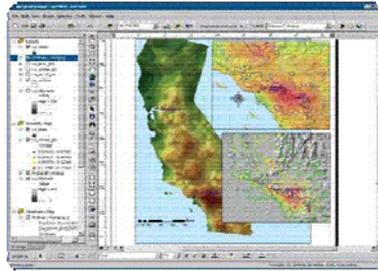




Homeland Security



HLS Geospatial Initiatives Update for FGDC Coordination Group

Dan Cotter, Chief Technology Officer



Homeland Security

March 13, 2012

Presentation Outline

- HLS Geo Coordination Landscape
- HLS GeoCONOPS
- PPD-8 Initiative
- HLS Geospatial Information Architecture
- DHS-DOD-NGA Joint Project: Consequence Assessment Geospatial Services (CAGS)
- HLS COP and Situational Awareness Architecture
- NUCI Update

Some Existing Key Geospatial Coordination Activities

- National Spatial Data Infrastructure (EO 12906, OMB Circular A-16)
 - Federal Geographic Data Committee has responsibilities for data coordination
 - FY2010 budget language directs development of the Federal GeoPlatform
 - DOI and OMB are co-chairs
 - *USG defense and intelligence communities are exempted from compliance*
- EO 12333 United States Intelligence Activities
 - Establishes NGA as the functional manager for geospatial intelligence (geoint)
 - NGA has established the National System for Geospatial Intelligence (NSG)
- Homeland Security Infrastructure Foundation Level Data (HIFLD) Working Group
 - Coordination of infrastructure geospatial data
- Homeland Security Infrastructure Protection Common Operating Data
 - NGA funded activity with DHS and USGS coordination and support
- Capabilities Development Working Group
 - High level DOD-DHS group with Common Operating Picture (COP) program
- GeoCONOPS Interagency Oversight Team
 - Provides leadership and direction in development of the Federal GeoCONOPs
- ***Commercial Applications Committee***

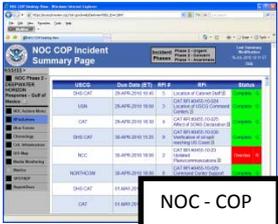
Key Non-United States Government Coordination Activities

- United States Geospatial Intelligence Foundation
- National States Geospatial Information Council
- National Alliance for Public Safety GIS Foundation
- Urban and Regional Information Systems Association
- GIS Certification Institute
- Open Geospatial Consortium
- Others ...

Linkages between all coordination activities, USG and non-USG, are weak and tend to be voluntary efforts by small groups of individuals. There is no systematic approach towards support of the HLS / HLD mission with geospatial technologies.

COP Landscape...Deep Water Horizon

DHS Community



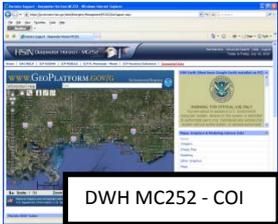
NOC - COP



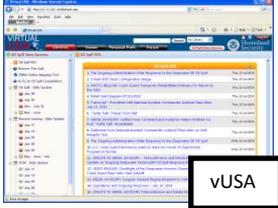
DWH - Unified Command



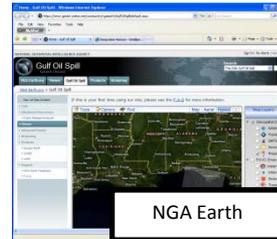
DOD intelink



DWH MC252 - COI



vUSA



NGA Earth



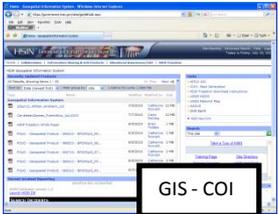
EM - COI



NICC - COP



NGA Americas

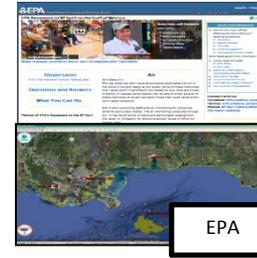


GIS - COI



FEMA OneMap

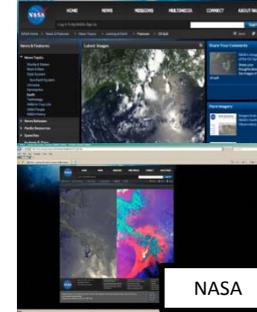
Other Federal sites



EPA



HHS



NASA



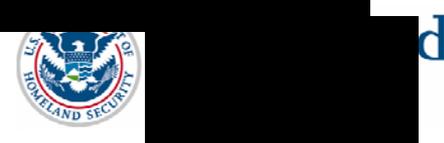
DOE



CDC



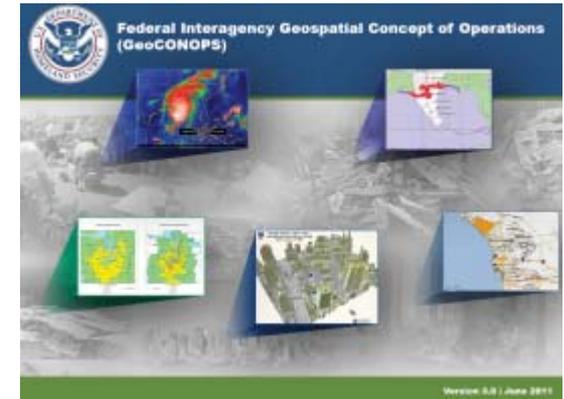
NOAA



Geospatial Concept of Operations (GeoCONOPS)

GeoCONOPS is a multiyear effort focused on the geospatial communities supporting DHS and the emergency management activities per National Preparedness Goal and other HLS legal authorities

- The Federal Interagency GeoCONOPS is intended to identify and align the geospatial resources that are required to support the NRF, ESF, and supporting federal mission partners
- GeoCONOPS addresses *Geospatial Mission Support* (coordination, staffing, technology requirements); *Geospatial Data* (authoritative data, data standards, data dissemination) and *Geospatial Production and Delivery*
- Initial focus on *life saving, damage assessment, and recovery*
- *To provide a strategic planning resource and guide for tactical operations*



DHS\FEMA serves as the lead agency for coordinating federal resources in response to national disasters/ emergencies.

The *National Response Framework* presents the guiding principles that enable all response partners to prepare for and provide a unified national response to disasters and emergencies - from the smallest incident to the largest catastrophe. The *Framework* establishes a comprehensive, national, all-hazards approach to domestic incident response. The NRF includes 23 support annexes designed to provide concept of operations, procedures and structures for achieving response directives for all partners in fulfilling their roles under the NRF. There is no geospatial annex to the NRF.

GeoCONOPS: Value Proposition

Gap in DHS Doctrine ...

- Geospatial technology use increasing in homeland security and emergency management activities
- No overall GeoCONOPS exists for the homeland security community
- No GeoCONOPS exists for the National Response Framework (NRF)
- Roles and responsibilities for creating and disseminating geospatial products are not clearly established or agreed to

Result ...

- Duplication of effort
- Decision confusion and information paralysis
- Competing products often provide differing answers and create confusion
- Failure of essential products to reach front line mission staff in timely fashion, if at all
- Distracting focus on technology demonstrations during emergency response
- Wasteful inefficiency in deployment of a scarce technical resource

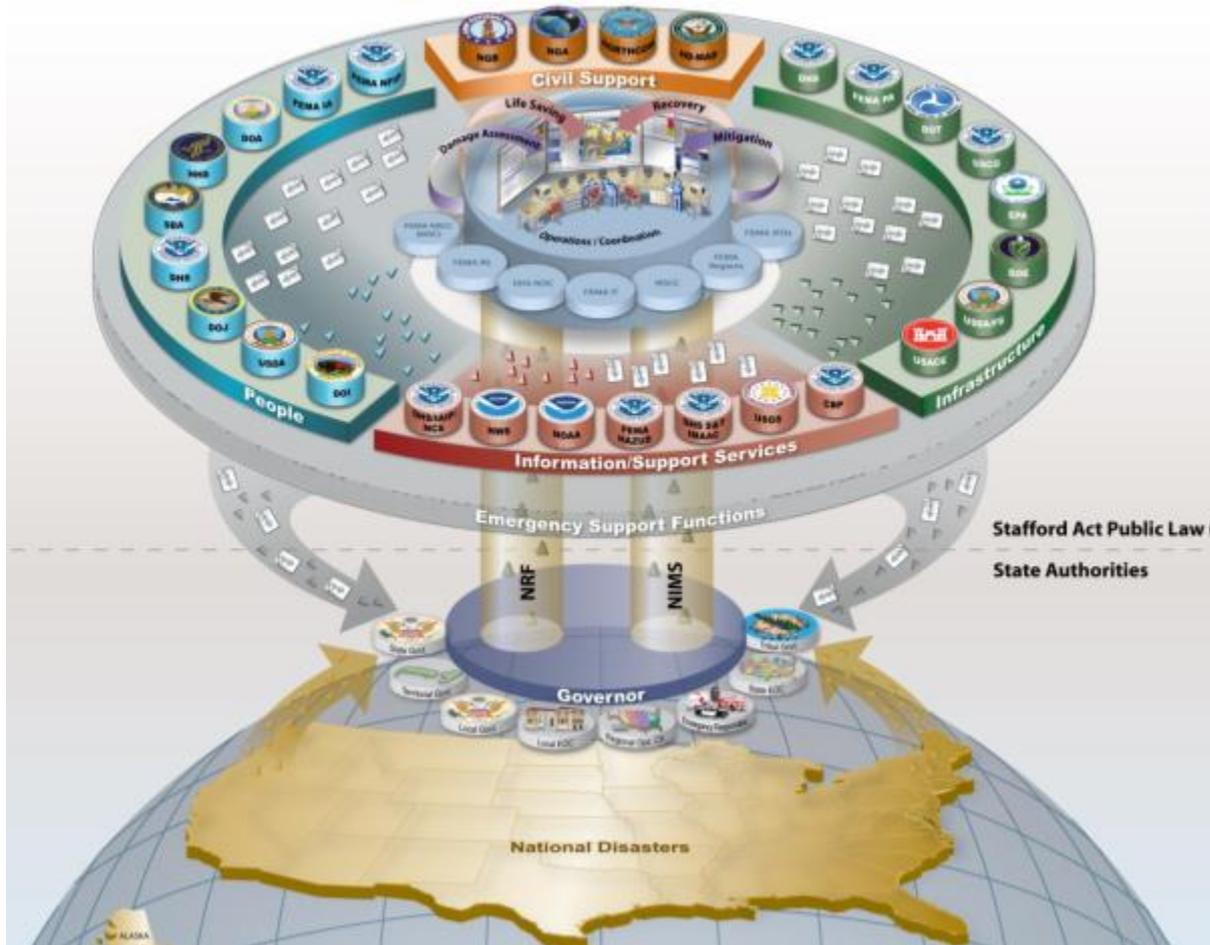
GMO Role

Intelligence Reform Act 2004: "...providing leadership and coordination in meeting the geospatial information requirements of those responsible for planning, prevention, mitigation, assessment and response to emergencies, critical infrastructure protection, and other functions of the Department; "

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

It is a mission blueprint...

GeoCONOPS Community Model



GeoCONOPS is a framework for geospatial support to National policies and governance in Homeland Security



U.S. DEPARTMENT OF
Homeland
Security

GeoCONOPS: Stakeholders

Governance

DHS Members

- Customs & Border Patrol
- FEMA/ Disaster Response and Recovery
- FEMA/ Mitigation
- FEMA/ National Exercise Division / NESC
- FEMA/ National Incident Management System
- FEMA/ Office of the Chief Information Officer / GIS
- Office of the Chief Information Officer / GMO
- Office of Infrastructure Protection
- Office of Intelligence & Analysis
- Office of Science & Technology
- United States Coast Guard

Inter-Agency Members

- American Red Cross
- Environmental Protection Agency
- DOD/ Northcom
- National Geospatial-Intelligence Agency
- National Guard Bureau
- National Oceanic & Atmospheric Administration
- Small Business Administration
- US Army Corps of Engineers
- US Department of Agriculture
- US Geological Survey

Requirements

DHS

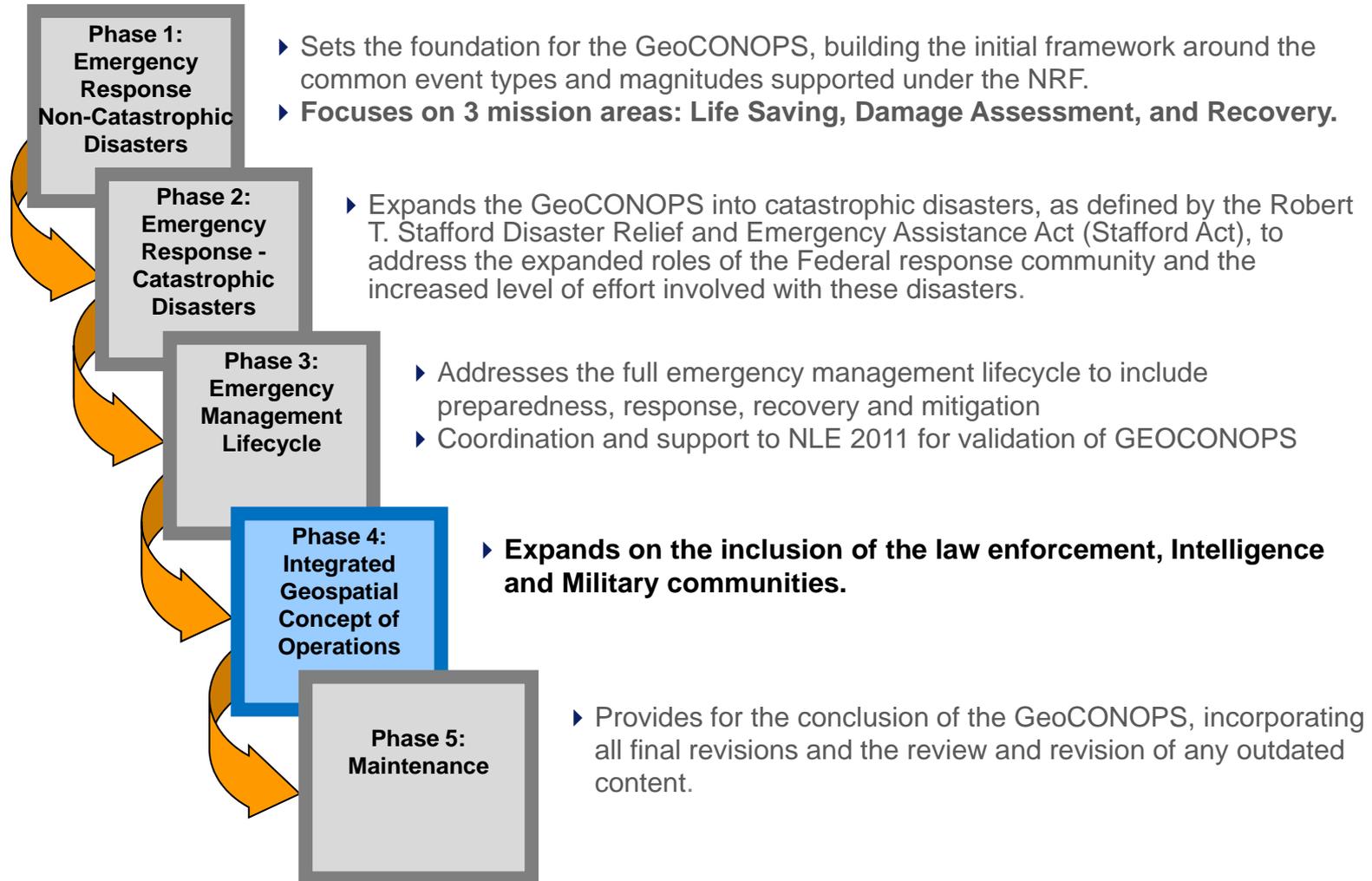
- FEMA National Response Coordination Center (NRCC)
- FEMA Public Assistance
- FEMA Individual Assistance
- FEMA Catastrophic Planning
- FEMA IT GIS
- FEMA HAZUS
- FEMA Regions
- FEMA Long-term Recovery Office
- FEMA Joint Field Office
- **FEMA National Exercise Division**
- US Customs & Border Protection
- US Coast Guard
- DHS Office of Infrastructure Protection
- DHS S&T IMAAC
- DHS / OPS National Operation Center
- DHS / NPPD National Communication System
- DHS / NPPD National Infrastructure Coordination Center (NICC)
- DHS interagency Remote Sensing Coordination Cell (IRSCC)

External

- ESFs 1-15
- US Forest Service
- USGS Earthquake Ctr & Geological Hazards
- DoD USNORTHCOM
- DoD Mission Assurance Division
- National Guard Bureau
- Small Business Administration
- Health & Human Services: Fusion Center
- Department of Agriculture
- NOAA / National Weather Service
- US Army Corps of Engineers
- National Labs (Modeling): ORNL, ANL & PNL
- EPA Regional GIS Working Group
- Central US Earthquake Consortium (CUSEC)
- American Red Cross



GeoCONOPS – Project Phases



v3.1 Update to the GeoCONOPS

▶ New Best Practices:

- Open Geospatial Consortium (OGC)
- National Information Exchange Model (NIEM)
- Homeland Security Information Network (HSIN)

▶ Added PPD-8 Reference

▶ Minor text and other edits

▶ Available on HSIN

v4.0 New Content & Updates for GeoCONOPS

- ▶ New content for Homeland Defense & Law Enforcement
- ▶ Updates for Search & Rescue and Infrastructure Protection
- ▶ New Catastrophic Man-Made event sub-chapter
- ▶ Expanded Content for Modeling and Simulation Capabilities
- ▶ Updates collected from the GIOT community (through April 3, 2012)

v4.0 Stakeholder Detailed Interviews

DoD

- ▶ DISDI
- ▶ NGA
- ▶ NGB
- ▶ USACE

Law Enforcement

- ▶ CBP
- ▶ FPS
- ▶ ICE
- ▶ USCG
- ▶ USSS

DHS

- ▶ I&A
- ▶ NICC
- ▶ Search & Rescue – FEMA, DOD, NGA, USCG

GeoCONOPS Validation: National Level Exercise 2011

- The objective for the Department of Homeland Security's (DHS) Geospatial Management Office (GMO) in this exercise was to conduct an evaluation of the Geospatial Concept of Operations (GeoCONOPS).
- The purpose of the AAR is to analyze exercise results, assess the GeoCONOPS as a mission blueprint and planning and preparedness tool for geospatial operations in support of emergency management, identify strengths to be maintained and built upon, identify potential areas for further improvement, and support development of corrective actions.
- Over 12 federal departments and agencies participated with full geospatial support and many others with partial support. State, local, tribal, and other coordination points were also observed and referenced.

GeoCONOPS Validation: National Level Exercise

National Exercise and Simulation Center (NESC) Funded

NESC Mission: To enhance the Department's all-hazards preparedness and response mission through the promotion of **effective and efficient** large-scale exercises and the application of modeling and simulation to these exercises.

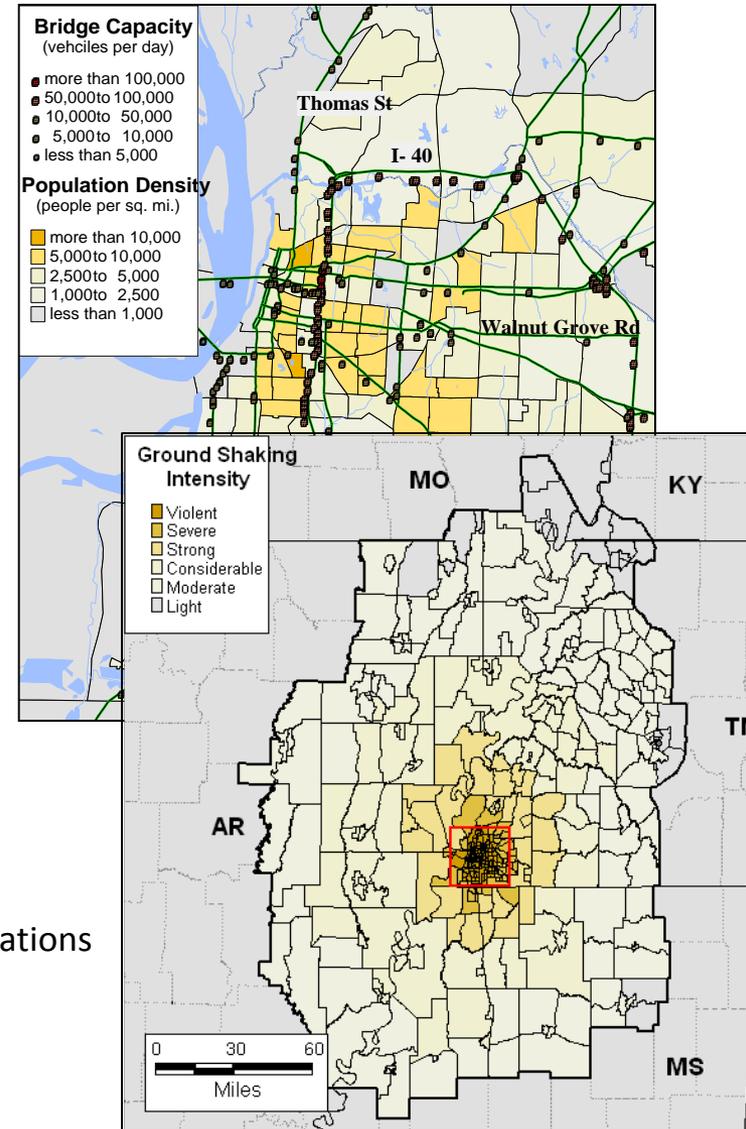
#1 Challenge: Change the Culture of Exercises – introduce **Modeling & Simulation** as a way of increasing efficiency and creating higher yield metric based exercises (e.g. run/rerun)

New Madrid Earthquake Scenario

- Magnitude 6.5
- Epicenter in Downtown Memphis
- 5 State Region
- Impact to multiple FEMA Regions
- Debilitating to the heavily impacted communities

GeoCONOPS Applied:

- Observe Geospatial Activities
- Support Simulation Cell
- Observe the Federal mission partner operations
- Validate/Verify Geospatial:
 - Activities
 - Roles
 - Information requests
 - Information sharing



GeoCONOPS NLE 2011 AAR : Key Findings

- **Accuracy:** The GeoCONOPS provided an accurate view of geospatial community operations, missions, and activities and was used by many of the participating agencies and organizations as a planning and preparedness tool.
- **Interagency Participation:** There was robust participation by the geospatial interagency community in this national level exercise as more than a support role.
- **Effective for Decision-Making:** The majority of the geospatial products and analysis developed were accurate, timely and useful, and utilized to make key decisions such as deployment of resources, predictive analysis of magnitude of the event while it was unfolding and at a more tactical level for effective deployment of limited Urban Search and Rescue teams.
- **12 Recommendations for Corrective Action:** Use GeoCONOPS tracking progress, ensure interagency collaboration, and facilitate participation in exercises to validate improvements

GeoCONOPS NLE 2011 AAR: Areas for Improvement

- **Operations:** Effectively leveraging the geospatial community to support the operational response to an incident is an area for improvement.
- **Information Sharing & Situational Awareness:** Information sharing for situational awareness was hampered by limitations in system interoperability and data portability and is an area for improvement.
- **Outreach & Training:** Awareness and training on the GeoCONOPS, geospatial capabilities, and information sharing tools is an area for improvement.

NLE 2011 Recommendations - Operations

1. GeoCONOPS Annex to NRF – DHS should move forward with implementing the GeoCONOPS as an Annex to the NRF
2. Geospatial Standard Operating Procedures – DHS Operations Coordination should develop a Geospatial Standard Operating Procedure (SOP) aligned to the GeoCONOPS that describes the roles, responsibilities, and interactions between the NOC and its operating elements and other DHS Operations Centers
3. Review of FEMA Geospatial Operations –A more detailed assessment should be conducted on this capability to include organizational alignment, needs assessment, cost of appropriate resourcing, and return on investment analysis
4. Improve FEMA Division of Labor for Geospatial Support – FEMA should formalize their internal processes and procedures for division of labor in geospatial and remote sensing support in order to sustain the positive effects seen in the exercise
5. Implement best practices for Geospatial Coordination – The best practice of Geospatial/Remote Sensing coordination call(s) should be incorporated into standard operating procedures to sustain the rapid interagency coordination obtained in this exercise

6. Information Sharing & Situational Awareness Solution – DHS should implement a solution that supports integrated situational awareness, access to shared services and common geospatial data and tools
7. Information Exchange & Symbology Standards – DHS should facilitate information exchange and symbology standards by propagating the National Information Exchange Model (NIEM) across Homeland Security and Emergency Management
8. Data Sensitivity Analysis – DHS should conduct a data sensitivity study of emergency management information and data requirements to determine to what extent certain information should be openly shared with the public or restricted to government use
9. Improved Identity and Access Management Services – DHS and its partners should implement improved services for identify credentialing and access management (ICAM) that supports the disparate and distributed characteristics of the emergency management community

NLE 2011 Recommendations - Community Outreach & Training

10. Web-based Training Resources – DHS should develop virtual training courses on the GeoCONOPS to promote awareness and understanding of federal geospatial operations supporting the emergency management community
11. Integration into Preparedness and Planning Lifecycle – The Geospatial community working through the GeoCONOPS should develop a program for sustainment of positive activities over time
12. Annual stakeholder workshops – The GeoCONOPS should conduct a stakeholder workshop to identify baseline concepts for understanding the role of the commercial sector and use of emerging capabilities such as social networking, and crowd-sourced information

GeoCONOPS Online Training

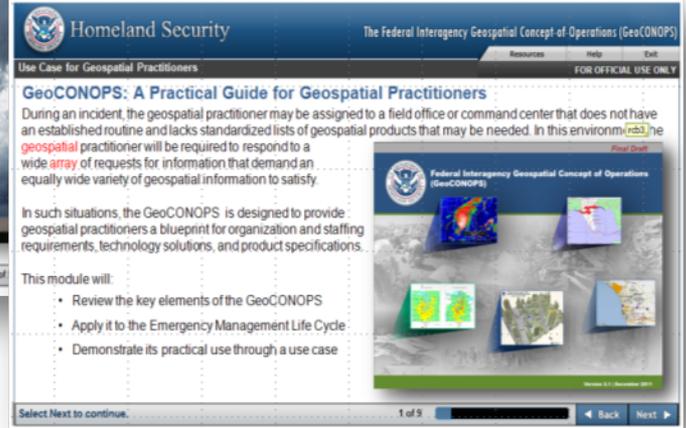
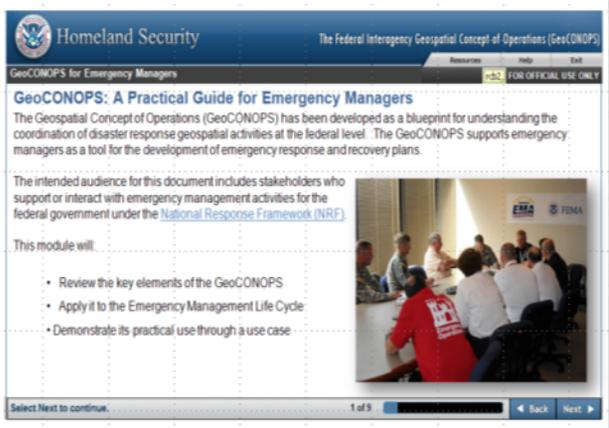
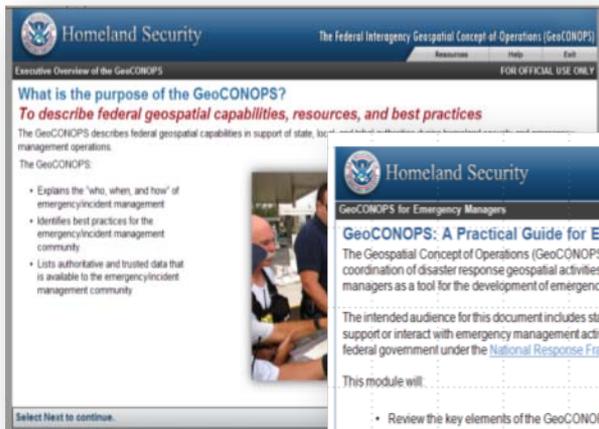
- Identified as an after-action requirement from the NLE
- Outreach targeted to senior managers and decision makers
- Training targeted at mission managers and support roles
- Available online through FLETC and FEMA EMI learning portals

The screenshot shows the 'Executive Overview of the GeoCONOPS' slide. At the top left is the Homeland Security logo. The title is 'The Federal Interagency Geospatial Concept of Operations (GeoCONOPS)'. Below the title are navigation links for 'Resources', 'Help', and 'Exit'. The slide content includes the heading 'Why is a GeoCONOPS needed?' followed by the sub-heading 'To ensure timely and accurate geospatial information and technical capabilities are available'. A paragraph states: 'When incidents happen, there is no time to search for up-to-date geospatial information. Geospatial information is needed immediately to:'. A bulleted list follows: 'Plan a response', 'Support life saving missions', 'Provide situational awareness', 'Locate survivors', 'Support damage assessment & community recovery', and 'Safeguard critical infrastructure'. Three images are shown: a flooded residential area, a map interface, and a destroyed vehicle. At the bottom, it says '3 of 21' and has 'Back' and 'Next' buttons.

This 3D visualization features the title 'Federal Interagency Geospatial Concept of Operations (GeoCONOPS)' and the 'Final Draft' label. It displays several floating map panels: a weather radar map, a map of the United States with a red area, a map of a city with a yellow area, and a map of a city with a green area. The background shows a 3D city model with a disaster scene. At the bottom right, it says 'Version 2.0 | July 2010'.

GeoCONOPS Course Overview

- **Four courses – Total of 100 Minutes of Training**
 - Course 1 – Overview and Tour of the GeoCONOPS
 - Course 2 – GeoCONOPS for Emergency Managers & Mission Support
 - Course 3 – GeoCONOPS for Incident Commanders
 - Course 4 – GeoCONOPS for Geospatial Practitioners



Courses use the 2011 tornado in Joplin Missouri as a scenario to illustrate the application of the GeoCONOPS for different mission support roles.

GeoCONOPS Key Messages

The design of each of the courses apply the key principles of the GeoCONOPS tailored to each of the missions supporting emergency incidents

- Identifies points of coordination and collaboration
- Identifies authoritative geospatial data
- Describes best practices
- Identifies technical capabilities



GeoCONOPS Training – Next Steps

- Preliminary renditions of each course will be made available for review and comment.
 - Course 1 is currently in review
- The GMO will adjudicate and organize comments and make modifications.
- Completed courses will be available through the FLETC and FEMA EMI learning portals.
- Offline versions of each class will also be available on DVD.
- Courses will be available in May/June, 2012
- The GMO is considering future releases of GeoCONOPS training possible inclusion of interactive content and video.
<http://www.novonicsttl.com/dhs/geoconops/ExecOverview/index.html>



How to get involved with the GeoCONOPS?

1. Join the GeoCONOPS Distribution List.

Email to: Geoconops@dhs.gov

2. Contact a GeoCONOPS Team Lead:

David Alexander

Acting Director

DHS Geospatial Management Office

David.Alexander1@dhs.gov

202-447-3727

Ronald Langhelm

Contractor Project Manager

Booz Allen Hamilton

Langhelm_Ronald@bah.com

253-683-0291

KC Decker

Contractor NLE Support Lead

Booz Allen Hamilton

Decker_KC@bah.com

404-581-3491

How to get involved with the GeoCONOPS?

3. Attend a GeoCONOPS Oversight Team Meeting

Location: GSA Bldg, 7 th & D Sts, L'Enfant Plaza, Washington, DC	Dates Apr 10, 2012	Times 1:30-3:30p
Call Bridge: 866-657-9756 x6830291	May 17, 2012	1:30-3:30p
Web meetings: TBD		

4. Participate in GeoCONOPS Workshop or Panel Discussion

GeoCONOPS Mid-Year Workshop

Location: Washington, DC	Date: Feb 23, 2011	Time: 1-4p
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GeoCONOPS Annual Workshop

Location: TDB	Date: Jun 12, 2011	Time: TDB
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PPD-8: National Preparedness

THE WHITE HOUSE
WASHINGTON
March 30, 2011

PRESIDENTIAL POLICY DIRECTIVE/PPD-8

SUBJECT: National Preparedness

This directive is aimed at strengthening the security and resilience of the United States through systematic preparation for the threats that pose the greatest risk to the security of the Nation, including acts of terrorism, cyber attacks, pandemics, and catastrophic natural disasters. Our national preparedness is the shared responsibility of all levels of government, the private and nonprofit sectors, and individual citizens. Everyone can contribute to safeguarding the Nation from harm. As such, while this directive is intended to galvanize action by the Federal Government, it is also aimed at facilitating an integrated, all-of-Nation, capabilities-based approach to preparedness.

Therefore, I hereby direct the development of a national preparedness goal that identifies the core capabilities necessary for preparedness and a national preparedness system to guide activities that will enable the Nation to achieve the goal. The system will allow the Nation to track the progress of our ability to build and improve the capabilities necessary to prevent, protect against, mitigate the effects of, respond to, and recover from those threats that pose the greatest risk to the security of the Nation.

The Assistant to the President for Homeland Security and Counterterrorism shall coordinate the interagency development of an implementation plan for completing the national preparedness goal and national preparedness system. The implementation plan shall be submitted to me within 60 days from the date of this directive, and shall assign departmental responsibilities and delivery timelines for the development of the national planning frameworks and associated interagency operational plans described below.

National Preparedness Goal

Within 180 days from the date of this directive, the Secretary of Homeland Security shall develop and submit the national preparedness goal to me, through the Assistant to the President



National Preparedness System

November 2011



National Preparedness Goal

*First Edition
September 2011*



U.S. DEPARTMENT OF
Homeland Security

The National Preparedness Goal

A secure and resilient Nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk.

*Defined by the **capability target** measures of the **core capabilities** within the mission areas of prevent, protect, mitigate, respond, and recover*

The So What...

- National Preparedness Goal:
 - Sets the overall strategic vision for national preparedness, and establishes core capabilities that will be used to drive preparedness activities nationwide
- National Preparedness System:
 - Takes into account all of the programs, processes, and tools available to build, sustain, and deliver capabilities across the Nation
- National Planning Frameworks:
 - Specifies roles and responsibilities in preparing to deliver the applicable core capabilities, to include linkages across whole community
- Build and Sustain Preparedness:
 - Lays out how we integrate a number of efforts across the whole community to improve preparedness

PPD 8 Key Principles

- Employ an all-of-Nation/whole community approach, integrating efforts across federal, state, local, tribal and territorial governments and with private sector, community, non-governmental, and individual partners
- Use a risk-based approach to support preparedness
- Build core capabilities to confront any challenge
- Integrate efforts across Prevention, Protection, Mitigation, Response, and Recovery
- Assess performance outcomes to measure and track progress

National Preparedness Goal Supporting Components

– Core capabilities:

- Distinct highly interdependent elements necessary for our success

– Capability targets:

- Performance threshold(s) for each core capability that will guide our allocation of resources to support national preparedness

– Emphasis on whole community:

- Whole community includes all members of society, including individuals, communities, the private and nonprofit sectors, faith-based organizations, and Federal, state, and local governments
- The Goal seeks to enable the whole community to contribute to and benefit from national preparedness

– Strategic National Risk Assessment:

- In accordance with PPD-8, a Strategic National Risk Assessment was conducted
- The SNRA identified a wide range of threats and hazards that pose a significant risk to the nation, affirming the need for an all-hazards, capability-based approach to preparedness planning

Core Capabilities List

PREVENT	PROTECT	MITIGATE	RESPOND	RECOVER
Planning	Planning	Planning	Planning	Planning
Public Information and Warning	Public Information and Warning	Public Information and Warning	Public Information and Warning	Public Information and Warning
Operational Coordination	Operational Coordination	Operational Coordination	Operational Coordination	Operational Coordination
Forensics and Attribution	Access Control and Identity Verification	Community Resilience	Critical Transportation	Economic Recovery
Intelligence and Information Sharing	Cybersecurity	Long-Term Vulnerability Reduction	Environmental Response / Health and Safety	Health and Social Services
Interdiction and Disruption	Intelligence and Information Sharing	Risk and Disaster Resilience Assessment	Fatality Management Services	Housing
Screening, Search and Detection	Interdiction and Disruption	Threats and Hazard Identification	Infrastructure Systems	Infrastructure Systems
	Physical Protective Measures	Screening, Search and Detection	Mass Care Services	Natural and Cultural Resources
	Risk Management for Protection Programs and Activities		Mass Search and Rescue Operations	
	Screening, Search and Detection		On-Scene Security and Protection	
	Supply Chain Integrity and Security		Operational Communications	
			Public and Private Services and Resources	
			Public Health and Medical Services	
			Situational Assessment	

What's Missing??

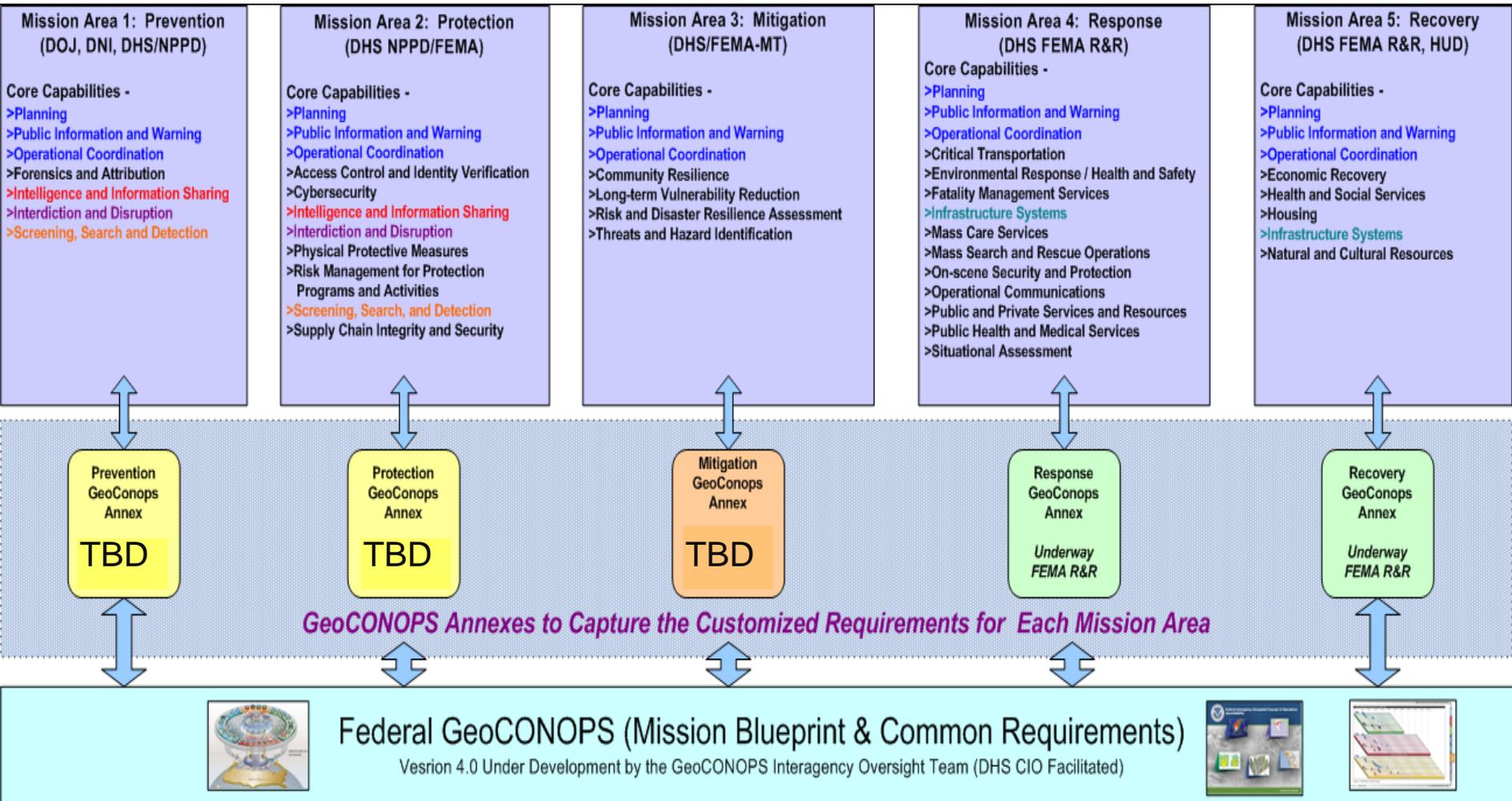


Security

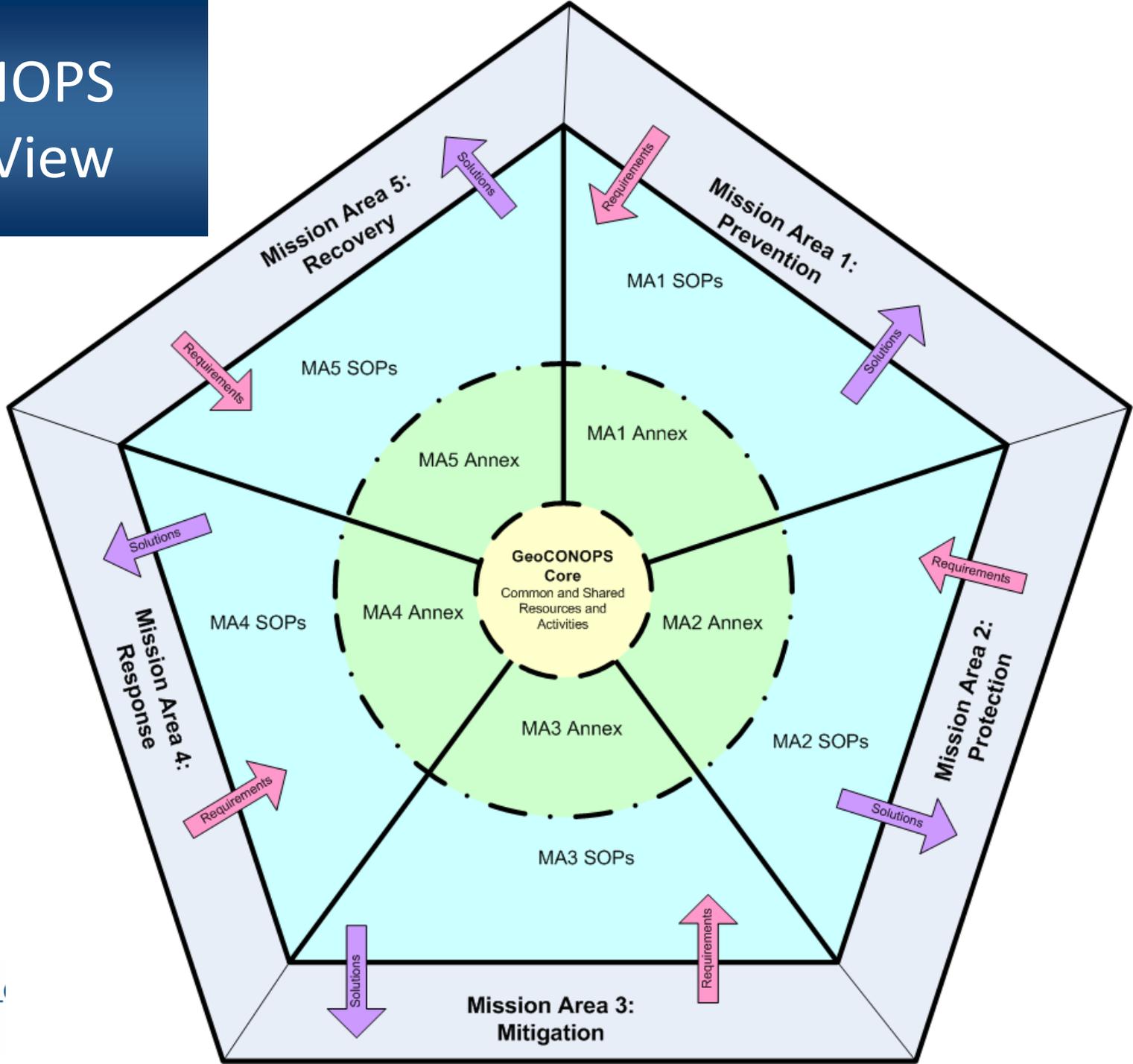
Core Capabilities List

PREVENT	PROTECT	MITIGATE	RESPOND	RECOVER
Planning	Planning	Planning	Planning	Planning
Public Information and Warning	Public Information and Warning	Public Information and Warning	Public Information and Warning	Public Information and Warning
Operational Coordination	Operational Coordination	Operational Coordination	Operational Coordination	Operational Coordination
Forensics and Attribution	Access Control and Identity Verification	Community Resilience	Critical Transportation	Economic Recovery
Intelligence and Information Sharing	Cybersecurity	Long-Term Vulnerability Reduction	Environmental Response / Health and Safety	Health and Social Services
Interdiction and Disruption	Intelligence and Information Sharing	Risk and Disaster Resilience Assessment	Fatality Management Services	Housing
Screening, Search and Detection	Interdiction and Disruption	Threats and Hazard Identification	Infrastructure Systems	Infrastructure Systems
Geospatial	Physical Protective Measures	Screening, Search and Detection	Mass Care Services	Natural and Cultural Resources
	Risk Management for Protection Programs and Activities	Geospatial	Mass Search and Rescue Operations	Geospatial
	Screening, Search and Detection		On-Scene Security and Protection	
	Supply Chain Integrity and Security		Operational Communications	
	Geospatial		Public and Private Services and Resources	
			Public Health and Medical Services	
			Situational Assessment	
			Geospatial	

PPD-8: Integration of the GeoCONOPs



GeoCONOPS Centric View



DHS Geospatial Infrastructure Architecture

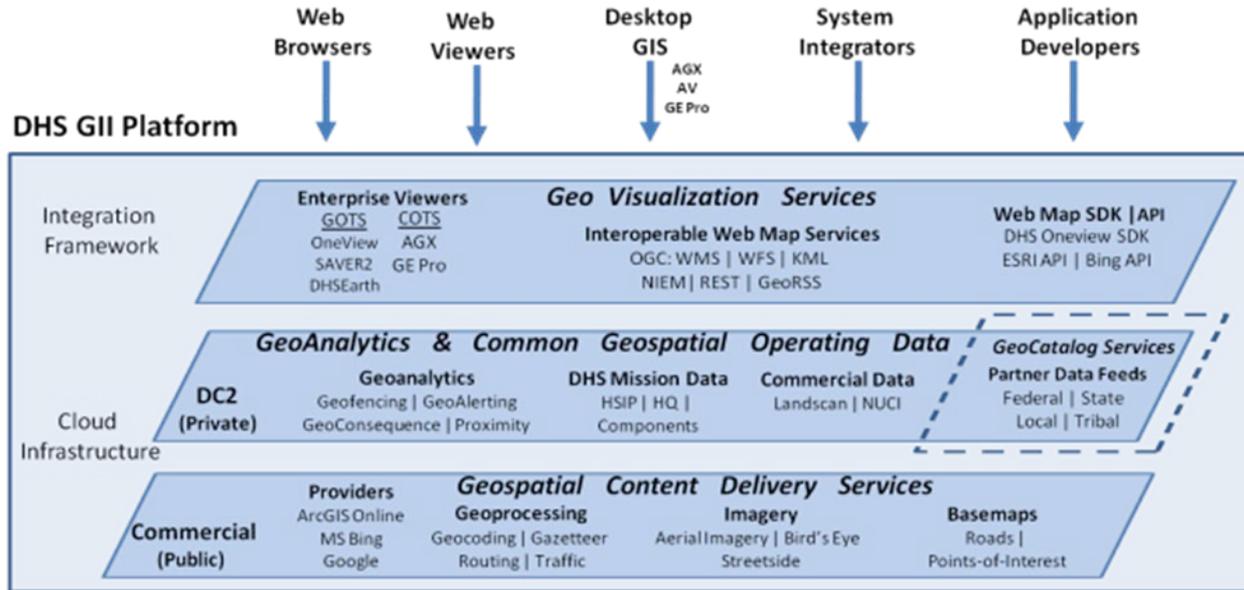
- **Built on existing DHS infrastructure**
 - Leverages HSIN Identity Management Services
 - Leverage DHS Geospatial Information Infrastructure
 - Data and Services
 - HSIP Gold, Partner feeds, DHS Facilities and others...
 - ESRI, GoogleEarth, BingMaps tools and services
 - OneView Visualization Services
 - Ability to share geospatial data through OGC WMS and WFS, as well as RSS and REST
 - Private and Public Cloud Infrastructure
 - IaaS through DHS Data Center
- **Users can elect to use some, or all of DHS GII services and web tools**
 - i.e. – some users may only require access to DHS trusted data and not require visualization tools, HSIP Gold data and so forth.



DHS Geospatial Information Infrastructure (GII)

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.

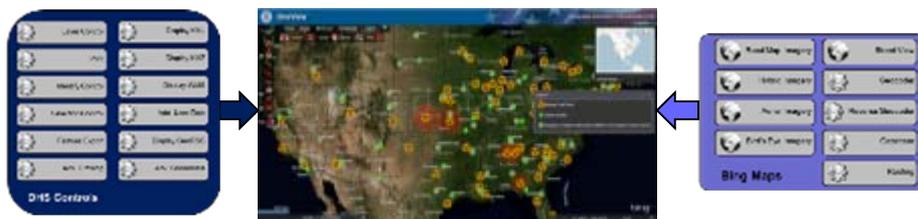


DHS Oneview Software Development Kit (SDK)

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 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 consists of aerial, oblique, street level views, etc.
- Basemap content includes streets, roads, points-of-interest, etc.

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

- **OneView API**
 - Currently available to DHS/HLS Partners
 - Modular code: controls/class/libraries available to customize
 - Developer Guidebook/API support documentation
- **GII Map Services**
 - OGC (WMS, WFS, KML) and AGS REST
 - User and System Access
 - T&C's and Token Auth
 - DHS Earth
 - Geocode service (user and system level)
- **Future GII Services**
 - CAGS
 - HSIN Enablement Support and integration
 - ArcGIS Portal Implementation and federation pilot with Geoplatform

OneView Samples - Data

User Added Content

- WMS/GeoRSS/KML/REST
- Bing Geocode (Upload, Display and Export)

DHS Partner Data

- Common geospatial map services identified through GeoCONOPS
- As map services, these are customized at run time through the API

DHS Component Facility Data

- Working with OCAO on publishing Real Property Data
- DHS Facilities collected through Public Information

Map Layers



USGS Hazards

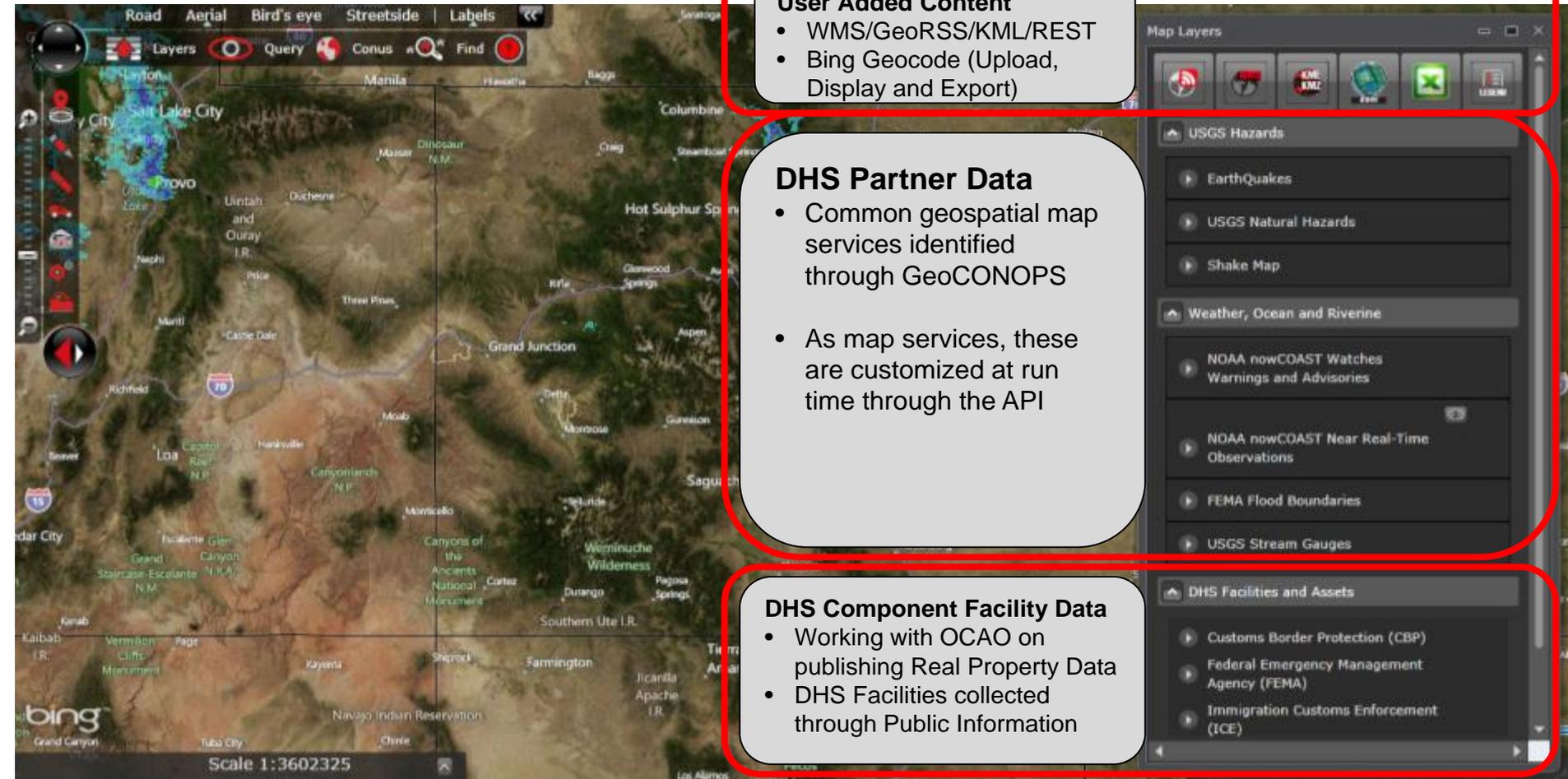
- ▶ EarthQuakes
- ▶ USGS Natural Hazards
- ▶ Shake Map

Weather, Ocean and Riverine

- ▶ NOAA nowCOAST Watches Warnings and Advisories
- ▶ NOAA nowCOAST Near Real-Time Observations
- ▶ FEMA Flood Boundaries
- ▶ USGS Stream Gauges

DHS Facilities and Assets

- ▶ Customs Border Protection (CBP)
- ▶ Federal Emergency Management Agency (FEMA)
- ▶ Immigration Customs Enforcement (ICE)



OneView Samples - Imagery



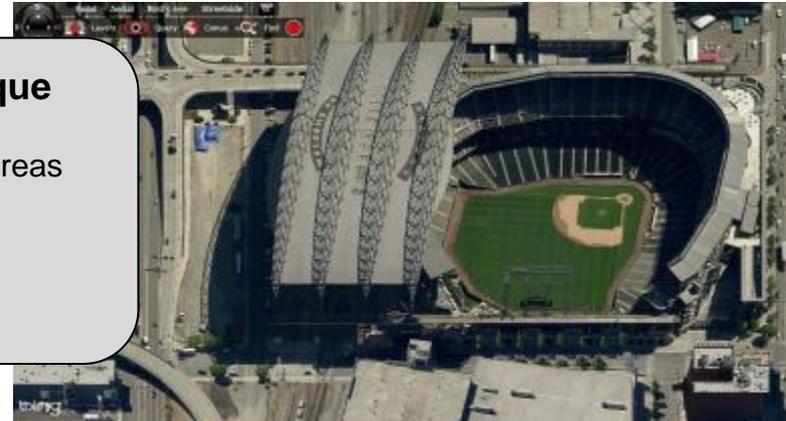
Bing Imagery

- DHS Nebraska Ave
- New construction as of Fall 2011
- Major Metro areas, frequent refresh



Bing Streetside & Oblique

- Collected in major metro areas
- Offers Streetside/Oblique navigation tools



Questions?