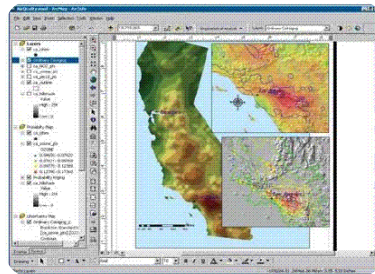




Homeland Security



Geospatial Enterprise Capabilities

David J. Alexander, Director

DHS Geospatial Management Office

April 10, 2013



Homeland Security

Presentation overview

- Current Roadmap and Capabilities Overview
- Technology demos
 - GII 1.0 production site
 - Beta sites
 - GII 2.0
 - GeoCONOPS Online
- Big Picture / Next Steps

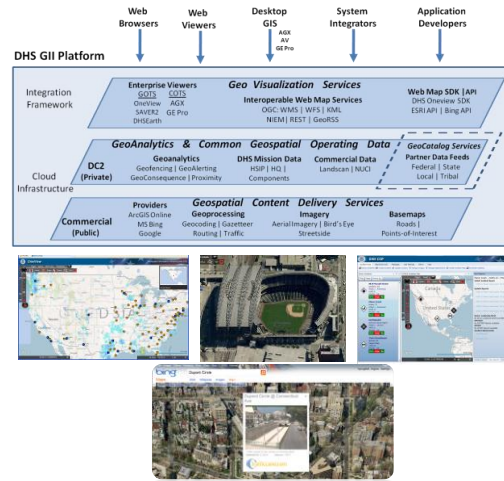


Geospatial Roadmap for Homeland Security Enterprise

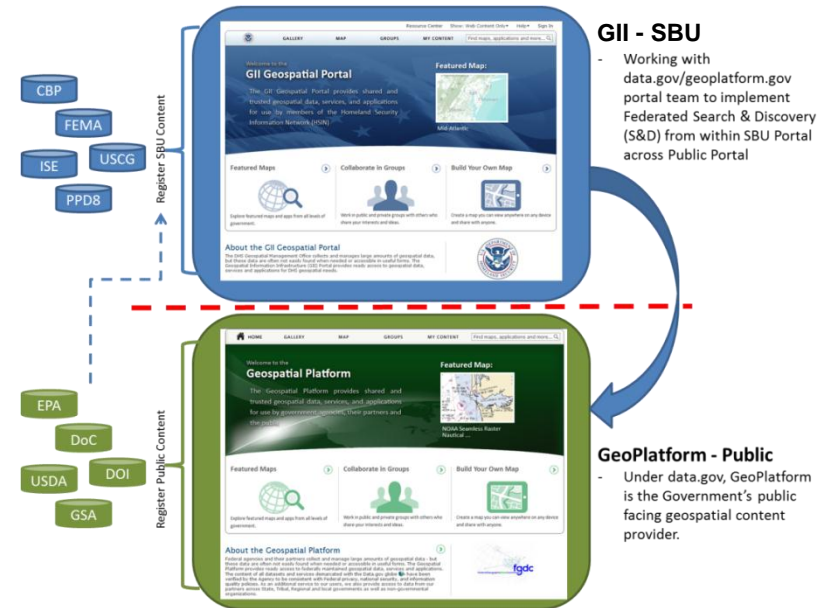
Enterprise Framework



Shared Services



Federated Platform



2008/09

2010/11

2012/13

Contact Info and URLs

- For general inquiries:
 - gmo@dhs.gov
- For GeoCONOPS inquiries:
 - geoconops.@dhs.gov
- For GII user access:
 - HSIN.Helpdesk@dhs.gov
 - Telephone: (866) 430-0162 or (703) 674-3003
 - Request access to GIS community of interest (COI)
- For GII secure token for Government system owners
 - gmo@dhs.gov

DHS Geospatial Services Geospatial Information Infrastructure (GII)

<https://gii.dhs.gov>



<https://gii.dhs.gov/ServicesCatalog.aspx>



<https://gii.dhs.gov/BatchGeocode.aspx>



<https://gii.dhs.gov/OneView>




Please contact the GMO for more information
(GMO@hq.dh.gov)



GII Capabilities

USSS
DHS COP
DHS SOPD



DHS Components can leverage the GIS API for their web applications

DHS GIS API & DEVELOPER GUIDEBOOK

Creating a MapWindow and Properties Exposed

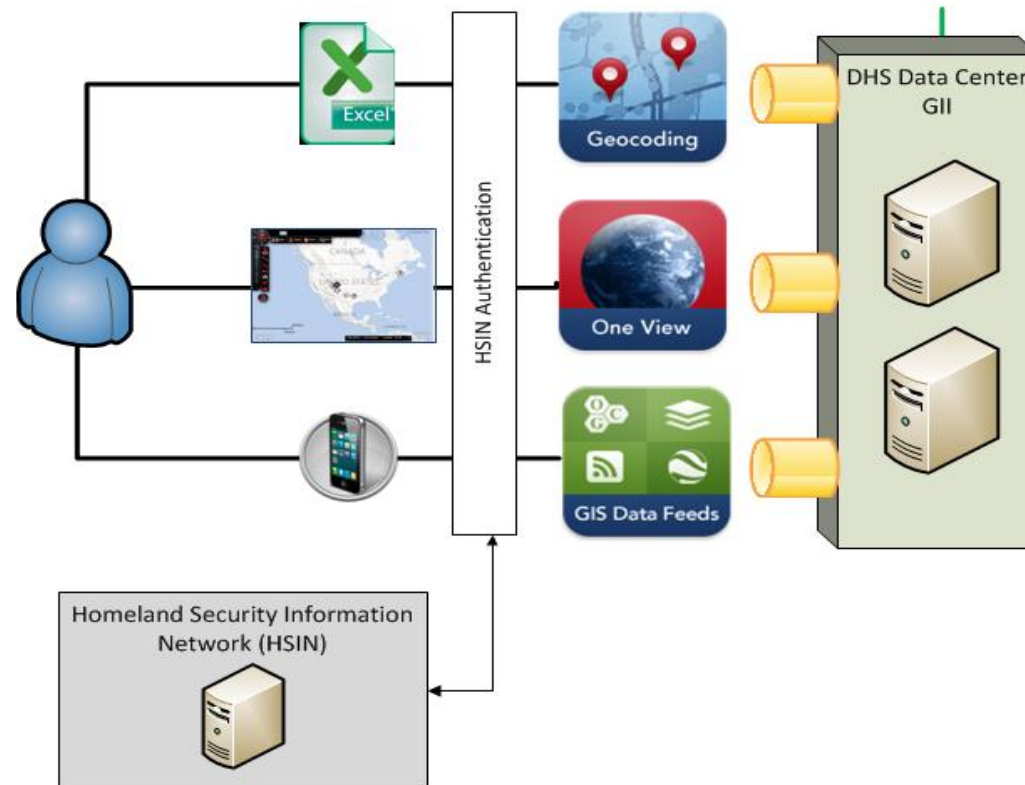
The following sample shows how to create a MapWindow in your application:

```
class Control : class<DHS_GII_Tools.Path>
{
public:
    Control() : class<DHS_GII_Tools.Path>()
    {
        m_MapView = class<DHS_GII_Tools.Path>();
        m_MapView->SetData("http://services.arcgis.com/ArcGIS/ArcGIS/arcgis/rest/services/World/MapServer/0/MapImage?width=2000&height=2000");
        m_MapView->SetData("http://services.arcgis.com/ArcGIS/ArcGIS/arcgis/rest/services/World/MapServer/0/MapImage?width=2000&height=2000");
        m_MapView->SetData("http://services.arcgis.com/ArcGIS/ArcGIS/arcgis/rest/services/World/MapServer/0/MapImage?width=2000&height=2000");
        m_MapView->SetData("http://services.arcgis.com/ArcGIS/ArcGIS/arcgis/rest/services/World/MapServer/0/MapImage?width=2000&height=2000");
        m_MapView->SetData("http://services.arcgis.com/ArcGIS/ArcGIS/arcgis/rest/services/World/MapServer/0/MapImage?width=2000&height=2000");
    }
};
```

ArcGIS API for Silverlight

Microsoft .net

Microsoft Silverlight



GII Content Delivery Services



Organization Details

Organization: _____

Application: _____

Host URL: _____

Expiration Date: _____

Point of Contact

Name: _____

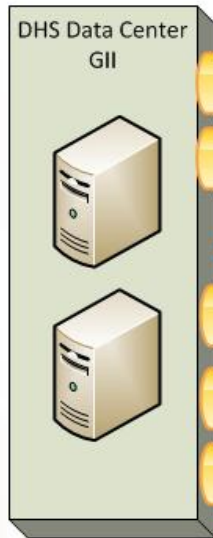
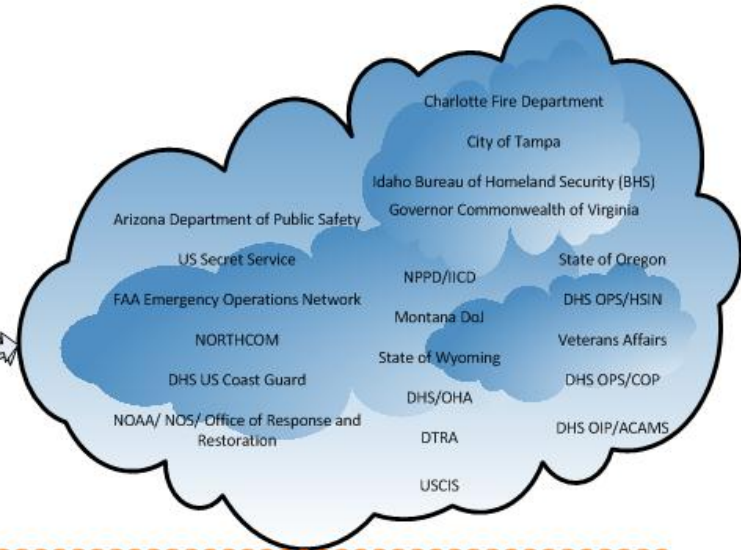
E-mail: _____

Phone: _____ ext: _____

Token Request Information

How to request GII Token

GII Connecting Partner Systems



Esri Map Service

DHS COP GeoRSS

Token Authentication

Esri Map Service

OGC Map Services – WMS/WFS

KML – DHS Earth

HSIN Authentication



End User Access

The image is a collage of screenshots illustrating end-user access to Geospatial Information Infrastructure (GI) services. It features several overlapping windows:

- Geospatial Information Infrastructure (GI) - Windows Internet Explorer:** Shows the DHS GI portal homepage with navigation links for Home, OneView, GI Services, and DHS Earth. A "Welcome" message is visible.
- Google Earth Pro:** Displays a 3D view of the Earth with a search bar and various toolbars.
- Composite Map - ArcMap:** Shows a map of the United States with red diamond markers overlaid on a grid. The Table of Contents lists layers such as "New Group Layer", "Atlantic Storms", "River Gauges", "AVRS_Gauges", "Forecast River Stag", and "Observed River Stag".
- Mozilla Firefox:** Displays a WMS service metadata page with XML content, including fields for Name, Title, Abstract, Keyword, OnlineResource, and Contact information.
- File Download dialog:** A small dialog box asking "Do you want to open or save this file?" for a file named "dhs-earth.html" from "gi.dhs.gov".
- Add WMS Server dialog:** A dialog box for adding a WMS server, showing the URL "https://gi.dhs.gov/arcgis/HSP2011_WMS/EmergencyServices/MapServer/WMSServer" and a "Save Password" checkbox.

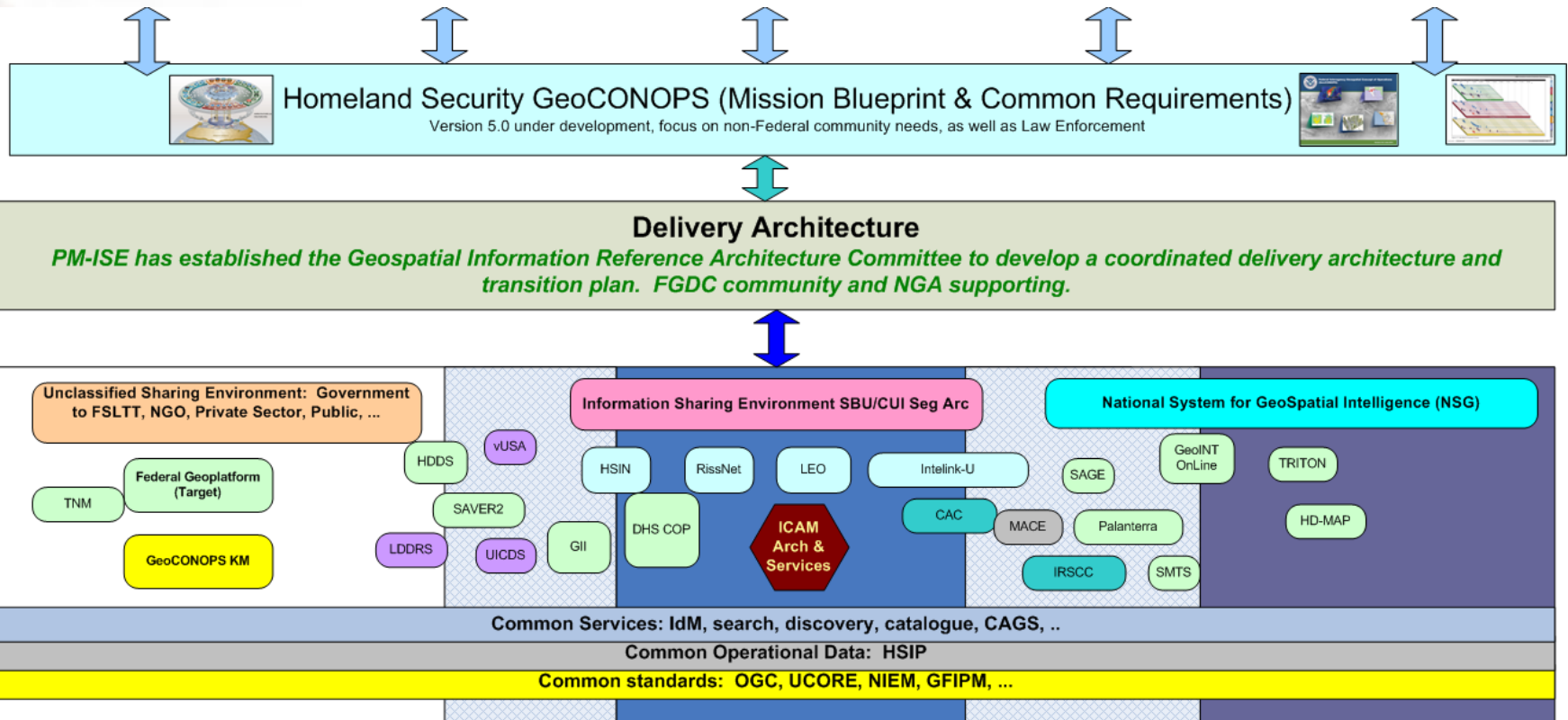
GII Technology Demos

- GII 1.0 production
- GII 2.0
- GeoCONOPS Online



Homeland Security Enterprise Big Picture

- Integrate the GeoCONOPS body of knowledge with a coordinated / federated delivery architecture
- Drive interoperability for both data and technology
- Advance a No-wrong door access policy
- Promote online and more near-real time collaboration
- Bridge the gap between points-of-coordination and technical resources



Next Steps toward a new HLS geospatial enterprise

- Available starting late Spring 2013 w/ phase approach
- Part 1: GII 2.0 – technology refresh: new hardware, software, content, and capabilities
- Part 2: Integration between GeoPlatform (Public), GII (SBU), and Intelligence Community
- Part 3: GeoCONOPS Online hosted within Geoplatform



GII - SBU

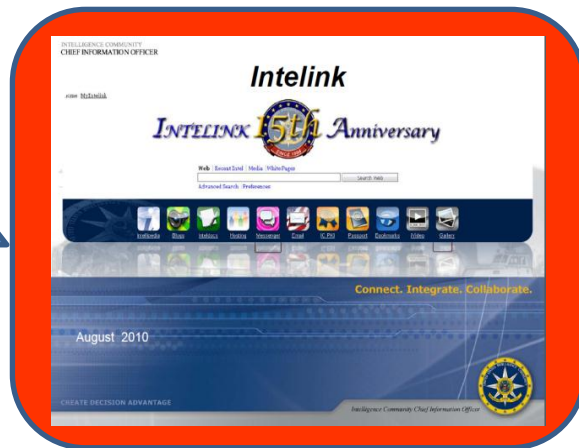
- Working with data.gov/geoplatform.gov portal team to implement Federated Search & Discovery (S&D) from within SBU Portal across Public Portal

GeoInt - IC

- Working with PM-ISE, NGA teams to implement Federated Search & Discovery across SBU environments

GeoPlatform - Public

- Under data.gov, GeoPlatform is the Government's public facing geospatial content provider.



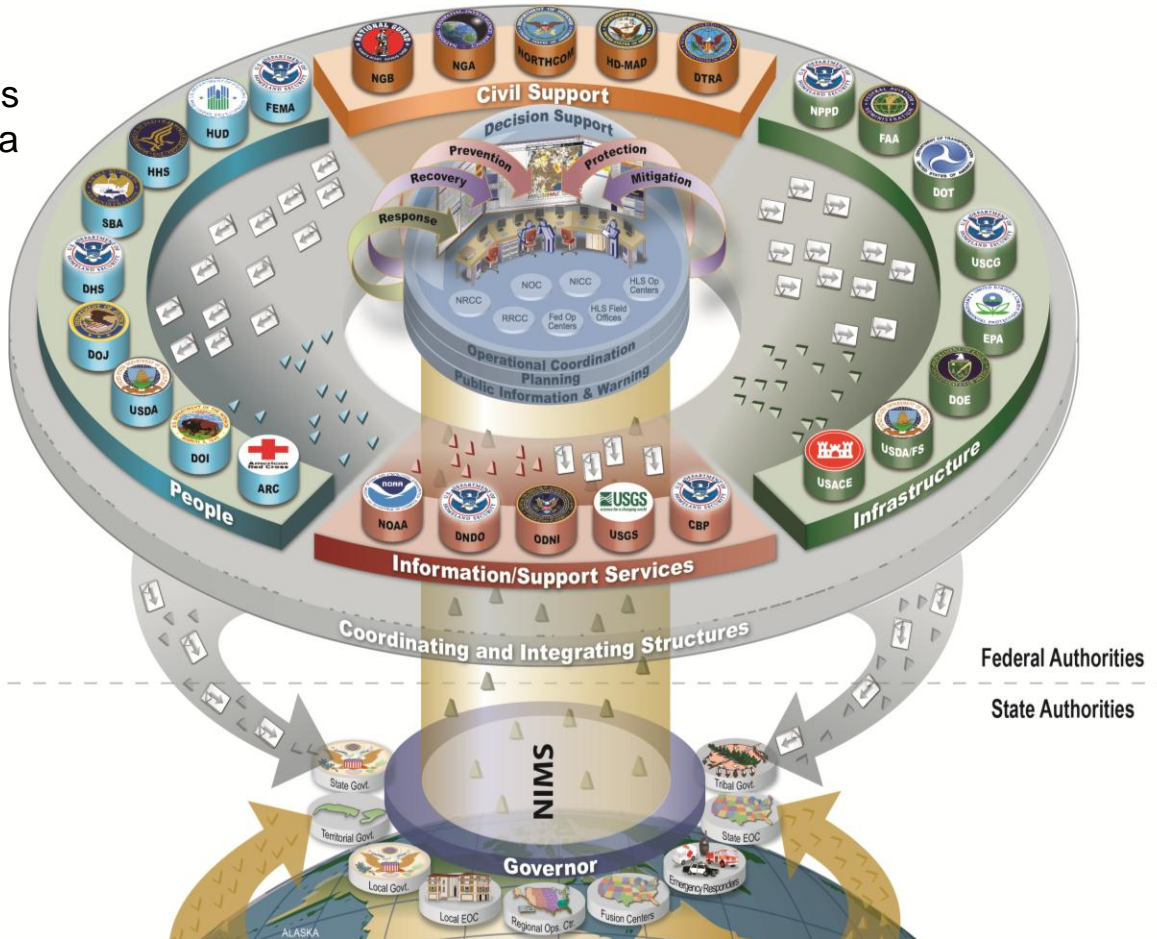
Backup Slides



Geospatial Concept of Operations (GeoCONOPS)

The GeoCONOPS is linked to PPD8 and provides a place of reference for understanding:

- Missions and stakeholders
- Sources for geospatial best practices
- Sources for authoritative/trusted data
- Sources for technical capabilities

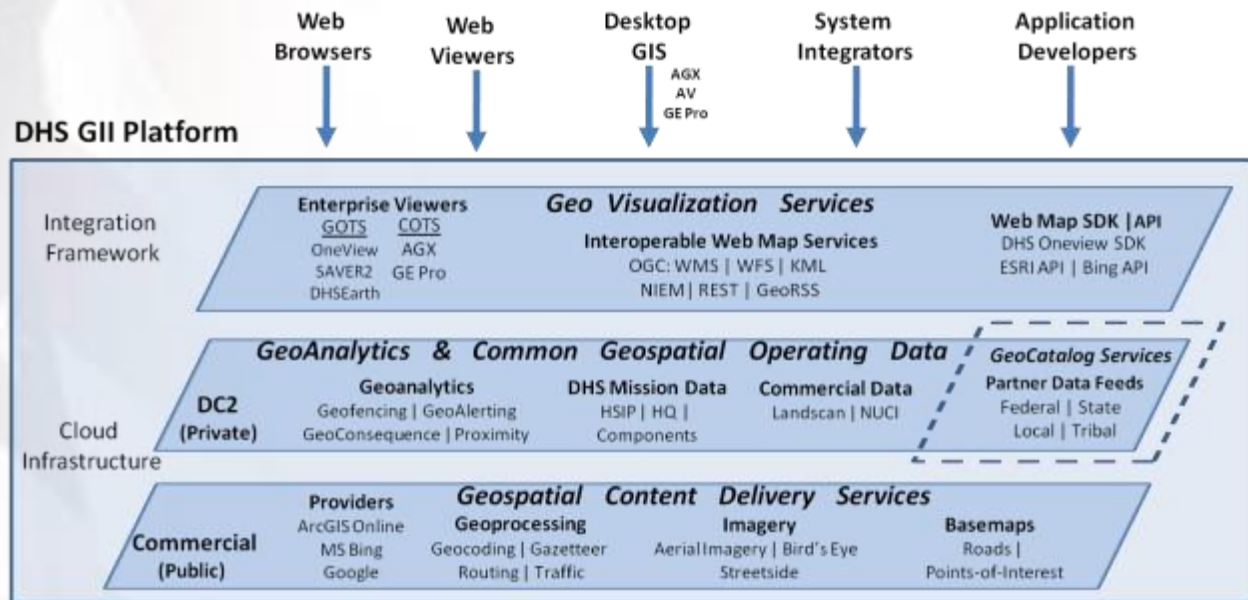


GeoCONOPS is about collaboration and sharing resources to get the right data and technology ...to the right people... at the right time...

HLS Geospatial Information Infrastructure

What is the Geospatial Information Infrastructure?

The DHS Geospatial Information Infrastructure (GII) is the solution architecture for the Geospatial Services Architecture (GSSA). The GII platform is a body of enterprise data, application services, and infrastructure governed by the GSSA following DHS Enterprise Architecture principles and built to meet common geospatial requirements across the broad DHS mission space.

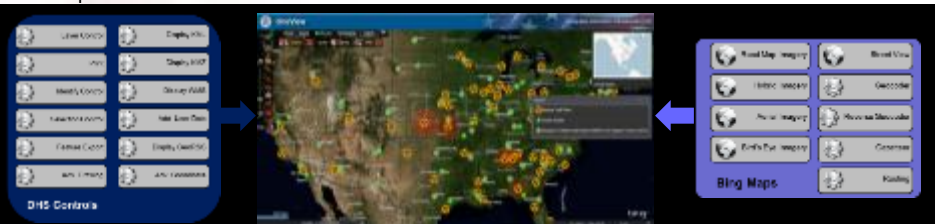


DHS Oneview Software Development Kit (SDK)

Oneview Software Development Kit (SDK) provides the binaries and programming references for the OneView Silverlight Control (API). You can use this control to build your own DHS web mapping sites integrated with the GII platform. The Oneview SDK includes a copy of the GII Integration Cookbook that includes developer guidelines and standards, Integration and development samples, and installation instructions.

System requirements

- Operating Systems: Windows 2000, Windows 7, Windows XP, Windows Server 2003/2008
- Developer Tools: Visual Studio 2010 SP1



GII Integration Requirements

- User requirements- *HSIN user account, desktop GIS, or Silverlight plug-in for Oneview*
- System Integration requirements – *Interconnection Security Agreement (ISA), GII issued access token*
- Application Development requirements – *ISA, GII issued access token, acceptance of GII Integration guidelines*

GII Platform Services

The GII platform provides a public/private cloud infrastructure and integration framework to supply standards-based Geo Visualization services, Geoanalytics and Common Geospatial Operating Data, and Geospatial Content Delivery Services.

Geo Visualization Services

Includes a web map viewer for general users, interoperable web map services for desktop GIS users and system integrators, and a web map SDK/API for application developers.

- Oneview is a map viewer for users who need access to GIS data and a web browser-based mapping tool.
- Interoperable OGC compliant web map services provide desktop GIS users and system integrators access to GII Data and Content.
- The DHS Oneview SDK provides developers a Silverlight Map Control for building web mapping applications using GII services and components.

GeoAnalytics & Common Geospatial Operating Data

Provides access to DHS mission data, HLS partner data feeds from federal, state, local, and tribal sources, and data from commercial providers as well as general analytic capabilities..

- Geoanalytics includes geofencing, alerting, geospatial consequence, NIEM translation, etc.
- DHS mission data consists of HSIP Gold, NPPD IAL, FEMA DFIRM, and other component data feeds.
- HLS partner data feeds encompass USGS earthquake warnings, stream gauge readings, NOAA coastal data, etc..
- Commercial provided data includes Landscan, NUCI, Hurricane forecasts, etc.

Geospatial Content Delivery Services

Provides access to the BingMaps platform and ArcGIS online. These platforms include geoprocessing, content, data and developer tools. GE Pro licenses have additional access to the Google Earth platform.

- Geoprocessing services encompass geocoding, gazetteer, routing, traffic, etc.
- Imagery content includes aerial, oblique, street level views, etc.
- Basemap content includes streets, roads, points-of-interest, etc.



HOMELAND SECURITY GEOSPATIAL CONCEPT OF OPERATIONS

Coordinating Geospatial Support for the Homeland Security Mission

Search

HOME

DATA

BEST PRACTICES

HLS MISSIONS

TOOLS

SEARCH

COMMUNITY FORUM

ABOUT



WHAT IS THE GEOCONOPS?
HOW DO I USE THIS SITE?
WHO ARE THE SUPPORTING PARTNERS?

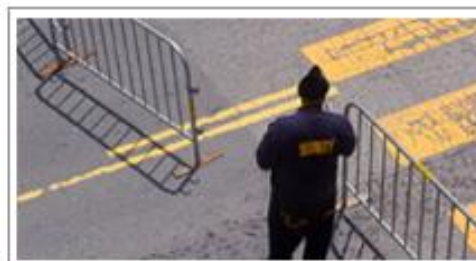
FEATURED GEOSPATIAL CAPABILITIES

AUTHORITATIVE DATA



For the purpose of the GeoCONOPS, authoritative data classifications provide clarity beyond the frequent notion that an authoritative data source is simply the entity trusted because of a subjective belief that it is the "best" or "most accurate" source for a specific data theme.

BEST PRACTICES



The GeoCONOPS Best Practices highlight more than a dozen mature methods and innovative practices for geospatial management processes, analyses, data products, technology, and models that are addressing key emergency response needs at the national, regional, and field levels.

COMMUNITY FORUM



Join our discussion community!



HOMELAND SECURITY GEOSPATIAL CONCEPT OF OPERATIONS

Coordinating Geospatial Support for the Homeland Security Mission

- HOME
- DATA ▾
- BEST PRACTICES
- HLS MISSIONS ▾
- SEARCH ▾
- COMMUNITY FORUM
- ABOUT ▾



- GEOSPATIAL MISSION SUPPORT
- PPD-8 MISSION AREAS
- DISASTER OPERATIONS
- CATASTROPHIC OPERATIONS
- APPENDIX B



- ### HLS MISSIONS
- GEOSPATIAL REQUIREMENTS AND CAPABILITIES
 - PPD-8 MISSION AREAS
 - DISASTER OPERATIONS
 - CATASTROPHIC DISASTERS

GEOSPATIAL REQUIREMENTS

GEOSPATIAL MISSION SUPPORT

Geospatial technology is used throughout the operations supporting response, recovery, mitigation, preparedness, and prevention efforts. The missions reflected in these efforts include the saving of lives and property, the provision of food and shelter, financial assistance, damage assessments, and recovery. With coordination and a strategy for resource use, geospatial technology can be more effective in meeting the requirements of any incident.

Coordination Requirements

The focus of the geospatial leadership is to provide a coordinated level of support to their customers. In the context of this GeoCONOPS, the term "geospatial leadership" refers to an operational paradigm that suggests ownership at multiple levels of a community or organization, which allows for geospatial activities to operate efficiently in support of incident response. This operational paradigm will assist in minimizing the duplication of efforts and expedite the availability of critical information. Efforts to maintain connections with other entities



BEST PRACTICES

TITLE	DESCRIPTION	SECTION TYPE	TYPE	KEYWORDS - ADDITIONAL	KEYWORDS - AGENCIES	KEYWORDS - ESF	KEYWORDS - TECHNOLOGY\TOOLS
Advisory Base Flood Elevations	Following Hurricanes Katrina and Rita in 2005, FEMA conducted a new fl	Subsection	Article	MISSION AREA, RESPONSE, BEST PRACTICES, ABFE, BFE	FEMA, PPD-8		
Best Practices	FEMA Damage Polygons	Section	Article	GEOSPATIAL, RFI, BEST PRACTICES, HSIP, DHS ONEVIEW, DHS IP, HSIN, AXIM, DHS GII, LEX-PD, NOA, LGCC, NIEM-M, EDXL, OGC, VNN, SUMIT,	FEMA, DHS, NOAA, DOD, NGA, EPA, NRCC, FAA, FPS,	ESF #1, ESF #12, ESF #5, ESF #8	Tool



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Coordinating Geospatial Support for the Homeland Security Mission

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[BEST PRACTICES](#)

[HLS MISSIONS](#)

[TOOLS](#)

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HLS MISSIONS

- GEOSPATIAL REQUIREMENTS AND CAPABILITIES
- PPD-8 MISSION AREAS
- DISASTER OPERATIONS
- CATASTROPHIC DISASTERS

FEMA DAMAGE POLYGONS

Imagery derived data products support the immediate information requirements for Response and Recovery operations by allowing fixed facilities to analyze imagery data and quickly share the results with field teams, state/local entities, and the DHS COP with minimal effort. In support of FEMA, NGA provides damage analysis in the form of Imagery Derived Polygons (IDPs) for specific targeted areas. These IDPs provide situational awareness, visualization, and key common operating data for emergency responders and decision-makers following hurricane, earthquake, fire, and flood events. The IDPs are identified and annotated based on the Damage Classification System guidelines developed by FEMA and provided to NGA. These guidelines are used by geospatial analysts to determine the magnitude of damage. The NGA analysts delineate the damaged areas according to the FEMA's criteria and provide this information to FEMA in both map and data product formats.



HOMELAND SECURITY GEOSPATIAL CONCEPT OF OPERATIONS

Coordinating Geospatial Support for the Homeland Security Mission

Login | Register



DATA MATRIX

- ▶ DATA MATRIX GRID
- ▶ INTERACTIVE DATA MATRIX

DATA MATRIX

CATEGORY\SUBCATEGORY

- Agriculture/Food
- Animal Health Surveillance
- Mobile Food
- Processing/Packaging/Production
- Product Distribution
- Product Storage
- Product Transportation

AGENCIES/PO

- AAMS
- AGI
- AHA
- American Burn
- ARC
- ASDWA
- AWWA
- State of Florida

▼ CATEGORY: AGRICULTURE/FOOD

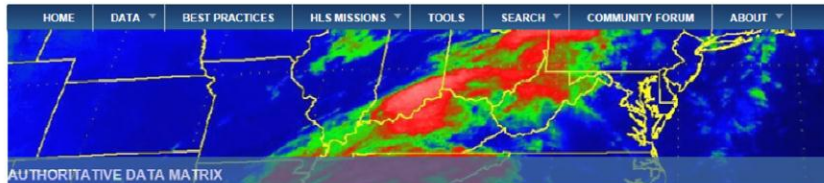
Animal Health Surveillance	Animal Health Surveillance	USDA		http://www.aphis.usda.gov/vs/nahss/index.htm
Mobile Food	Mobile Commissary - Base	DOI, NIFC		
Mobile Food	Mobile Commissary - Mobilized Locations	DOI, NIFC		
Mobile Food	Mobile Food Unit - Base	DOI, NIFC		
Mobile Food	Mobile Food Unit - Mobilized Locations	DOI, NIFC		
Processing/Packaging/Production	Animal Food Manufacturing	FDA		https://www.hifldwg.org/hsip.asp
Processing/Packaging/Production	Animal Slaughter and Processing Facilities	USDA		
Processing/Packaging/Production	Breweries/Distilleries	FDA	Restrictions: Yes	https://www.hifldwg.org/hsip.asp
Processing/Packaging/Production	Canneries	FDA	Restrictions: Yes	https://www.hifldwg.org/hsip.asp
Processing/Packaging/Production	Dairy Product Manufacturing	FDA		
Processing/Packaging/Production	Fruit/Vegetable Preserving, Specialty Food Manufacturing	FDA		
Processing/Packaging/Production	Grain Mills	Dun & Bradstreet, FDA	Restrictions: Yes	https://www.hifldwg.org/hsip.asp
Processing/Packaging/Production	Ice Production	FEMA		
Processing/Packaging/Production	Meals Ready to Eat (MRE) Production	DOD, DCMA		
Processing/Packaging/Production	Meat Packing And Processing Plants	Dun & Bradstreet, FDA	Restrictions: Yes	https://www.hifldwg.org/hsip.asp
Processing/Packaging/Production	Other Food Manufacturing	FDA		
Processing/Packaging/Production	Seafood Product Processing	FDA		
Processing/Packaging/Production	Soft Drink Bottling	Dun & Bradstreet, FDA	Restrictions: Yes	https://www.hifldwg.org/hsip.asp



HOMELAND SECURITY GEOSPATIAL CONCEPT OF OPERATIONS

Coordinating Geospatial Support for the Homeland Security Mission

Login | Register



DATA MATRIX

- ▶ DATA MATRIX GRID
- ▶ INTERACTIVE DATA MATRIX

ANIMAL FOOD MANUFACTURING

POC: FDA
 Category: Agriculture/Food
 Sub-Category: Processing/Packaging/Production
 Themes: Animal Food Manufacturing
 Type: Point
 URL: <https://www.hifldwg.org/hsip.asp>
 Agriculture Food Agriculture/Food Processing/Packaging/Production FDA





GALLERY

MAP

GROUPS

MY CONTENT

Find maps, applications and more...



Geospatial Information Infrastructure (GII)

The GII provides a platform for shared and trusted geospatial data, services, and applications for use by the Homeland Security community

Tools & Technology

GII Content

HLS GeoCONOPS



One View



Geocoding



GIS Data Feeds



User Guide

Get help on Portal functionality

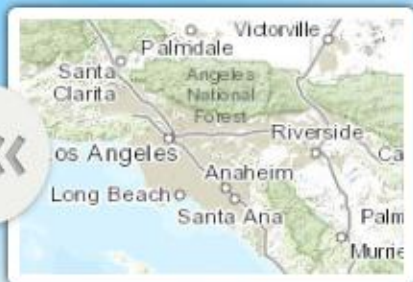
Create a Map

Make a map mashup

Find Groups

Discover groups to find content

Trending Topics



Los Angeles



New York City



Washington DC



Boston



Federated Search – Community Integration



GALLERY **MAP** **GROUPS** **MY CONTENT**

Find maps, applications and more...

Geospatial Information Infrastructure (GII)

The GII provides a platform for shared and trusted geospatial data, services, and applications for use by the Homeland Security community

Tools & Technology **GII Content** **HLS GeoCONOPS** **User Guide**

Portal Search Tool


Criteria


Portal Servers to search

- [https://54.243.149.253/sharing/ \(admin\)](https://54.243.149.253/sharing/)
- [https://www.geoplatform.gov/sharing/ \(jonbaler\)](https://www.geoplatform.gov/sharing/)
- [https://54.243.149.253/sharing/ \(\)](https://54.243.149.253/sharing/)
- [https://www.geoplatform.gov/sharing/ \(\)](https://www.geoplatform.gov/sharing/)

[Add New Server](#)

Keywords
(e.g. storm, water, etc.)

- Results 127**
- 

[Bing Maps Aerial](#)
This map contains the Bing Maps aerial imagery web mapping service, which offers worldwide orthographic aerial and satellite imagery.
Web Map by esi_en
1329447871000
<https://54.243.149.253/>
 - 

[Bing Maps Hybrid](#)
This web map contains the Bing Maps aerial imagery with labels web mapping service, which provides worldwide orthographic aerial and satellite imagery with roads and labels overlaid.
Web Map by esi_en
1329447895000
<https://54.243.149.253/>

