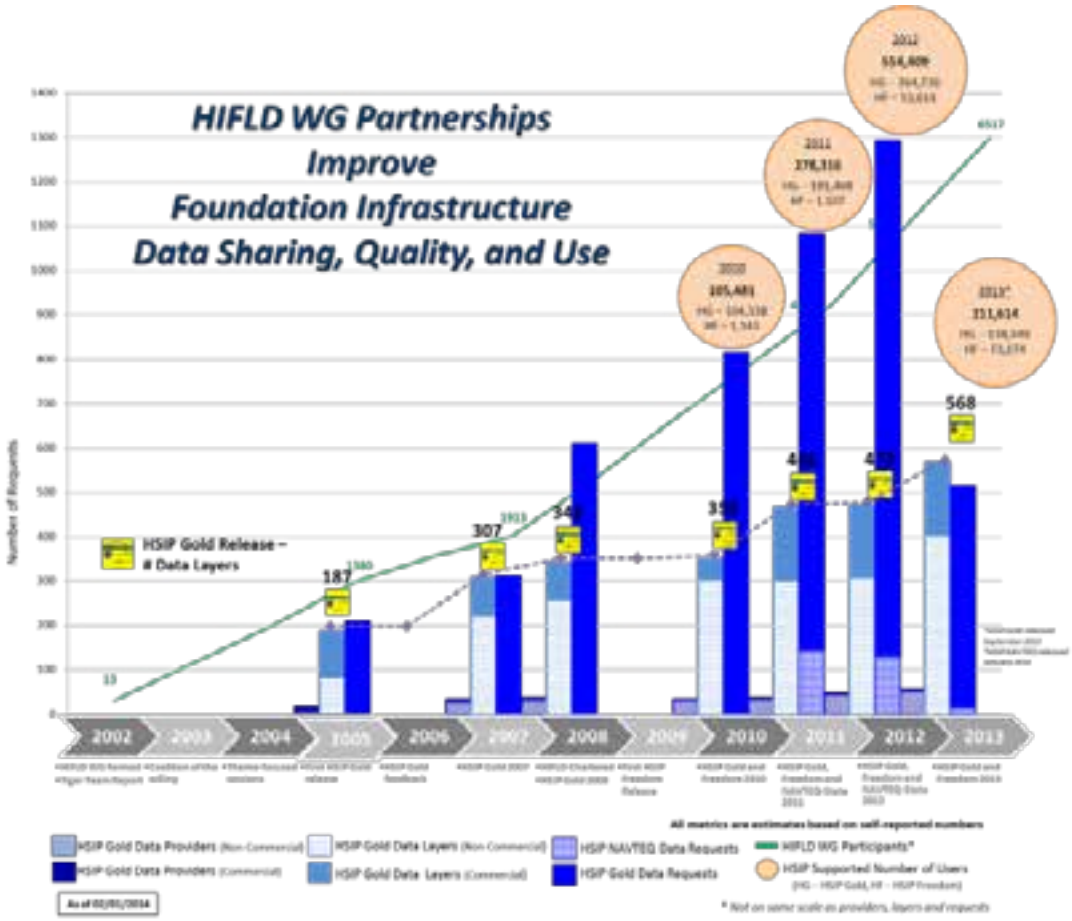
11 Feb 2014

Discussion Points

- Where we are now with HIFLD
- Way Forward
- HIFLD – FGDC Alignment
- Next Steps for Governance
- Question and Answer/Feedback

Where we are now with HIFLD

The Homeland Infrastructure Foundation Level Data Working Group (HIFLD) was established in 2002 and chartered as a joint effort in 2007 by DoD, DHS, NGA, and DOI/USGS.



Way Forward

- Enhance coordination between Operators & Data Providers
  - Strengthen FGDC interactions with DOD\IC\HLS\LE communities
  - Facilitates availability of common operating data across the national community
- Formalize HIFLD Governance and demonstrates strategic level coordination
  - Promotes national efficiencies for geospatial data sharing (at all operating levels)
  - Bolsters national geospatial support for PPD 8, 21, information sharing, and digital government
- Align HIFLD-FGDC contributions to the National Spatial Data Infrastructure

HIFLD-FGDC Alignment

- Adoption of revised HIFLD Charter
  - Establishes a formal governance body – the HIFLD Subcommittee
  - Accountable to FGDC Steering Committee and FGDC Coordination Group
- Goals and Objectives
  - Leverage existing and authoritative resources to satisfy multiple requirements and to minimize redundant data production
  - Perform cost estimates and studies to ensure data acquisition is cost efficient
  - Support coordination of standards, goals, and objectives established by Federal, National, and International Standards
  - Support the maintenance and archiving of digital homeland infrastructure geospatial information and associated metadata

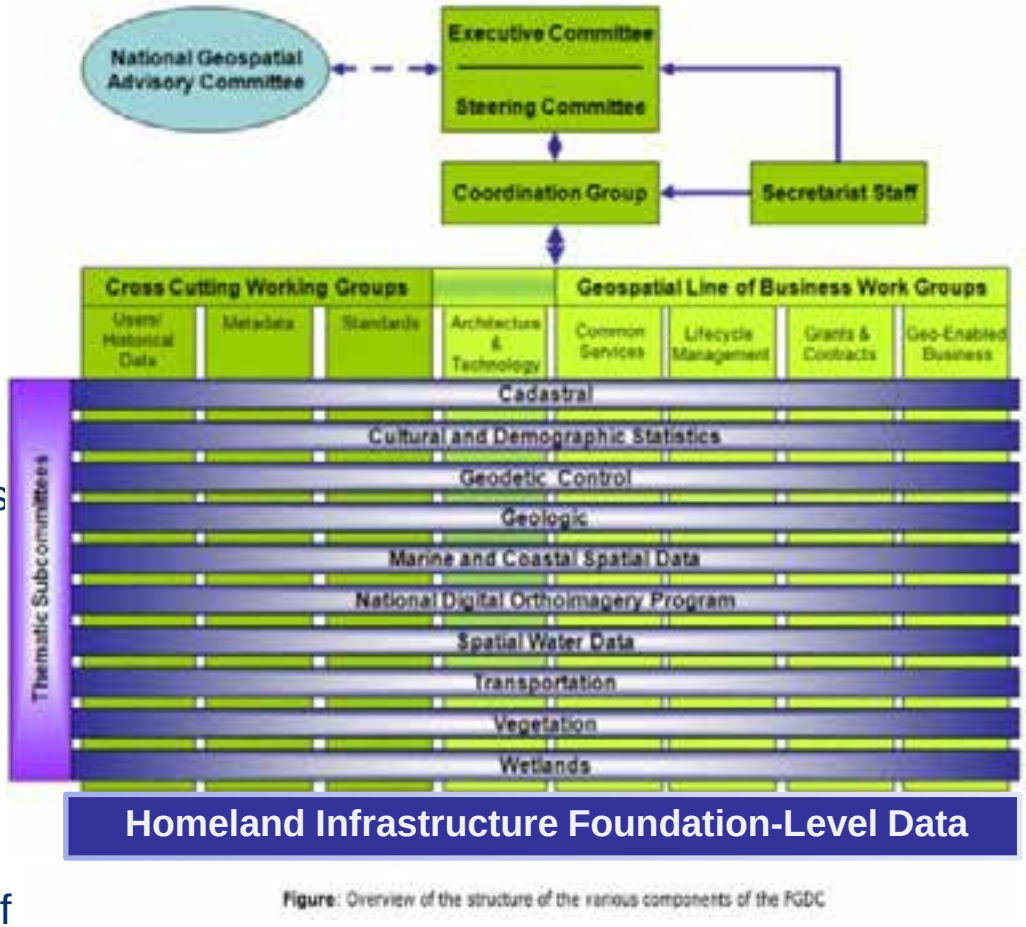


Figure: Overview of the structure of the various components of the FGDC

Next Steps for Governance

- Charter approved by FGDC Coordination Group
- Presentation to FGDC Steering Committee on 13 Feb for formal adoption
- Establishment of Program Management Group to support HIFLD Subcommittee
  - Provide direction and guidance on future HIFLD activities (Working Group sessions, outreach and coordination, collection of HSIP Feedback, etc)
  - Submit annual goals and objectives plan to FGDC Coordination Group and Secretariat
  - Catalog annual summary of accomplishments

Remote Sensing Requirements

- Community Feedback
  - Catalog available content stores
  - Improve availability and discovery
  - Better coordination of collection requirements
  - Shared resources

Questions

Homeland Infrastructure Level Data Working Group

www.hifldwg.org

hifldwg@bah.com