Where IGI&S is Going

The Direction of Installation Geospatial Information and Services for 2017 and Beyond

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Themes

- The OSD Perspective
- Requirements for IGI&S
- Recent Accomplishments
- How IGI&S Relates to the Larger GIS Community
- Data Sensitivity
- The Need for Authoritative Data and Data Quality
DoD Authorities for Geospatial Information and Services (GI&S)

• Geospatial information and services (GI&S)
  – The collection and use of geodetic, geomagnetic, imagery, gravimetric, aeronautical, topographic, hydrographic, littoral, cultural, and toponymic data accurately referenced to the Earth

• The National Geospatial-Intelligence Agency (NGA) has lead for all GI&S in DoD
  – Focus on warfighter support and intelligence requirements
  – Coordinate all GI&S standards within DoD

• Installation geospatial information and services (IGI&S)
  – A subset of GI&S
  – The GI&S data and maps tailored to construction, sustainment, environmental management, and test and training range operations on DoD facilities worldwide

• The USD(AT&L) has lead for all installation management in DoD
  – Includes business systems and associated data, standards
  – IGI&S is under USD(AT&L) purview (DoDI 8130.01)
The Perspective from the Top

- DoDI 8130.01, “Installation Geospatial Information and Services” is two years old → implementation expected
- The Office of the Secretary of Defense (OSD) needs IGI&S to be visible, accessible, understandable, trusted, and interoperable
- OSD is using IGI&S for strategic planning and situational awareness
- Often, we simply want to know “where is it?”
- Growing need at enterprise level for IGI&S to support emergency response, homeland defense
- OSD activity does not (and should not) duplicate Components’ capabilities
OSD Level Requirements for IGI&S

• Current Requirements
  – Business mission planning, Impact analysis of current events
  – Financial Improvement and Audit Readiness (FIAR)
  – Federal Flood Risk Management Strategy
  – GEOINT Visualization Services (GVS) and Map of the World (high side data sources)
  – Real property categorization and sustainment cost modeling

• Emerging Requirements
  – Mass Warning and Notification
  – WebEOC, etc. (common operating picture)
  – Explosives Safety Siting (ESS) – web-based system
  – Mission Assurance Risk Management System (MARMS)
  – Global Force Management Data Initiative (GFM DI)
  – Closure and realignment analysis
Use of IGI&S for Audit Readiness and Real Property Inventory

• NDAA FY 2010 Audit Readiness Requirement: DoD implemented the Financial Improvement and Audit Readiness (FIAR) plan to achieve audit readiness by September 30, 2017*
  – One of two FIAR Plan priorities: improve controls and processes for “Mission critical asset information” (includes real property information)

• IGI&S plays key role supporting the FIAR goals of establishing “existence and completeness” of real property assets
  – Assists in reconciliation of the real property inventory of each Military Department

*Established in NDAA 2010; clarified in NDAA 2014
• Military Departments use IGI&S to support audit readiness
  – Department of the Army
    o Three years of proven results reconciling real property data (existence and completeness) with IGI&S data
    o Implementing standard process to reconcile fuels and “linear assets” (such as roads, utility systems) with IGI&S data
  – Department of the Navy progressively improved its real property inventory over the last three years reconciling real property asset records with IGI&S data
    o U.S. Marine Corps process similar to Navy; results fed back as updates to the real property and IGI&S databases
  – Department of the Air Force uses IGI&S data to update “linear assets” in real property inventory
    o More reconciliation processes in development
Accomplishments Since July, 2016

- SDSFIE-R **DONE**
- SDSFIE-Q
  - Main document **DONE**
  - DCS General Guidance **DONE**
  - DCS for each CIP layer **UNDERWAY**
- SDSFIE-M v 2.0 and implementation **UNDERWAY**
- Implementation of SDSFIE-V v 4.0 **UNDERWAY**
- Revise Change Management Process **DONE**
  - SDSFIE Governance Plan (R1)
  - SDSFIE-V Implementation Guidance (R2)
- ADS Implementation Guidance **UNDERWAY**
DoDI 8130.01 and FBGB Charter are key references

Outline of IGG SOP (draft)
- Purpose
- Mission and Scope of the IGG
  o IGI&S Portfolio Management
  o Standards Governance
  o Data Management
- Membership
- Roles and Responsibilities
- Working Groups
- Meetings
- Voting Procedures
- Operations
- Annex A: Current Working Groups

Draft document under review now
Federal Geographic Data Committee (FGDC) Coordination

• Federal Geographic Data Committee (FGDC): a US government committee which promotes the coordinated development, use, sharing, and dissemination of geospatial data on a national basis
  – Chaired by DOI; OMB is vice-chair
  – 32 Federal agency members

• DoD participates at all levels of the FGDC
  – Top level (Steering Committee) Representative - NGA
  – Second level (Coordination Group) Representatives – NGA, USD(AT&L), and US Army Corps of Engineers
  – DoD contributes technical expertise on 11 of 18 subcommittees
  – Benefits to DoD: standards development, data sharing, and burden sharing for common GIS requirements
IGI&S Standards Coordination

- Aligned with international, federal, and private sector standards where practicable
  - DoD requires a combination of external and DoD-specific GIS standards to meet mission needs

- GIS standards in DoD
  - NGA coordinates all GIS standards but focus is on warfighting and intelligence
  - IGI&S uses many (but not all) NGA-developed GIS standards
  - USD(AT&L) develops and maintains three IGI&S standards tailored to our unique uses of GIS for sustaining and operating DoD facilities worldwide

- Applicability of federal GIS standards
  - 17 of 31 FGDC standards are applicable to IGI&S missions
  - DoD real property and IGI&S data aligns with 12 of 17 applicable FGDC standards and dozens of other international standards
Sensitivity of IGI&S Data and Maps

• Increasing precision of IGI&S data has increased its sensitivity in this high threat environment
  – Raw, highly detailed IGI&S data poses greatest sensitivity and risk
  – Releasing large GIS datasets (aggregating multiple installations or large geographic regions) also poses higher security risks

• Some sensitive IGI&S data is shared for official uses, but protected
  – US Census Bureau for decennial census
  – Homeland security community for emergency response

• Basic IGI&S data and installation maps publicly released after security review
IGI&S Authoritative Data Source (ADS) – Why Each Installation Needs One

The ADS is the “Geospatial Library” for each Installation

Business functions produce or consume authoritative geospatial data – curation is needed!
FY17 CIP Data Call – Proposed Content

Proposed Changes for FY17

<table>
<thead>
<tr>
<th>Layer</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADD: DocksAndWharfs</td>
<td>USN proposed; Census Bureau Request</td>
</tr>
<tr>
<td>REMOVE: ExternalPropertyInterest</td>
<td>REPI now collecting this data</td>
</tr>
</tbody>
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Components must also submit a data quality checklist (14 items) as a “self evaluation”

Note: DISDI will coordinate a separate data request for USACE Division/District Offices, Locks/Dams/Reservoirs/Rec. Areas

Current (FY16) CIP Layers

SDSFIE-V v 3.1 Layer Name

AccessControl
AirAccidentZone
Bridge
Building
EnvironmentalRemediationSite
ExternalPropertyInterest
Fence
FutureProjects
GolfCourse
HistoricDistrict
ImpactArea
Installation
LandParcel
LandUse
MilitaryRange
MilitaryTrainingLocation
MilQuantityDistance CombinedArc
NatResAcquisitionBoundary
NoiseZone
Outgrant
PavementBranch*
PavementSection*
RailSegment**
RailTrack**
RecreationArea
RoadCenterline (not in Gold)***
RoadPath***
RoadSeg***
Site
Tower
VehicleParking
Wetland
Useful Public Links

- DoDI 8130.01, Installation Geospatial Information and Services (download on DoD Issuances site http://www.dtic.mil/whs/directives/)

- http://www.acq.osd.mil/eie/BSI/BEI_DISDI.html DISDI Program public page with links to the DoD Components’ IGI&S Program web pages are here

- http://sdsfieonline.org Public registry of IGI&S data standards and related documents (registration required)

DISDI Portal (DoD only)

http://disdiportal.osd.mil/
Summary

• Policy for IGI&S is driving greater maturity of the capability
  – 93% of the 7,382 DoD sites now have basic GIS data
  – 83% of 523 major installations have detailed GIS data
  – IGI&S standards are mature, aligned to a broad array of missions

• OSD level requirements for high quality IGI&S are growing

• IGI&S community actively contributes to GEOINT and federal forums

• IGI&S standards, while unique, are highly compatible with applicable federal standards

• DoD continues to make installation maps publicly available, but most underlying IGI&S raw data is considered too sensitive to release per national security requirements
Our Vision

“To provide authoritative, cost-effective defense installation geospatial information and services for fact-based decision making across the DoD spectrum of operations.”

“In god we trust, all others must bring data”
- W. Edwards Deming