



The National Geospatial Program, *The National Map*, and A-16

U.S. Department of the Interior
U.S. Geological Survey

FGDC Coordination Group
May 14, 2013



Agenda

- Provide a General description of the program
- What are you're A-16 Theme and Dataset Responsibilities?
- What Data and Services do you have registered in the Geospatial Platform?
- Any other Geospatial Platform activities?
- What coordination mechanisms to you participate in?
- What subcommittees are part of these themes/datasets?
- Provide any major program initiatives.
- Are there any major program/data changes coming?
- What are the underpinning standards for the program?

General Description



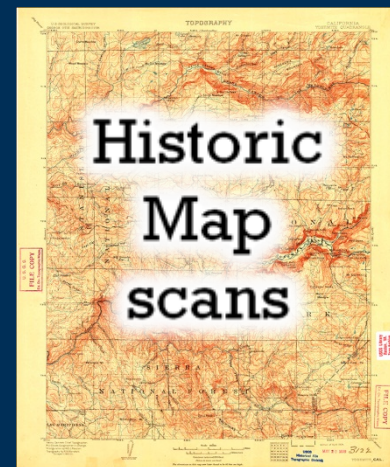
USGS Mission

- Science organization – non regulatory
- Provide impartial, unbiased science information
- Ecosystems
- Environment Health
- Natural Hazards
- Energy and Minerals
- Climate and Land-Use Change
- Core Science systems



National Geospatial Program Mission

- Organize, maintain, publish, and disseminate the geospatial baseline of the Nation's topography through *The National Map*
- Foster a general understanding of broad geographic patterns, trends, and conditions through *The National Atlas of the United States of America*®





National Geospatial Program Strategic Direction

Sharpen focus on our **topographic mapping** mission

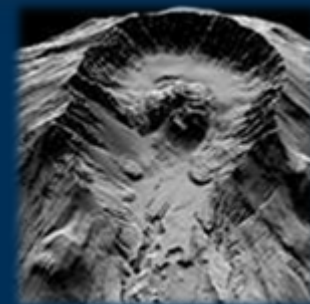
■ **High investment** – layers that define topo mapping:

Elevation - Improve data quality and resolution nationally, pursue a national enhanced elevation data initiative

Hydrography and watershed boundaries - Work with stewards to maintain data, enhance NHD to support users' modeling and business needs, improve user tools

■ **Moderate investment** - **Geographic names**: Fulfill the Public Law 80-242 requirements of the Board on Geographic Names

■ **Maintenance investment** - **Imagery, transportation, boundaries, selected structures and land cover**: For reference purposes, maintain coverage by obtaining data from other organizations and suppliers with a minimum investment





National Geospatial Program Strategic Direction

- Emphasis on meeting **user needs**
- Priority communities of use
 - **Water resources**
 - **Natural resources conservation**
 - **Geologic mapping**
 - **Geologic hazards**



A-16 Theme and Dataset Responsibilities



USGS/ NGP Theme Leads

NGP

- Elevation - Co Lead with NOAA, Dave Saghy
- Imagery - Co Lead with FSA, Dick Vraga
- In-land Waters - Co Lead with FWS, Steve Aichele

Other

- Land Use/Land Cover – Co Lead with USDA, Climate and Land Use Change, Jonathan Smith
- Geology - Co Lead with BOEM, Dave Soller
- Biota - Marcia McNiff



USGS/ NGP National Geospatial Data Assets

- **Biota**
 - National Standardized Ecosystems Dataset -
 - GAP Species Dataset
- **Cultural Resources**
 - Geographic Names Information System
- **Elevation**
 - National Elevation Dataset
 - Shuttle Radar Topography Mission (SRTM)
 - Global Multi-resolution Terrain Elevation Data (GMTED2010)
 - LiDAR Point Cloud

USGS/ NGP National Geospatial Data Assets

- **Geology**
 - **Geologic Mapping**
- **Imagery**
 - **Landsat - Multi Spectral Scanner**
 - **Landsat – Thematic Mapper**
 - **Landsat – Enhance Thematic Mapper +**
 - **Advanced Speceborne Thermal Emission and Reflection Radar**
 - **Moderate resolution Imaging Spectroradiometer**
 - **High Resolution Orthoimagery**

USGS/ NGP National Geospatial Data Assets

- **Land Use Land Cover**
 - Coastal Change Analysis Program (C-CAP)
 - Geographic Information Retrieval and Analysis System
 - National Land Cover Dataset (NLCD) Land Cover Classes
 - NLCD Percent Imperviousness
 - NLCD Percent Tree Canopy
 - North American Land Change Monitoring System (NALCMS)

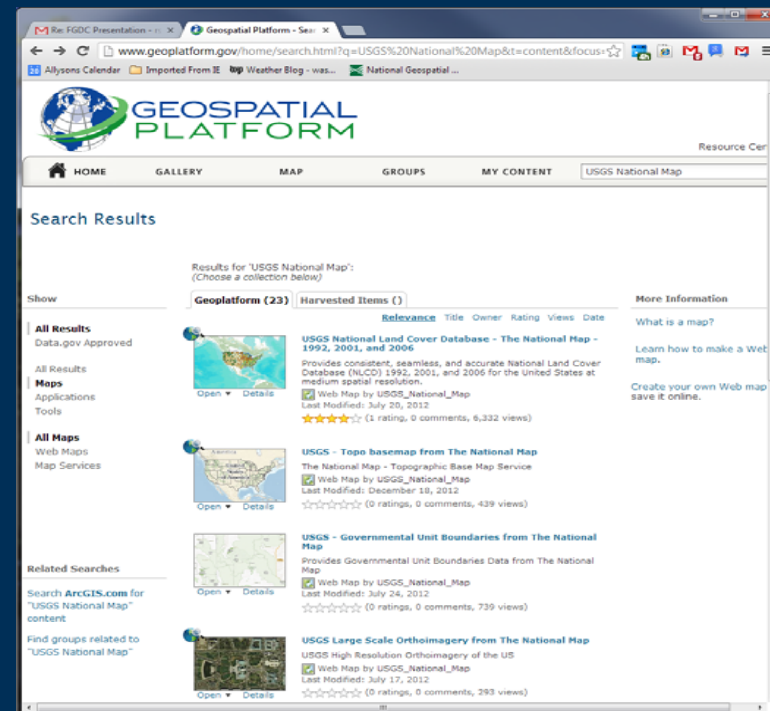
USGS/ NGP National Geospatial Data Assets

- **Real Property**
 - National Structures Dataset
- **Transportation**
 - National Transportation Dataset
- **Water – Inland**
 - National Hydrography Dataset (NHD)
 - Watershed Boundary Dataset (WBD)
 - National Water Information System (NWIS) – Stream Gage Locations
 - National Water Information System (NWIS) – Water Quality Monitoring Station Locations



Data and Services Registered on the Platform/ Other platform activities

- **10 Dynamic Base map services**
 - Elevation, Hydrography, Orthoimagery, Land Cover, Geographic Names, Transportation, Structures, and Governmental Units/Boundaries
 - FGDC metadata records
- **2 tile cache basemap services**
 - US Topo maps, Imagery Only
- **TNM Viewer Application**
- **1000's of metadata records via data.gov**
- **Collection Record**





Coordination Mechanisms

- **FGDC Subcommittees**
 - National Digital Orthophotography Program
 - **Geologic**
 - Spatial Water Data
 - Transportation
- **Working Groups**
 - Standards
 - Historical Data
 - **Marine Boundary**



Coordination Mechanisms

- **3DEP**
 - **National Enhanced Elevation Assessment**
 - **3DEP Executive Forum**
- **Alaska Mapping Executive Committee**
- **Board of Geographic Names**
- **NHD Advisory Group**
- **National Digital Elevation Program**
- **NGP Communities of Use**
- **Geospatial Liaison Network**
- **Oversight Management Groups w/ Census, USFS**

Major Program Initiatives

- 3DEP
- Alaska
- US Topo

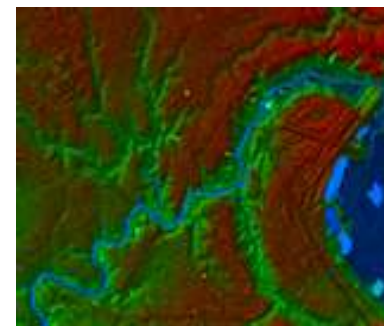
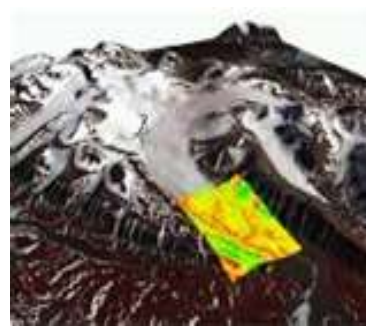
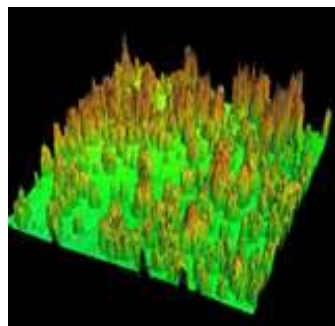
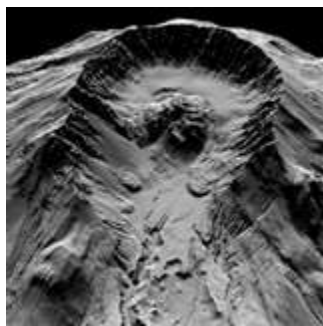


Introducing 3DEP

3D Elevation Program

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- Proposing a cooperatively funded national enhanced elevation program executed by USGS
- Higher quality LiDAR data for 49 states, IfSAR in Alaska
- Goal is an 8 year acquisition cycle
- Bare earth elevation, point cloud and other basic derivatives (TBD) will be distributed and archived
- <http://nationalmap.gov/3DEP/needa.html>





+ National Enhanced Elevation Assessment

At a Glance

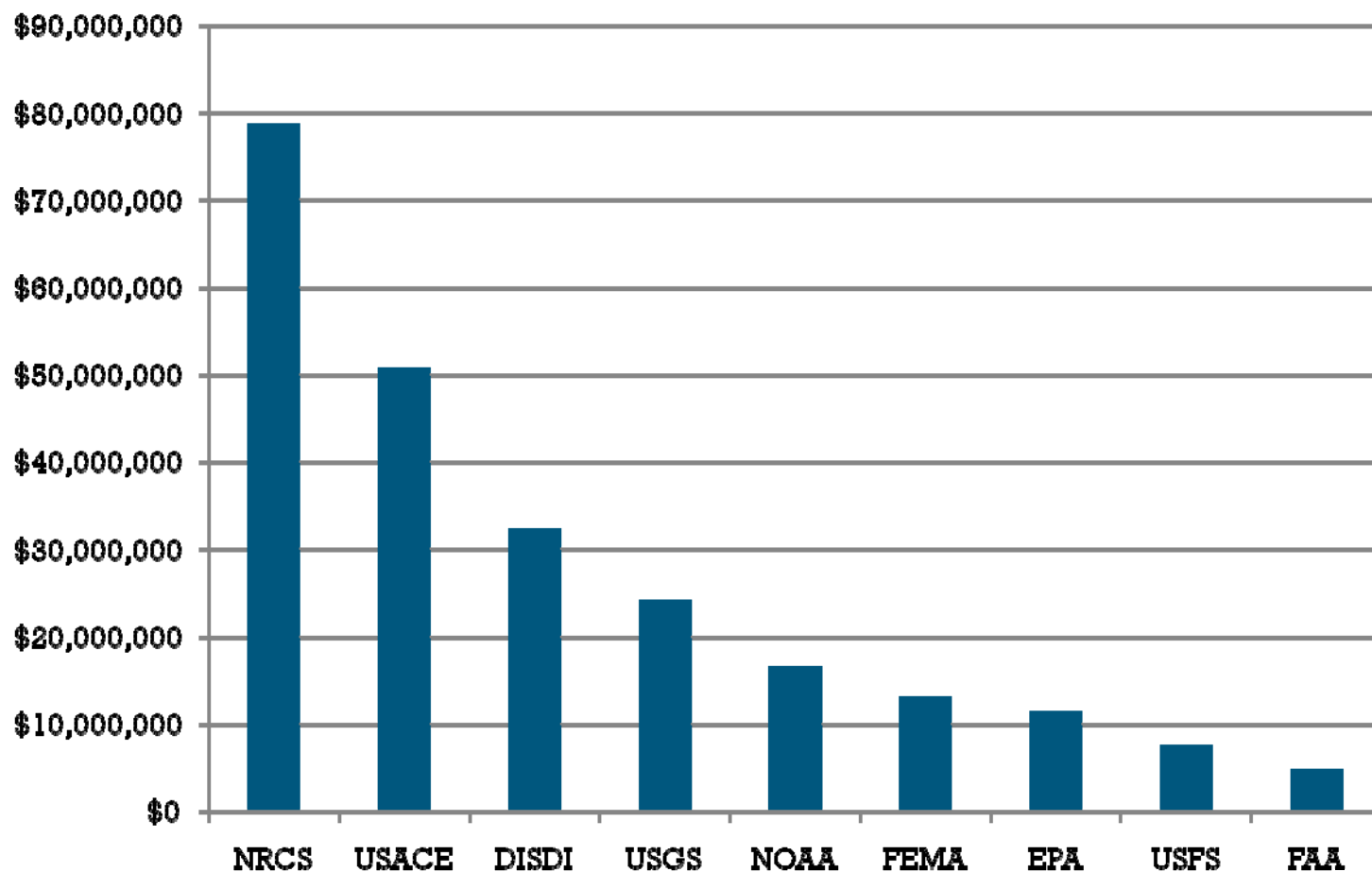
- Sponsored by the National Digital Elevation Program (NDEP) and funded by USGS, NGA, FEMA, NRCS and NOAA to:
 - Document national requirements for improved elevation data from technologies such as LiDAR and IfSAR
 - Estimate the benefits and costs of meeting these requirements
 - Evaluate multiple national enhanced program scenarios
- 602 mission-critical activities that require enhanced elevation data were identified by:
 - 34 Federal agencies
 - 50 states
 - A sampling of local governments, tribes, private and not - for profit organizations
- **A national program has the potential to generate \$1.2 billion to \$13 billion in new benefits each year when fully operational**
 - <http://www.dewberry.com/Consultants/GeospatialMapping/FinalReport-NationalEnhancedElevationAssessment>



+ (8) Annual Benefits of 3DEP

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Top Ten Federal Agencies*





+ Current USGS Activities

Toward Implementing 3DEP by January, 2015

- (9) Data delivery through the National Map Viewer, Earth Explorer. Archiving fully NARA compliant.
- Elevation and Lidar data program operations being consolidated and modernized
- Two year transition to QL2 data collections
- 3DEP Implementation Plan under development
- 3DEP Executive Forum established
- Pursuing multiple funding alternatives
 - \$10 M increase proposed in President's FY 14 budget
 - USGS and NOAA briefing FGDC Steering Committee, June 6, 2013

+ (4) Interagency Elevation Inventory

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- Ongoing NOAA, USGS, and FEMA collaboration to maintain the inventory and make the data accessible
- 2012 update has been released
- Inventory is critical to assessing progress towards 3DEP goals



www.csc.noaa.gov/inventory



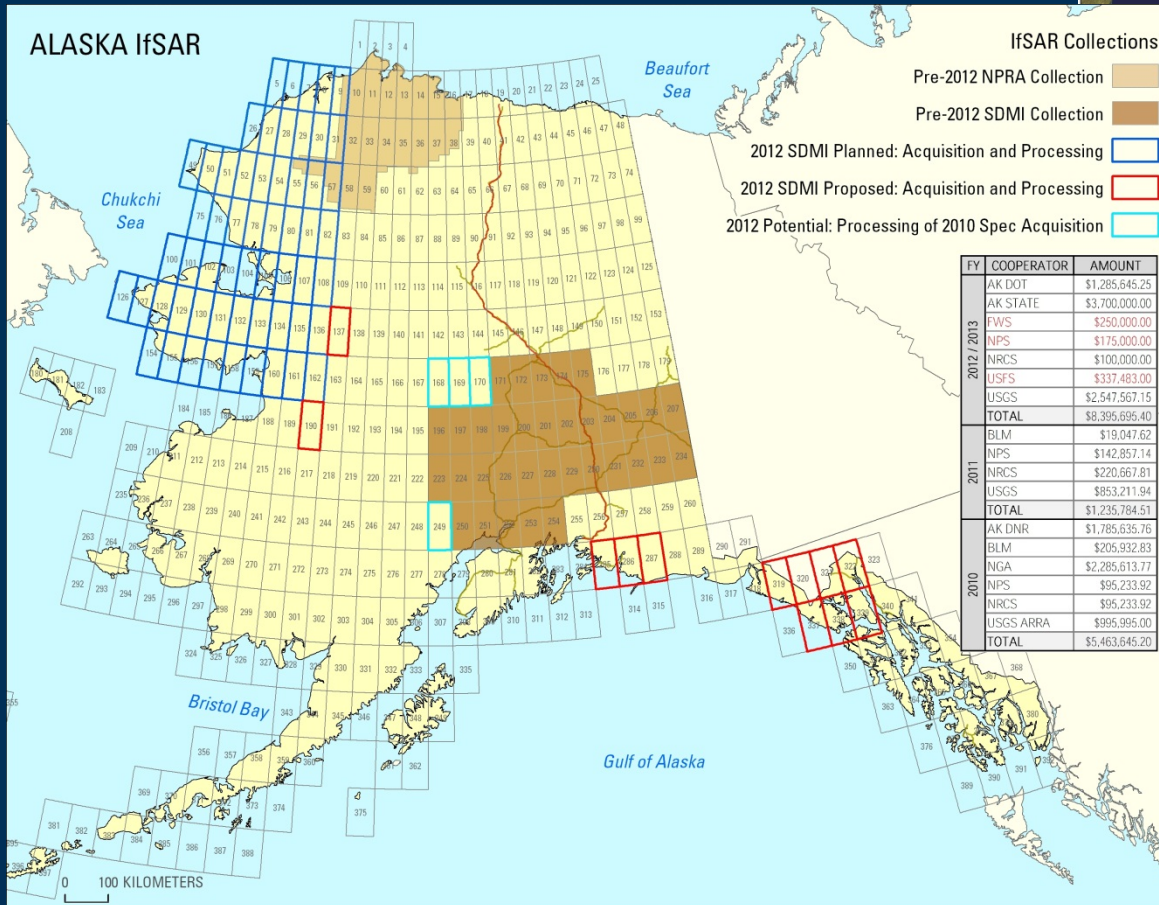
Alaska Mapping Initiative

- Work with Alaska Statewide Digital Mapping Initiative (SDMI) to continue IfSAR data acquisition and seek sources for other map layers needed for US Topo
- Presented US Topo samples for user feedback at the Alaska Mapping and Surveying Conference in February
- Goal to finalize specifications and begin making US Topo maps for Alaska in FY13
- Conducted an Alaska Roundtable to discuss IfSAR funding options with Federal partners

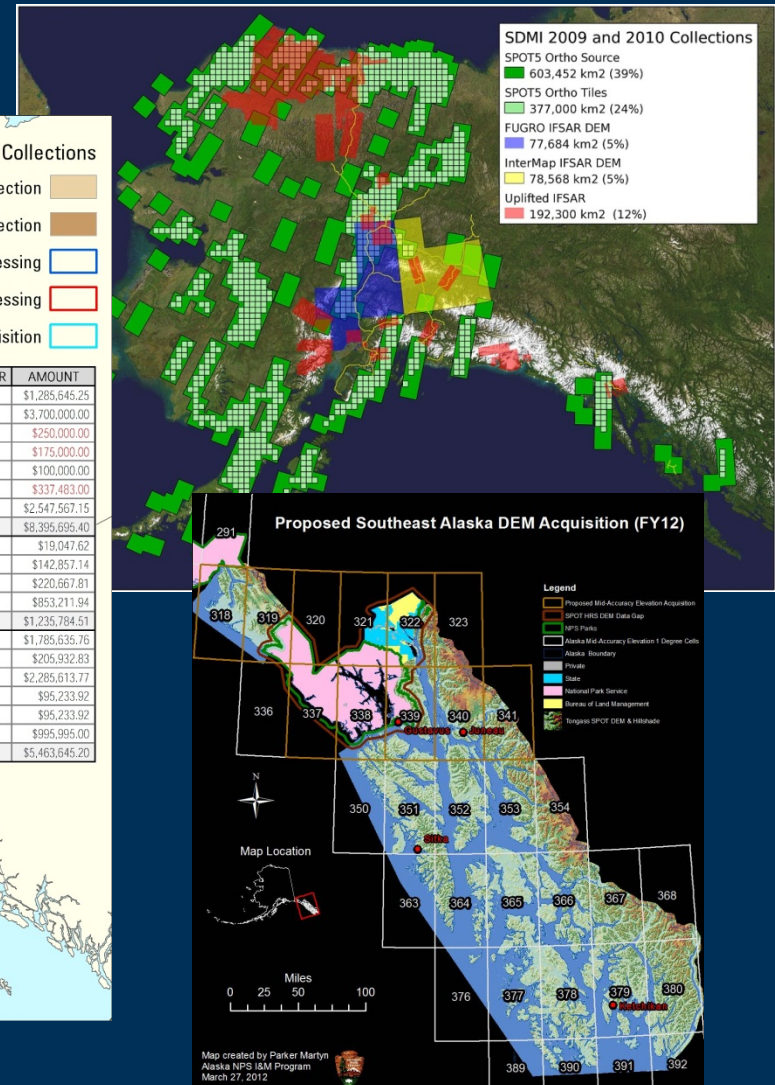




Alaska Mapping Initiative



| FY | COOPERATOR | AMOUNT |
|-------------|--------------|-----------------------|
| 2012 / 2013 | AK DOT | \$1,285,645.25 |
| | AK STATE | \$3,700,000.00 |
| | FWS | \$250,000.00 |
| | NPS | \$175,000.00 |
| | NRCS | \$100,000.00 |
| | USFS | \$337,483.00 |
| | USGS | \$2,547,567.15 |
| | TOTAL | \$8,395,695.40 |
| 2011 | BLM | \$19,047.62 |
| | NPS | \$142,857.14 |
| | NRCS | \$220,667.81 |
| | USGS | \$853,211.94 |
| | TOTAL | \$1,235,784.51 |
| 2010 | AK DNR | \$1,785,635.76 |
| | BLM | \$205,932.83 |
| | NGA | \$2,285,613.77 |
| | NPS | \$95,233.92 |
| | USGS ARRA | \$995,995.00 |
| | TOTAL | \$5,463,645.20 |





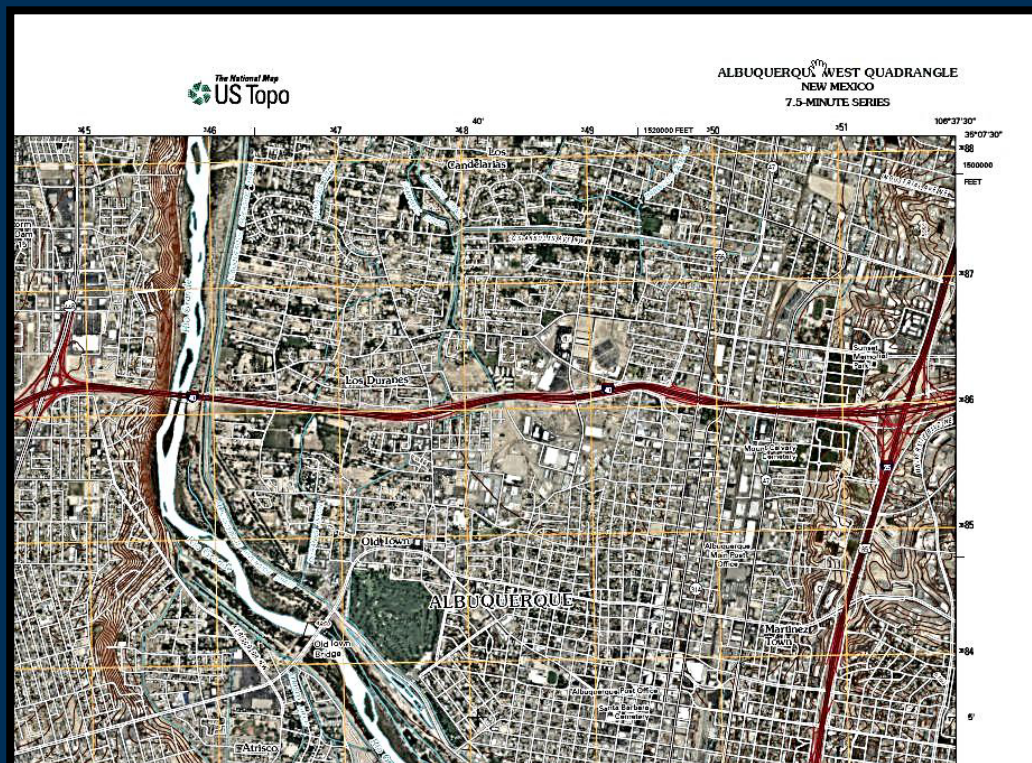
Alaska Mapping Initiative

- **DOI Alaska Round Table**
 - Anne Castle, DOI Assistant Secretary for Water & Science, Chair
 - Raise awareness of the need for statewide topographic mapping for Alaska
 - Ensure that the federal government are on the same page with regard to the topic of mapping Alaska.
- **Governor's office supports federal-state cooperation.**
 - Committed to seeing us through this goal and is committed to providing funding.



US Topo maps/ Historic Maps

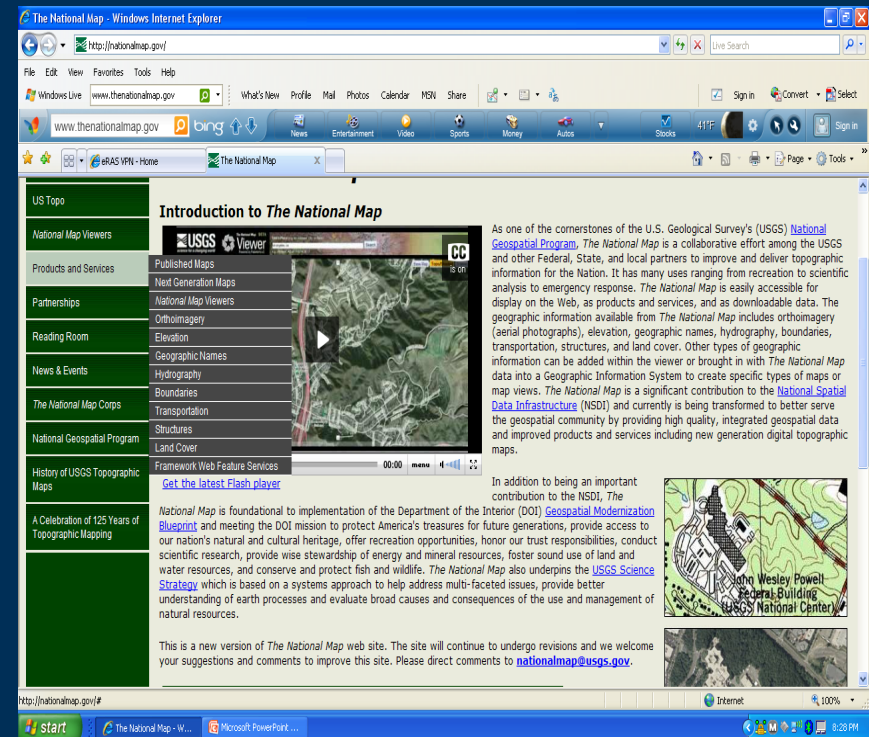
- Nationally consistent, driven from TNM databases
- GeoPDF, available free on-line
- 18,000+ maps/year
- 3 year revision cycle
- 59,000 Downloads/mo
- Historic maps
 - All editions
 - All Scales
 - 179 K Downloads/mo





The National Map Data Layers

- ✓ **Orthoimagery** – National Agriculture Imagery Program (NAIP)
- ✓ **Elevation** – National Elevation Dataset
- ✓ **Hydrography** – National Hydrography Dataset
- ✓ **Boundaries** – National Boundaries Dataset – US Census Bureau
- ✓ **Names** - Geographic Names Information System
- ✓ **Structures** – National Structures Dataset
- ✓ **Transportation** – US Census, Tele Atlas (2010) and USFS roads
- ✓ **Vegetation** – National Landcover Dataset





Program/Data Changes

- Focus on core datasets – Elevation, Hydrography
- Names – continue BGN support, update w/ features
- Maintenance layers
 - Authoritative national dataset from other sources
 - Crowd sourcing for structures data
- 3DEP – national, high resolution, beyond bare earth
- Transition to TIGER
- Strategic direction for partnerships

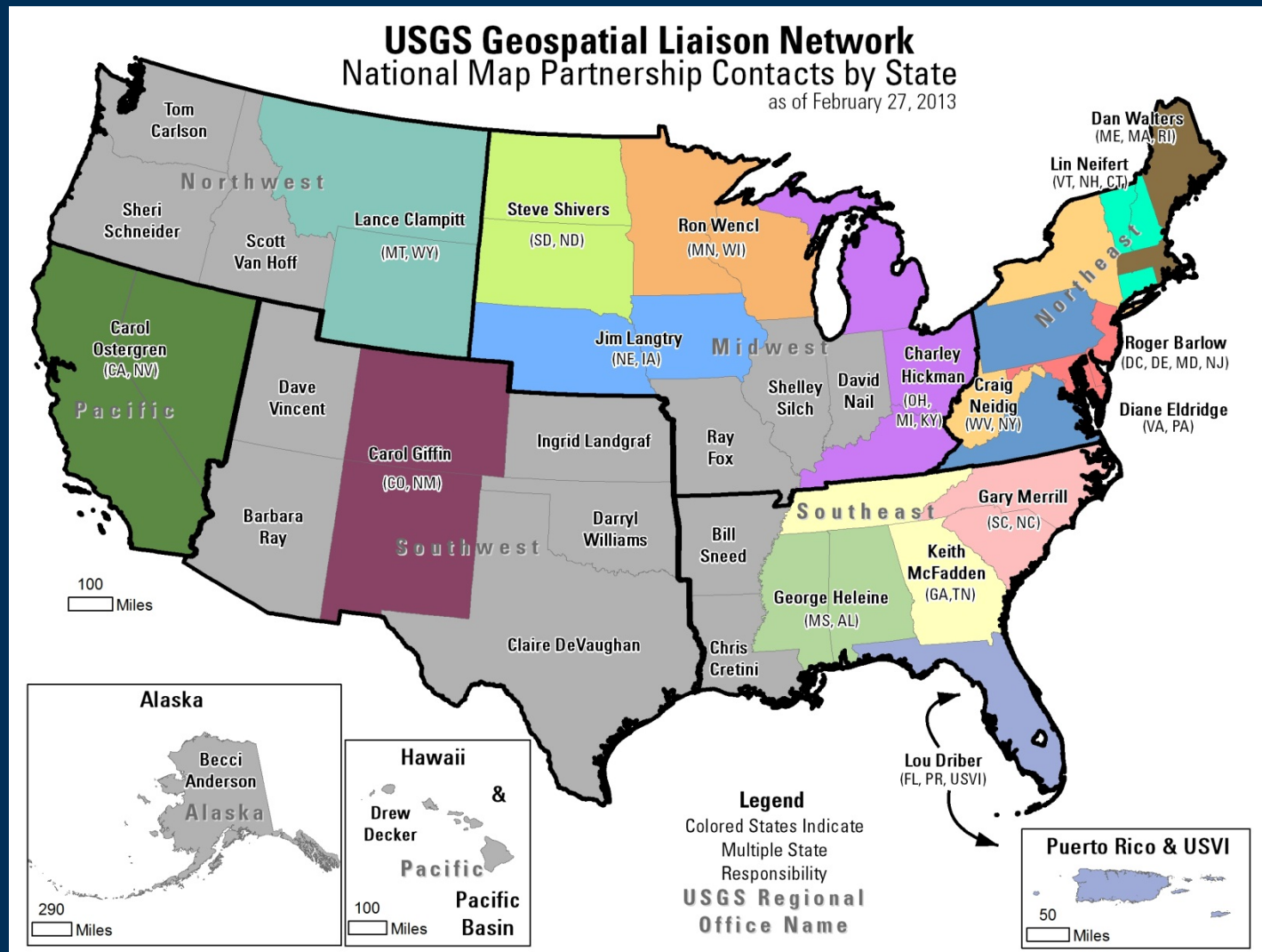


Strategic Direction for Partnerships

- **Addition of user engagement** activities at headquarters and in liaison network
- **Increase specialization**
 - In user communities
 - In topographic mapping data themes
- **Focus partnerships and data acquisition**
 - Focus partnerships in liaison network to elevation, NHD, and imagery
 - Address both topographic and ancillary themes at headquarters



Partnerships Points of Contact by State





Under pinning standards

- **FGDC Metadata and Framework Standards**
- **OGC – WMS, WFS, WCS, CSW**
 - OGC Interoperability Assessment
 - JSON-based Web Context Standard
- **DLCM – “simplified”**
- **Product Specifications and Standards**
 - NHD Standards, BGN
- **US National Grid**
- **NARA**

Questions & Discussion

