Putting New Jersey on the National Map

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Overview

• NJMap – NJ Mapping Assistance Partnership Program
• NJGIN – NJ Geographic Information Network
• USGS CAP-funded initiatives
  • City of Camden
  • Statewide framework data via web services
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**NJMapp**

New Jersey Mapping Assistance Partnership Program

- Initiated in 2002
- Goal: create a statewide geospatial network for sharing and integration of spatial data.
- Partnership between the State and local governments
- State provides computer hardware, software, training and in-kind services
- Local government partners maintain and provide access to their spatial data layers.

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**NJMapp – Project Tasks**

- Visioning and planning/stakeholder meeting
- Hardware/software installation
- Data assessment
- Data conversion and development
- Map services authoring
- Metadata development and training
- Data viewer development and installation
- Training for node administration and maintenance
NJMapp

State Provides
- Servers, rack, tape backup unit
- ArcIMS, ArcSDE, SQL Server
- Installation and configuration
- Data assessments
- Data conversion and development
- Metadata support
- Metadata cataloging
- Training
- Ongoing support

Partners Provide
- Coordination, project management
- Access to data
- Participation in assessment process
- Establish internal GIT resource staff to insure program and data sustainability
- Agree to partner with municipalities and nonprofit organizations

NJMapp – Where Are We Today?
- 6 counties active
- NJMapp partners
- 1 core city active
- NJMapp partner
- 1 county in progress
- 6 counties and 2 core cities within Urban Area Security Initiative (UASI) region active or currently in progress
- 9 remaining counties
NJGIN

New Jersey Geographic Information Network

- A distributed network of federated servers
- Enables access to data directly from stewards of locally maintained data sets
- NJGIN Portal, hosted by NJ OGIS, provides metadata catalog and serves as the gateway for centralized access to locally hosted partner data – a data discovery tool
- NJGIN Nodes at each local government partner provide up-to-date data via live map services

NJGIN Portal – njgin.nj.gov

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Expanding the Reach of NJGIN

- First initiatives were funded by homeland security funding
- Recent activity funded by two USGS Cooperative Agreement Program Grants
  - Adding City of Camden into NJGIN, publishing local data to National Map
  - Publishing statewide framework data to The National Map using WMS and WFS services
City of Camden

- Data assessment with all city departments
- Data development and conversion
- Hardware – database, application and web servers, tape backup, UPS
- Software – ArcIMS, ArcSDE, SQL Server
- Map Services – ArcIMS feature and image Services, WMS
- Metadata for map services and data
- Data viewers

Citywide Datasets – Catalogued on GOS

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ArcIMS Services – Catalogued on GOS

Web Map Services (WMS) – Published to The National Map
NJGIN with Local Branding

CAGEN: Camden ArcGIS Enterprise Network

Custom Data Viewer

- “Site Investigator"
- Built by OGIS for NJGIN partner nodes
- Utilizes web services from local partner and OGIS
General Use Data Viewer

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CAP 2006 – Putting New Jersey on The National Map

- NJ has relatively well-developed framework data, mixture of state and local stewardship
- NJGIN metadata catalog is routinely harvested by GOS
- Focus of this project is to get map services connected directly from NJGIN to The National Map
- Expansion of storage, WMS/WFS services

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Framework Data

- 2002 Orthophotography
  - False color IR
  - 1’ pixels
  - Scale 1:2400
  - Lead agency: NJOIT-OGIS

- Elevation
  - Existing 10m DEM statewide
  - Lidar being done piecemeal, seamless DEM planned
  - NJDEP, NJOIT-OGIS, USGS, FEMA, NGA

Framework Data (cont.)

- Hydrography
  - Captured from 2002 orthos, scale 1:2400
  - NHD attribution in process
  - Lead agency: NJDEP

- Land Use/Landcover (2002)
  - Photo-interpreted from 2002 orthophotos
  - Modified Anderson classification
  - Includes attributes from 1995 LULC
  - Lead Agency: NJDEP
Framework Data (cont.)

- Municipal Boundaries
  - 566 municipalities
  - Update in process to match roads, hydro, surveyed data from open space and ag preservation programs
  - Lead agency: NJOIT-OGIS
- Road Centerlines
  - All publicly maintained roadways
  - Captured from 2002 orthos, updated with GPS
  - Standardized linear referencing system
  - Lead agency: NJDOT

NJGIN Map Services

- 1930s Aerial Photography – IMS IS, WMS
- 2002 Orthophotos – IMS IS, WMS
- Boundaries – IMS IS, IMS FS, WMS, WFS
- Digital Elevation Model – IMS IS, WMS
- Hydrological Features – IMS IS, IMS FS, WMS, WFS
- Land Use/Landcover – IMS IS, IMS FS, WMS, WFS
- Road Centerlines – IMS IS, IMS FS, WMS, WFS
- Topographic Maps – IMS IS, WMS
Enabling WMS

- Deploy ESRI WMS connector WAR file to application server
- Configure properties on admin page
- Enable services

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Enabling WFS

- ESRI WFS connector
  - No ability to restrict # of features returned to the client on the back end. Too many features will crash IMS.
  - Use third party front end client to restrict requests. With large layers, there is a potential that many features will not render.
- GeoServer WFS
  - Used by The National Map.
  - No apparent problems with # of features returned.
Final Thoughts

- Distributed network connects users directly to data stewards
- Challenges building/running the network
  - $$$
  - Training/knowledge transfer
  - Executive sponsorship in local governments
- Connecting to nationwide initiatives (GOS, TNM) extends our reach
- ArcGIS Server for WMS
- GeoServer for WFS
- Will WFS be necessary in future?

Thanks for Listening!

Questions? No? Good.

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