

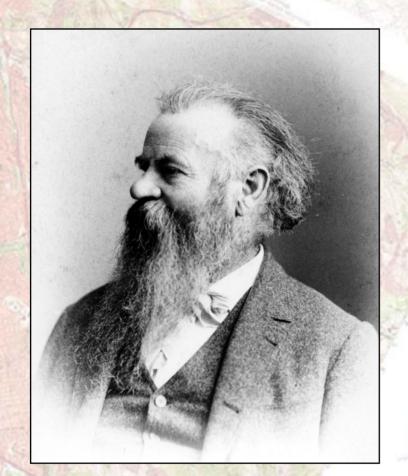


DOI Executive Workshop on Enterprise Geospatial Systems -The National Map

Mark L. DeMulder Acting Chief Scientist for Geography

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

Powell on National Mapping



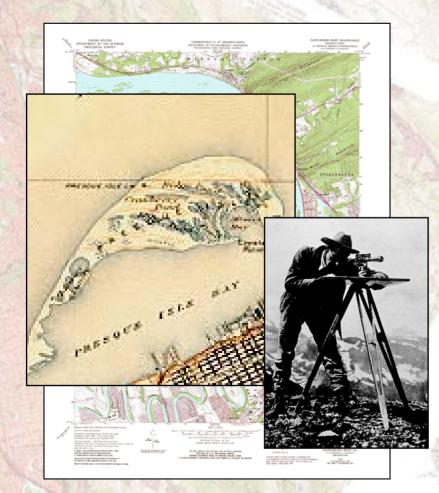


 Testimony to Congress on December 5, 1884

"A Government cannot do any scientific work of more value to the people at large, than by causing the construction of proper topographic maps of the country"



USGS Topographic Maps



- Once-over mapping was an immense feat
- The only national synthesis of geography that is
 - Comprehensive
 - Transjurisdictional
 - **Border to border and** coast to coast
- Cost of replication today would be \$2 to \$3 billion





A New Vision

- A seamless, continuously maintained, nationally consistent set of base geographic data – THE NATIONAL MAP
- Maintained through partnerships
- A national foundation for science, land and resource management, recreation, policy making, and homeland security
- Available over the Web and the source for revised topographic maps





The National Map

Topographic Mapping for the 21st Century

Final Report November 30, 2001

Reston, VA

Cooperative Topographic Mapping Program U.S. Geological Survey Mail Stop 511





Why Partnerships?

- Because partners often have the most current data!
- Partnerships leverage the resource of all involved
- The USGS role emphasizes collaboration to create and maintain data, tools, and applications
- Partners include Federal agencies; State, tribal, regional, and local governments; private industry; universities and libraries; and the public





Leading the Development of Partnerships to Build the NSDI

Counties

Academia

Cities

05-confeiles

Geospatial One Stop

- Discovery and Access
- Common Infrastructure

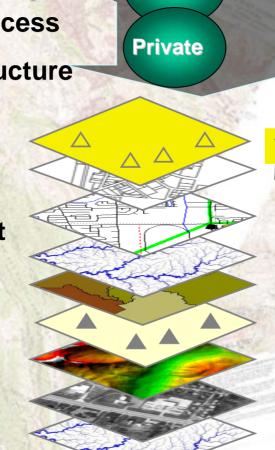
Federal

Harvesting

The National Map Integrated Content

- Seamless Base
- Map Products
- Framework Focus

science for a changing world



FGDC • Coordination

•Standards/Policy

The National Map

•Training

Toxic Releases Land Cover Transportation Surface Waters

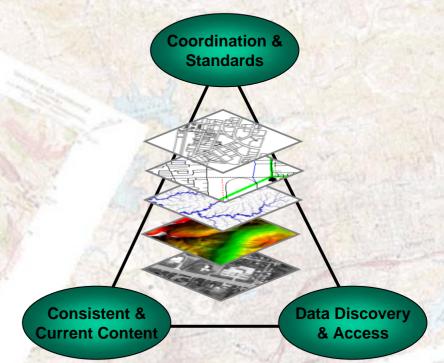
States

- Boundaries
- Structures
- Elevation

Orthophoto Geo Names

NSDI Roles

The National Map – integrated base data
FGDC – coordination standards, policy
GOS – discovery and access

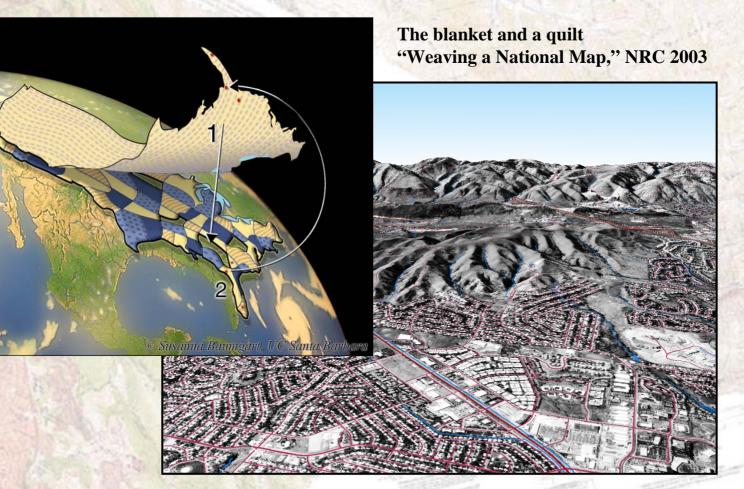


A triangle won't buckle, bend, or collapse when it's under pressure





A National Information Synthesis



Lakewood, Colorado

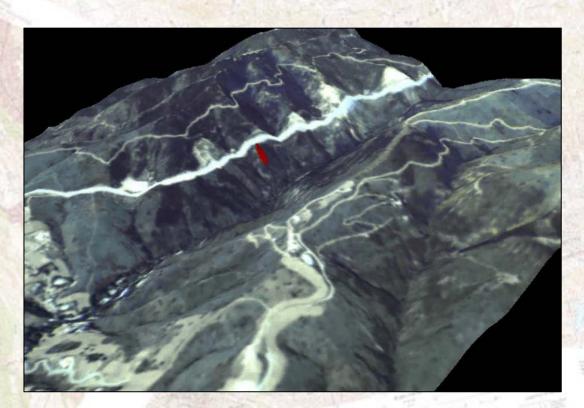




Wildland Fire

 Information from *The National Map* on the shape of the terrain and land cover allows simulation of wildland fire behavior

 Other information such as roads and structures supports fire fighting operations



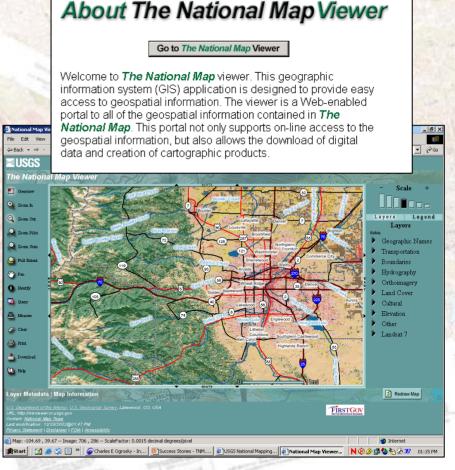
Animation courtesy Space Imaging





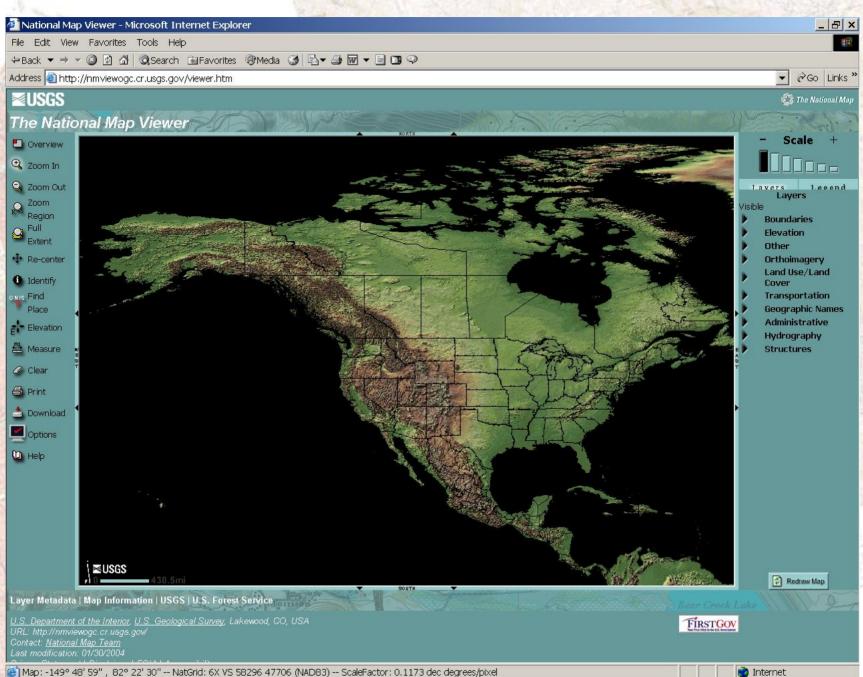
Implementing a Web Viewer

- The data of *The National Map* are viewable at nationalmap.usgs.gov
- This capability requires only a Web browser
- Initial sources of data include USGS national datasets and partner data

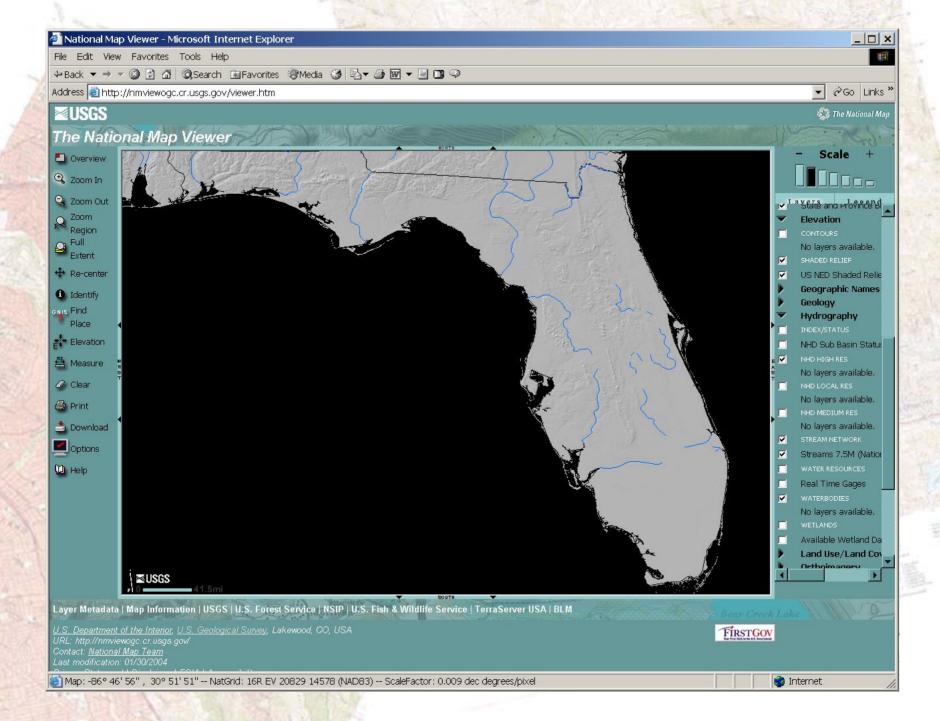


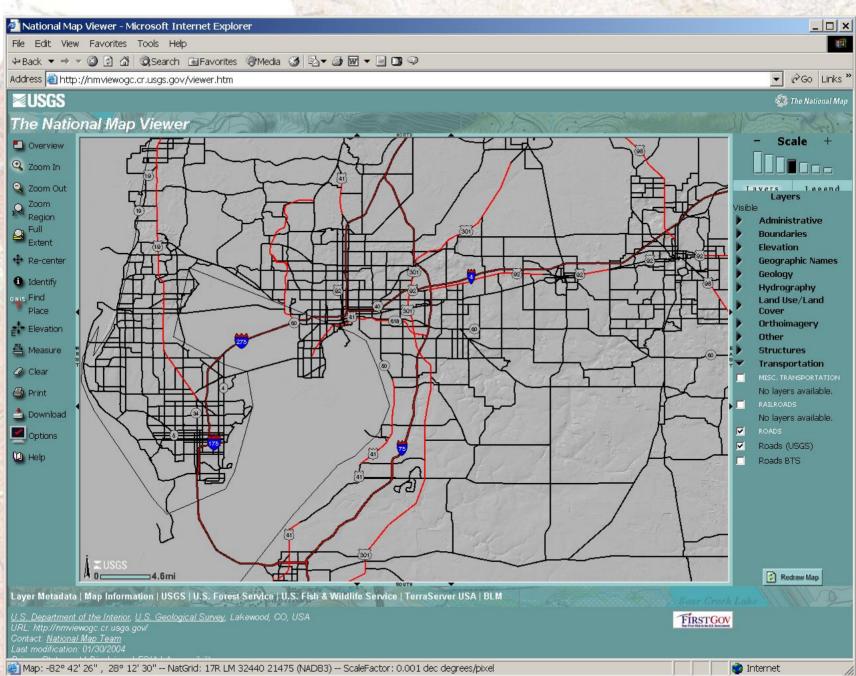


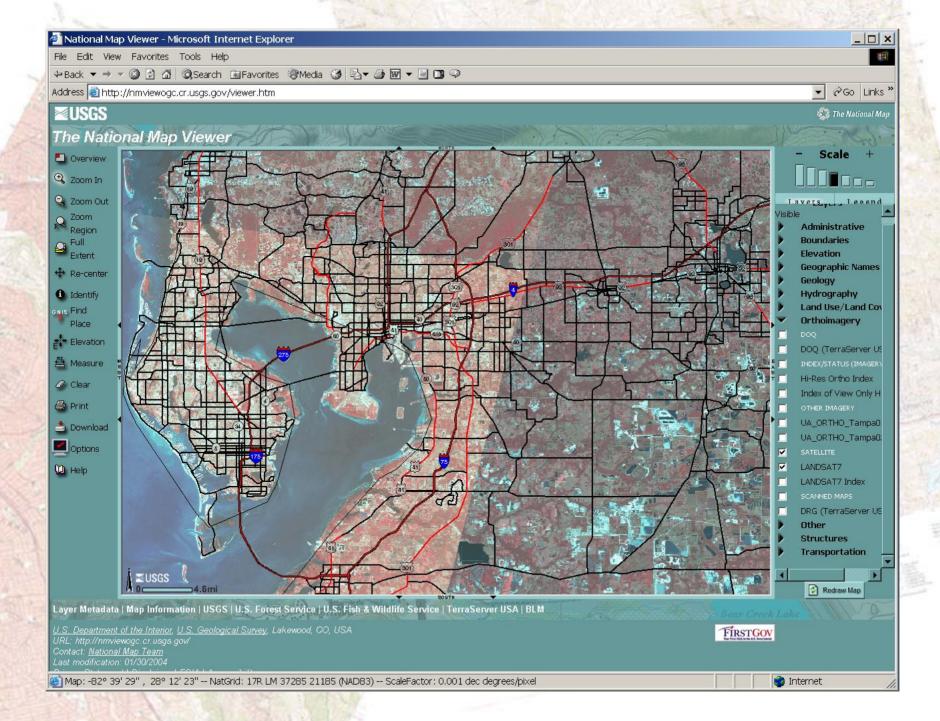


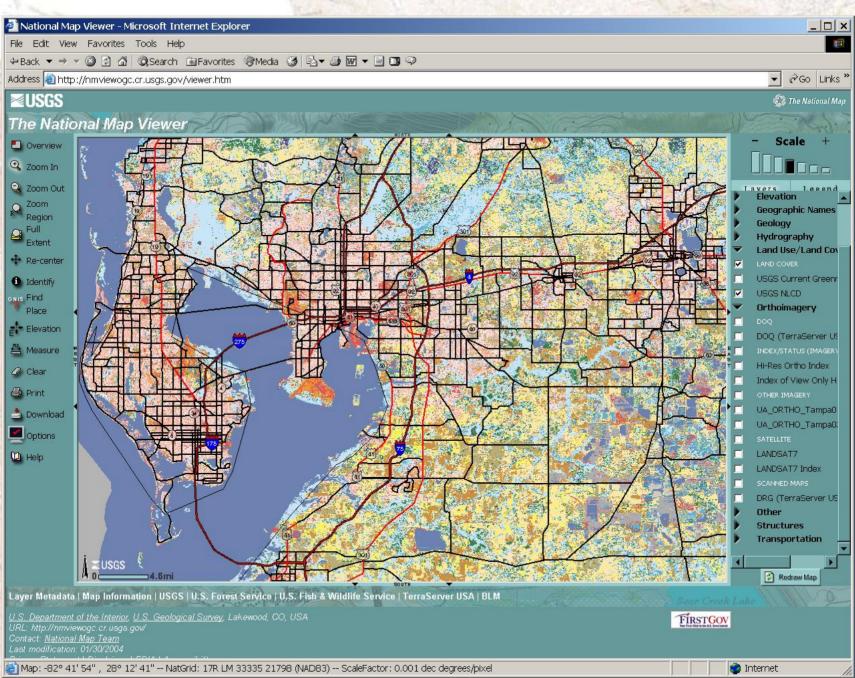


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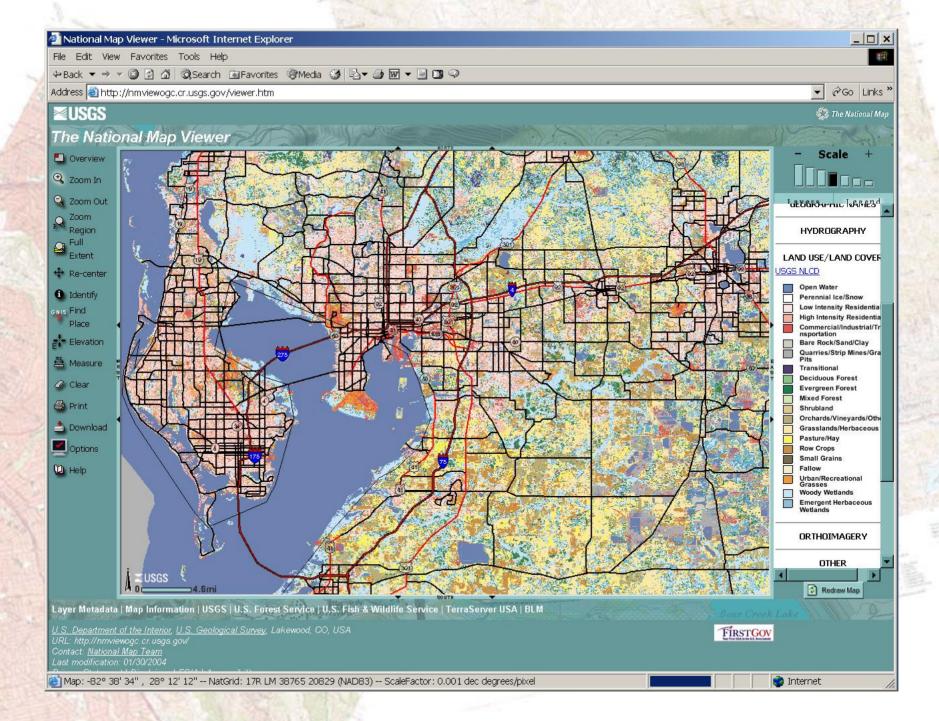


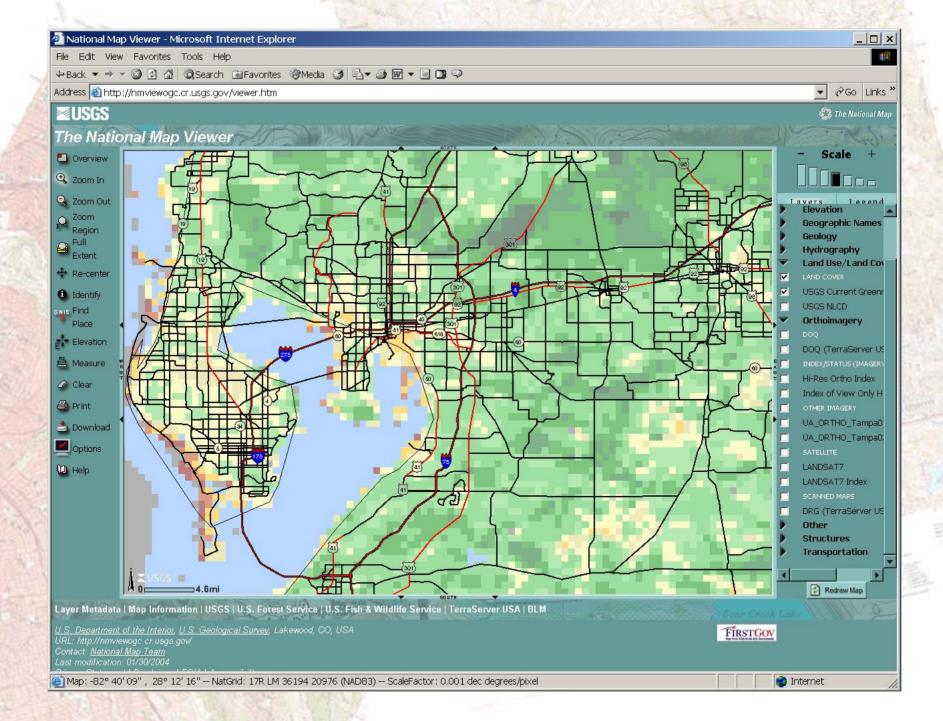


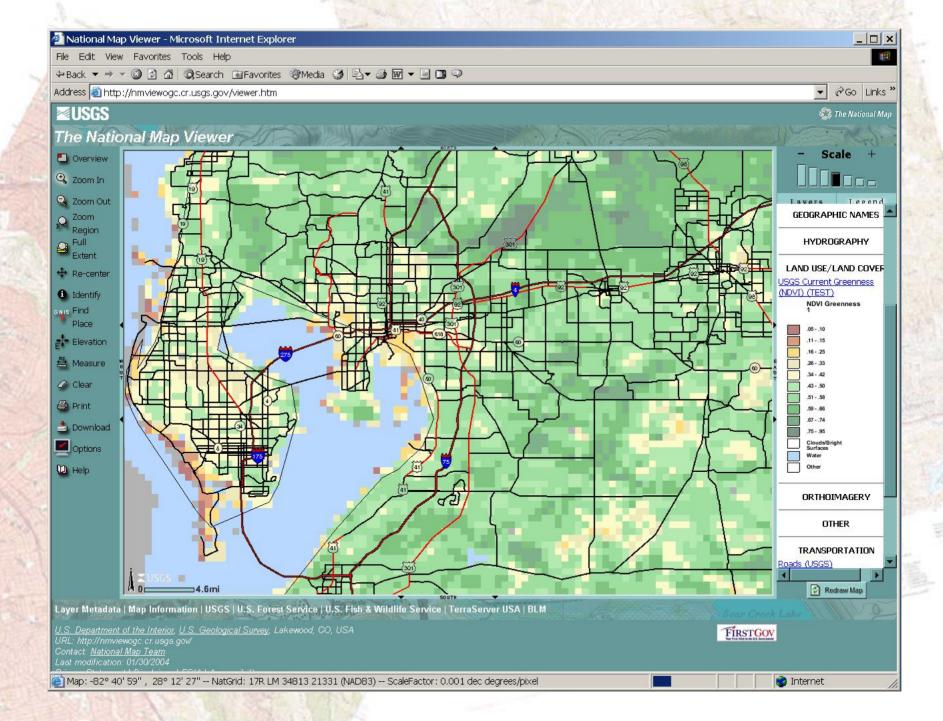


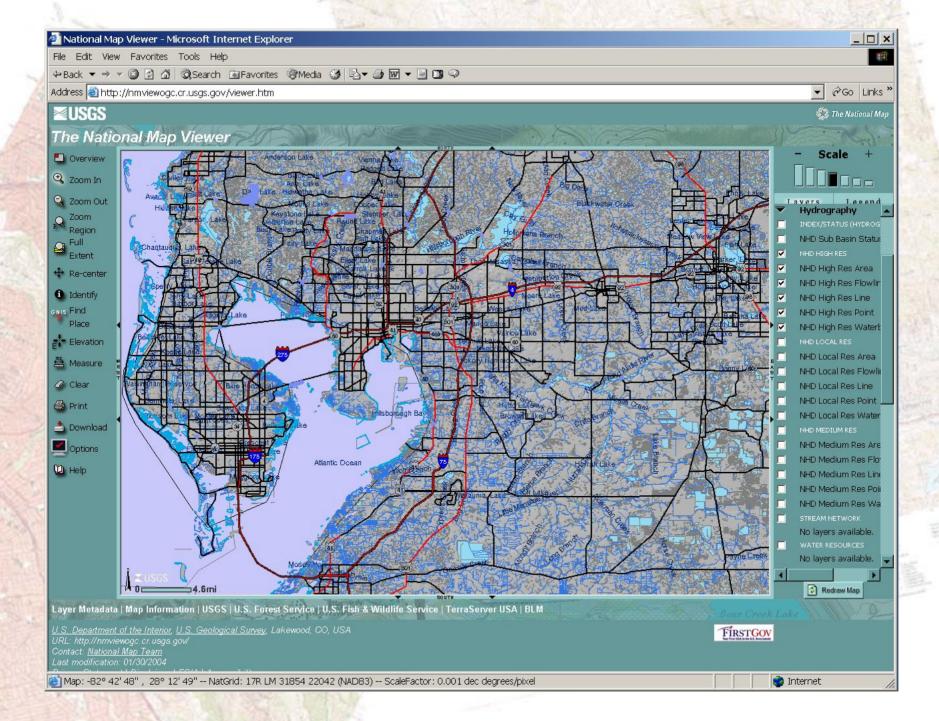


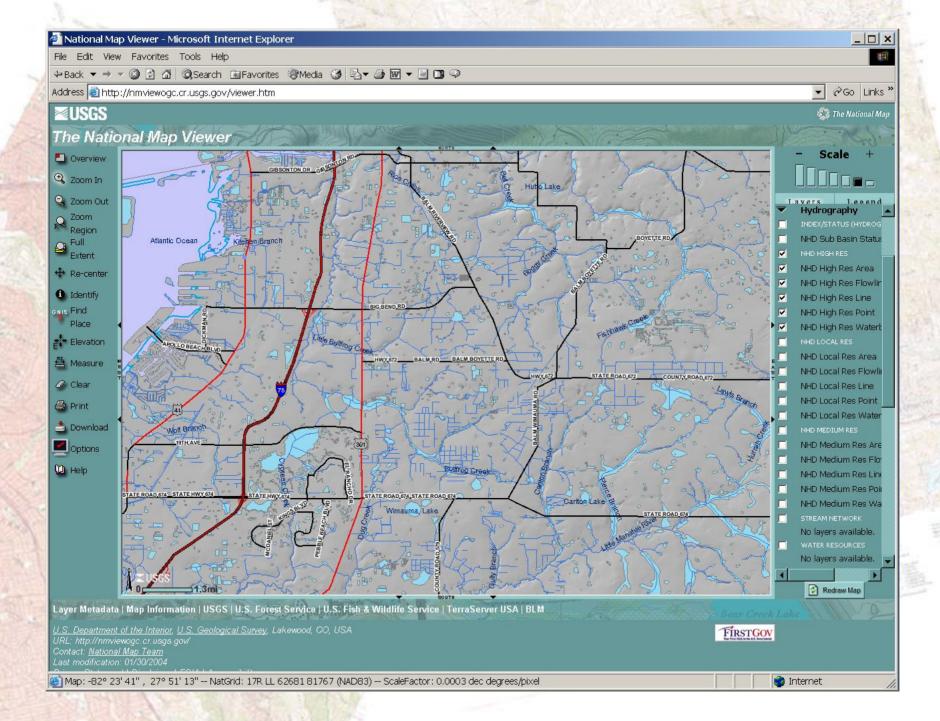
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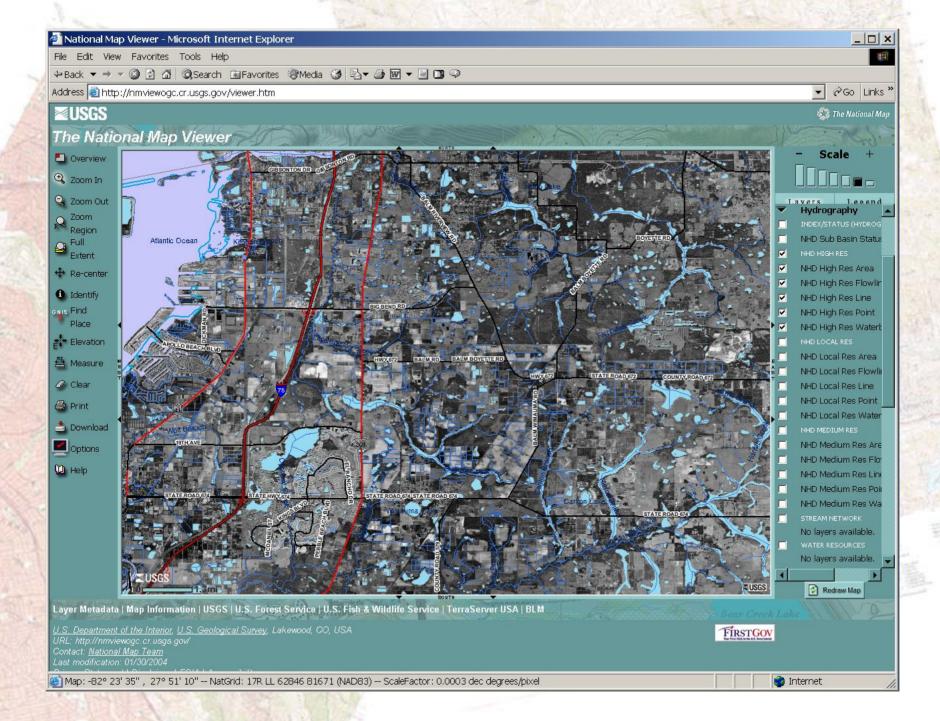


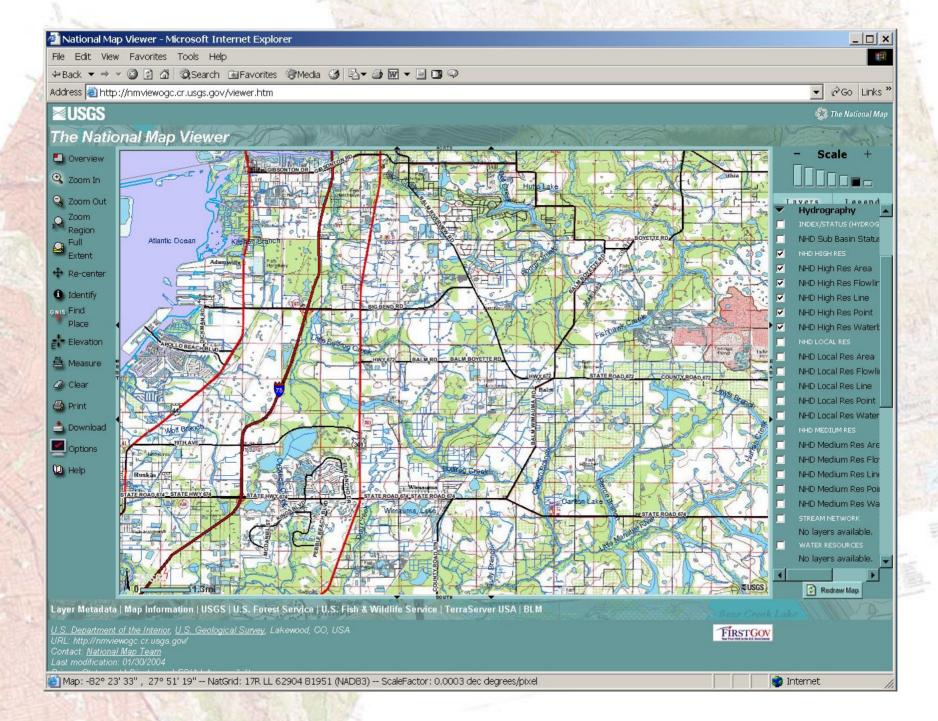


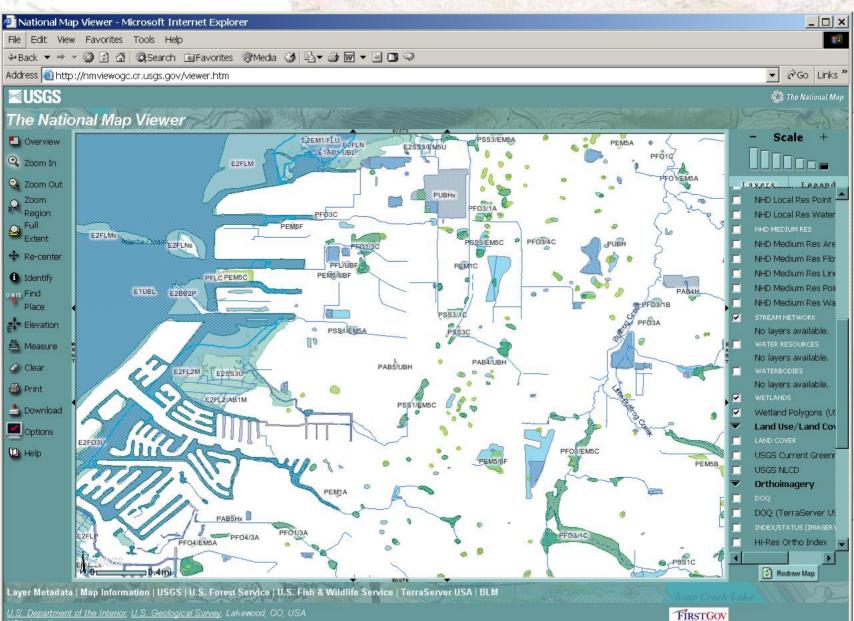












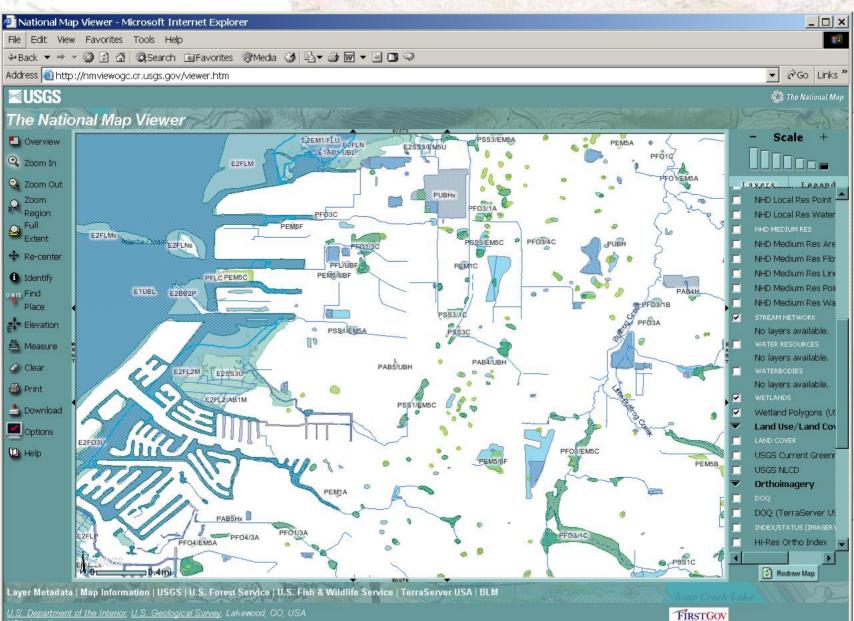
URL: http://nmviewogc.cr.usgs.gov Contact: <u>National Map Team</u>

Last modification: 01/30/2004

🍯 Map: -82° 25' 11" , 27° 49' 10" -- NatGrid: 17R LL 60161 78020 (NAD83) -- ScaleFactor: 0.0001 dec degrees/pixel

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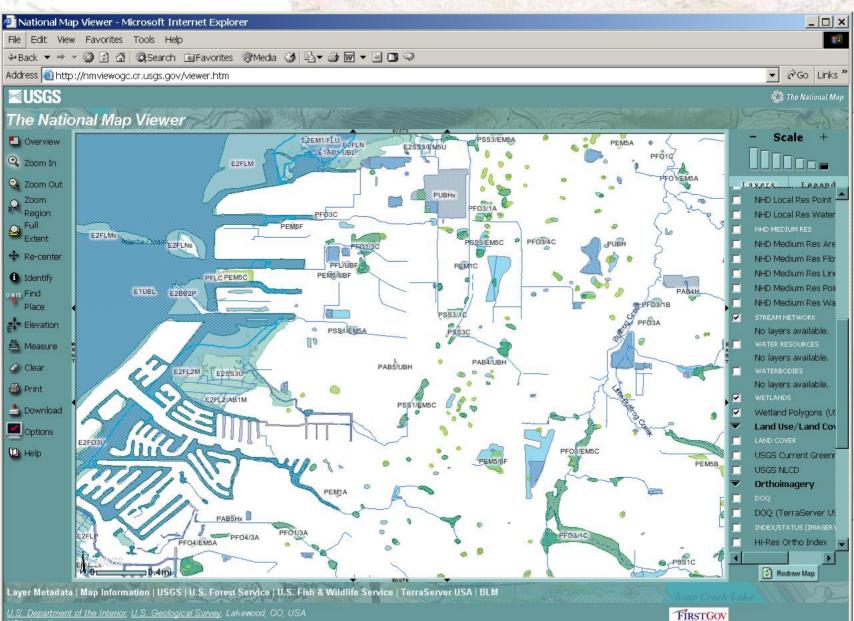
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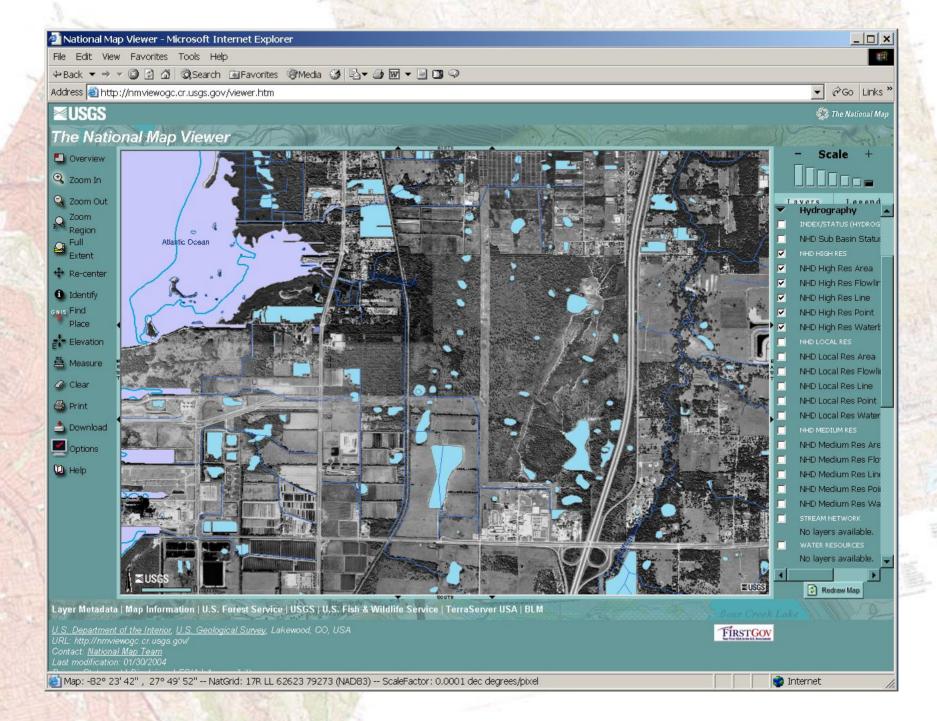


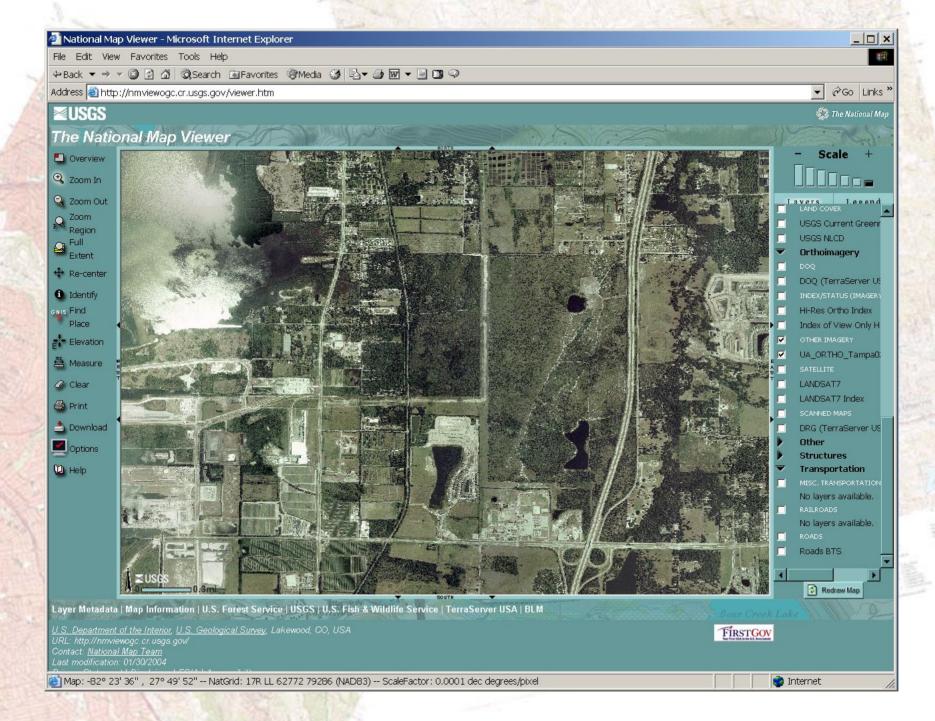
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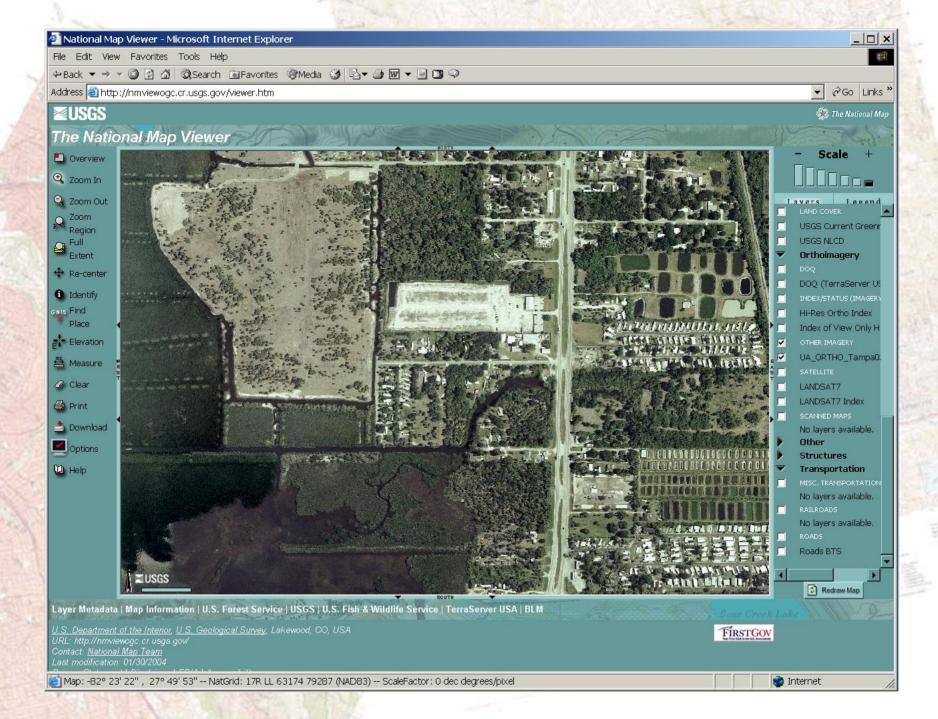
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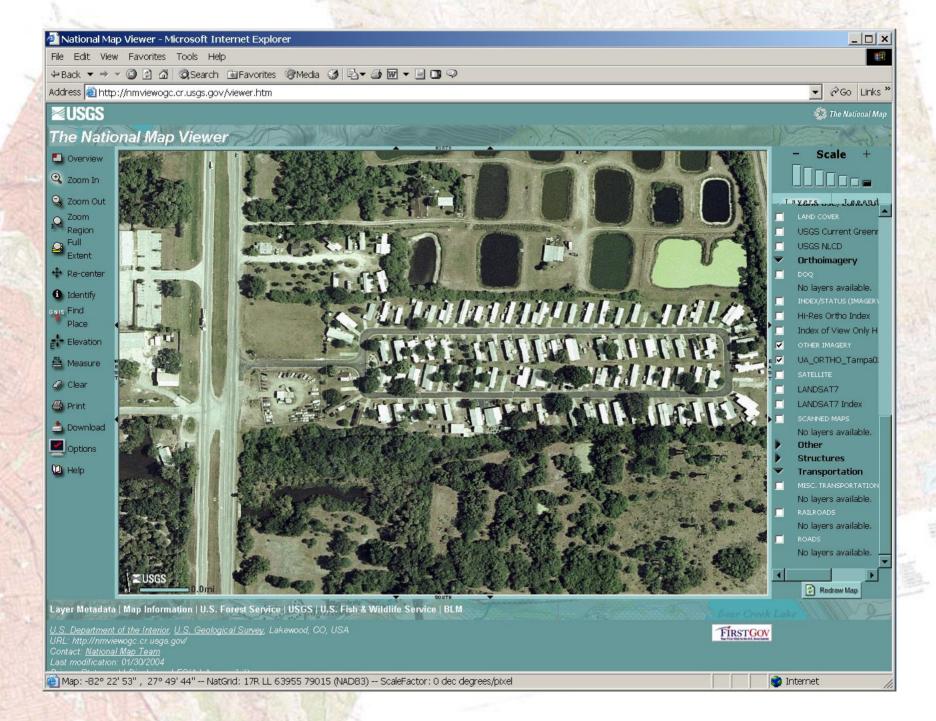
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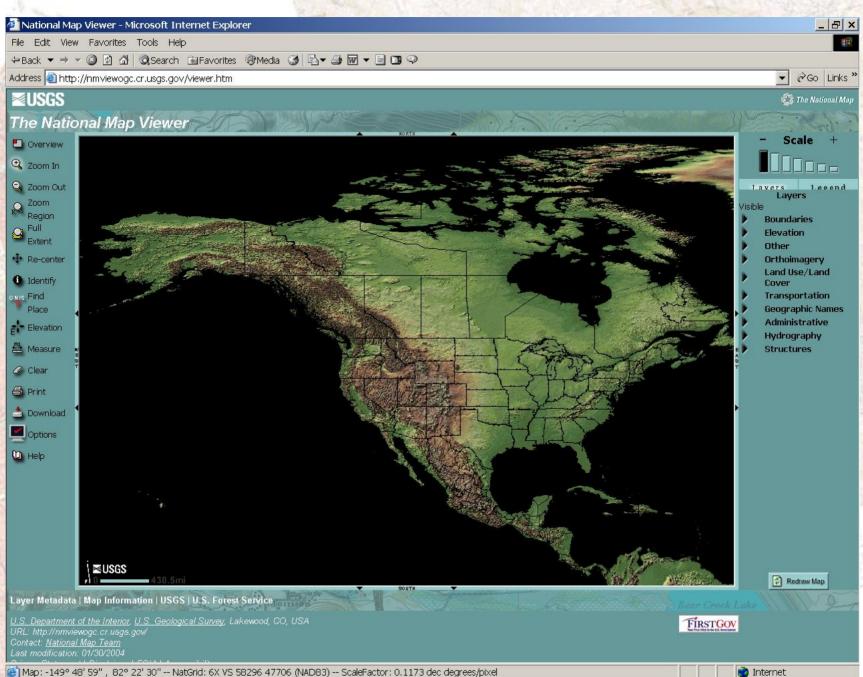
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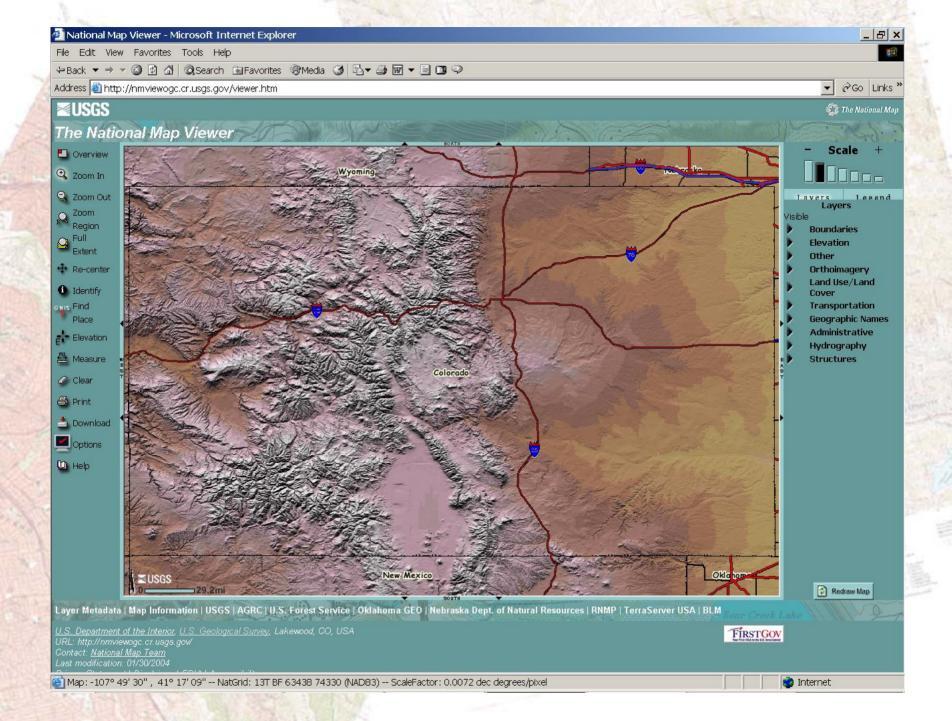


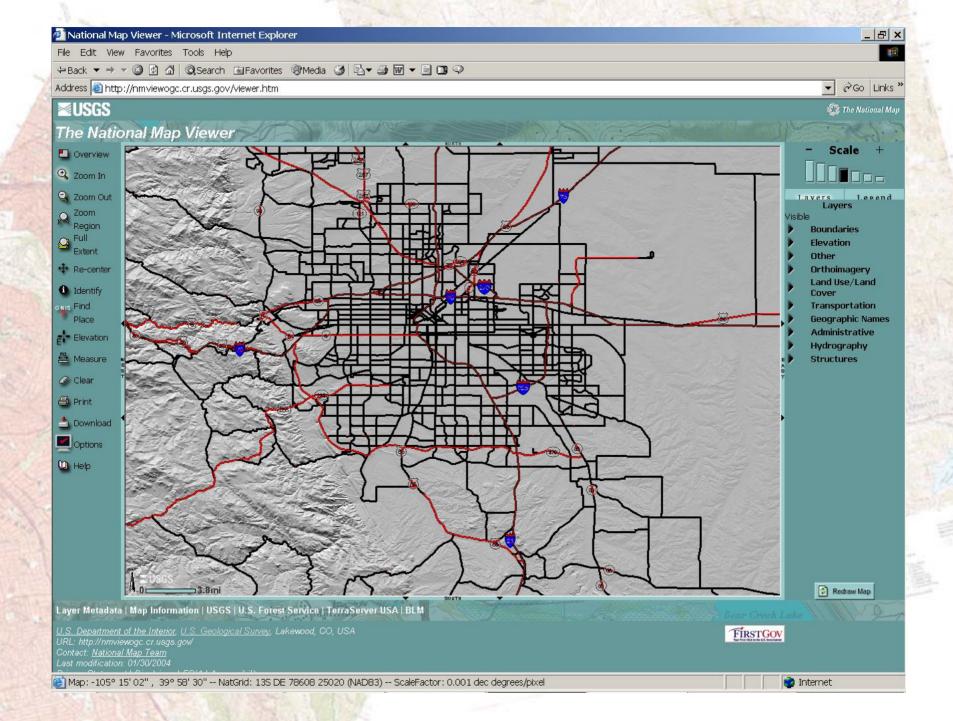


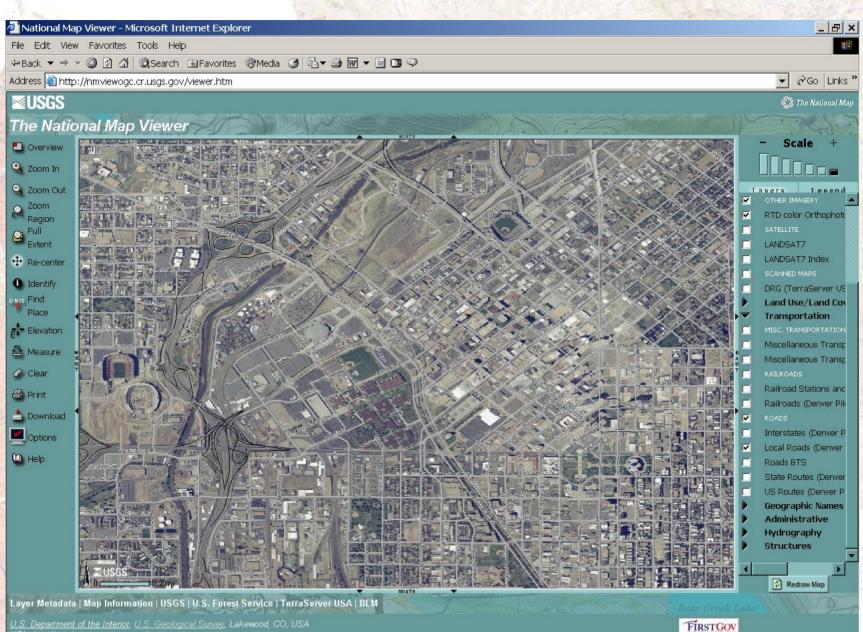


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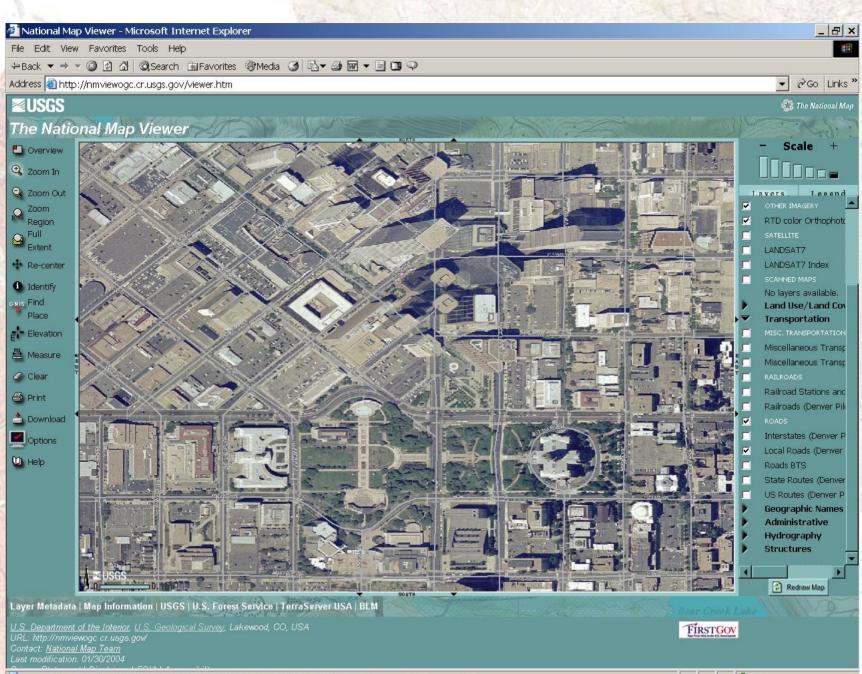




<u>U.S. Department of the Interior, U.S. Geological Survey</u>, Lakewood, CO, USA URL: http://nmviewogc.cr.usgs.gov/ Contact: <u>National Map Team</u> Last modification: 01/30/2004

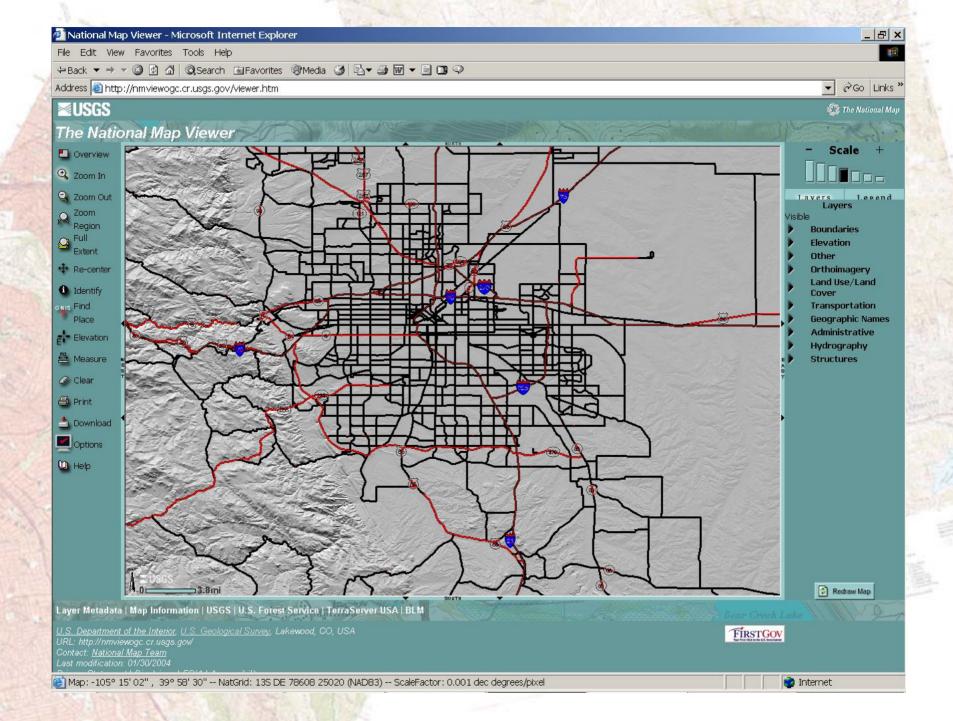
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🔄 Map: -104° 59' 33" , 39° 44' 43" -- NatGrid: 13S ED 00640 99482 (NAD83) -- ScaleFactor: 0 dec degrees/pixel

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National Map Viewer - Microsoft Internet Explorer

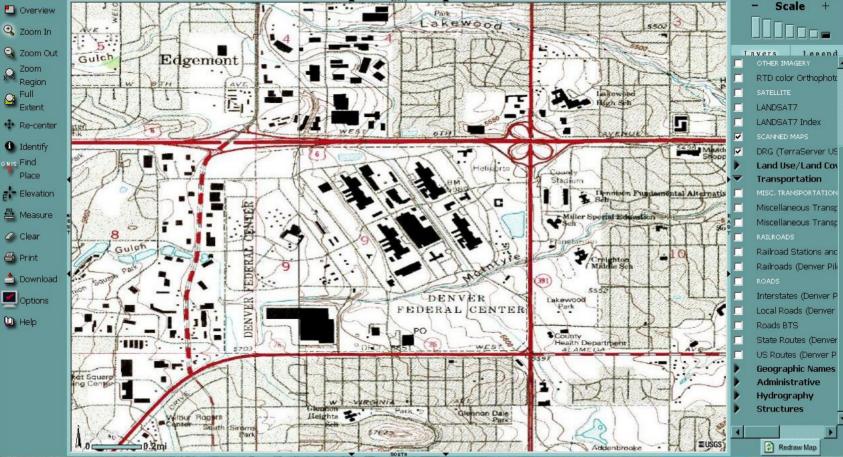
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Layer Metadata | Map Information | USGS | U.S. Forest Service | TerraServer USA | BLM

<u>U.S. Department of the Interior, U.S. Geological Survey</u>, Lakewood, CO, USA URL: http://nmviewogc.cr.usgs.gov/ Contact: <u>National Map Team</u>

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😢 Map: -105° 07' 31" , 39° 43' 54" -- NatGrid: 13S DD 89257 97989 (NAD83) -- ScaleFactor: 0 dec degrees/pixel

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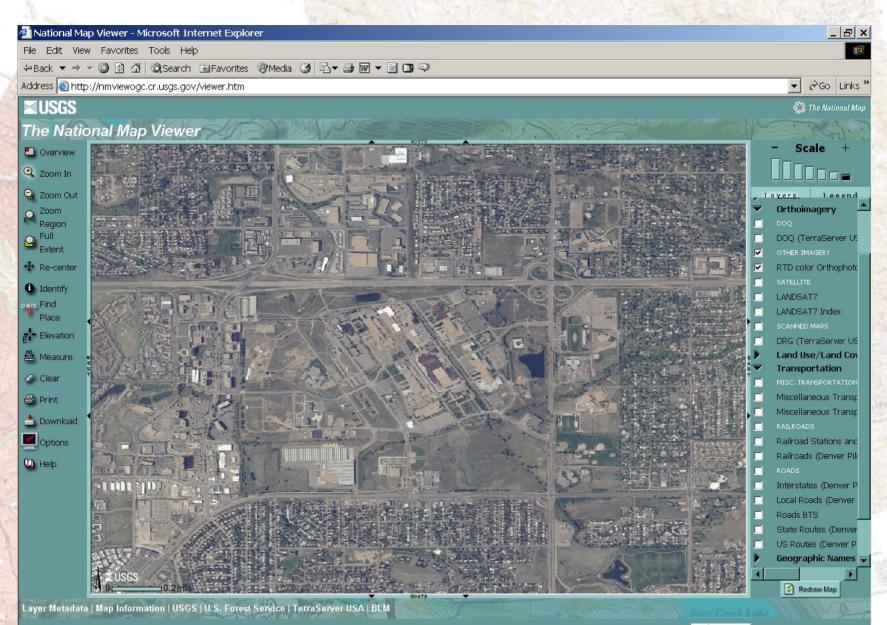
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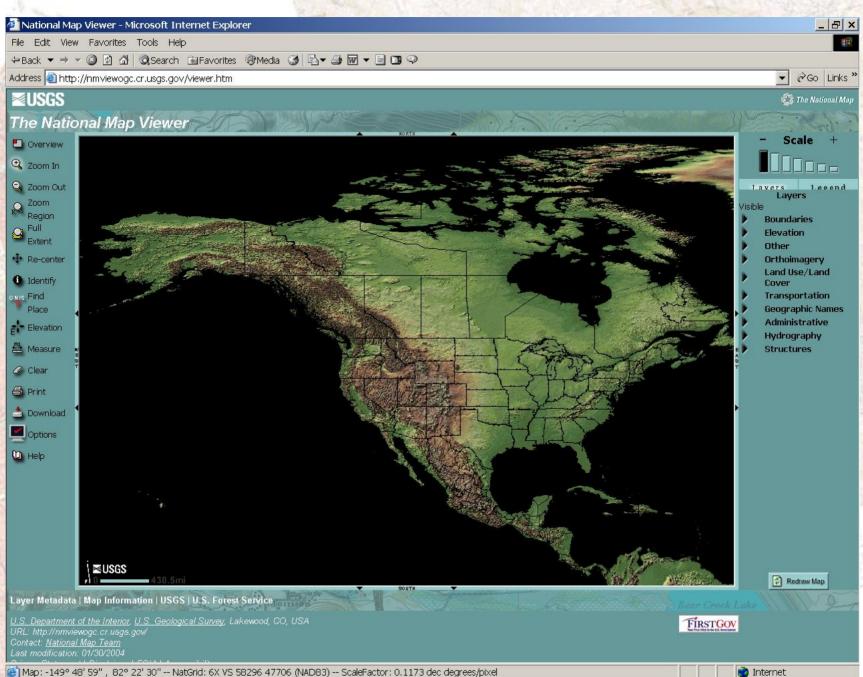
<u>U.S. Department of the Interior, U.S. Geological Survey</u>, Lakewood, CO, USA URL: http://nmviewogc.cr.usgs.gov/ Contact: <u>National Map Team</u> Last modification: 01/30/2004 FIRSTGOV

🝯 Map: -105° 07' 50" , 39° 44' 05" -- NatGrid: 13S DD 88805 98317 (NAD83) -- ScaleFactor: 0 dec degrees/pixel

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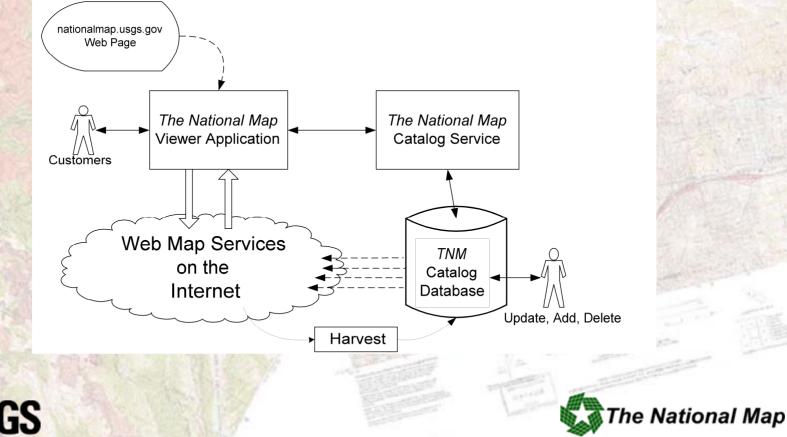
😰 Map: -105° 07' 38" , 39° 42' 56" -- NatGrid: 13S DD 89106 96189 (NAD83) -- ScaleFactor: 0 dec degrees/pixel



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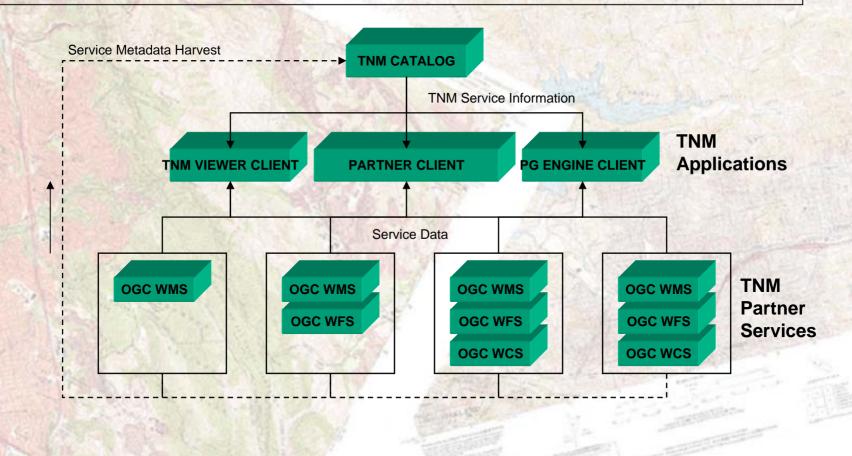
Overview of The National Map System

A Catalog-based Approach.





How the Catalog Works

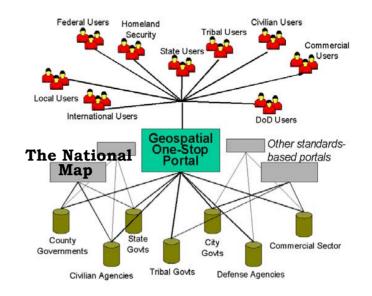






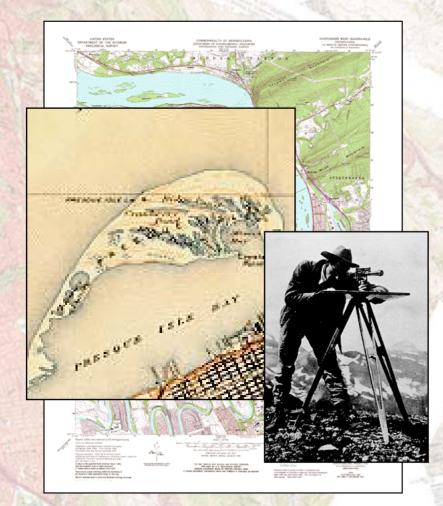
Integration with GOS Portal

- *The National Map* is another "standards-based Portal"- registered with GOS as Catalog Service
- Uses standardized protocol for access: OGC style request with XML/DTD response
- Additional Functionality:
 - "national coverage"
 - "consistency"
 - "maintained data"
 - "service interface"





From William Morris Davis - 1913



• No publications of the Survey have had a greater general usefulness...The change from geographic barbarism of that earlier day to the relative civilization of the present time is due more to Powell than to any other one man.





Our Challenge

- What will define the next shift from "barbarism to relative civilization" for national mapping?
 - ✓ Fully developed National Map
 - ✓ Developing and maintaining robust IT infrastructure
 - ✓ Meeting the security challenges of a loosely coupled, partner network







J.W. Powell

www.nationalmap.gov



