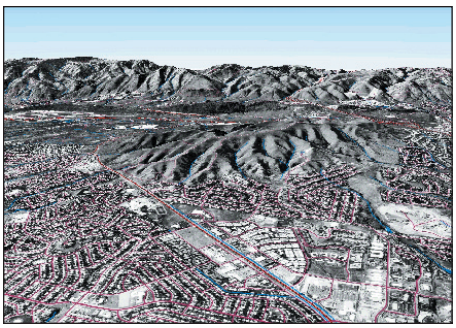
USGS science for a changing world

The National Map

The National Map: Topographic Maps for the 21st Century

The U.S. Geological Survey (USGS) is committed to meeting the Nation's needs for current base geographic data and maps. Our vision is that, by working with partners, we will provide the Nation with access to current, accurate, and nationally consistent digital data and topographic maps derived from those data. This synthesis of information, products, and capabilities, *The National Map*, will be a seamless, continuously maintained set of geographic base information that will serve as a foundation for integrating, sharing, and using other data easily and consistently.



The Nation Needs *The National Map*

Governments depend on a common set of base information that describes the Earth's surface and locates features. They use this information as a tool for economic and community development, land and natural resource management, and health and safety services. Federal functions ranging from emergency management and defense to environmental protection rely on this information. Private industry, nongovernmental organizations, and individual citizens also use the same geographic data. Geographic information underpins an increasingly large part of the Nation's economy.

USGS Role

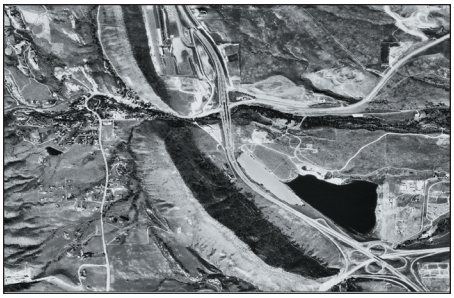
The most widely known form of geographic base information for the United States is the USGS primary series topographic map. The USGS has produced more than 55,000 unique map sheets and approximately 220,000 digital orthorectified aerial images to cover the Nation. These maps and images are a national treasure, but the average primary series topographic map is 23 years old. Frequent changes on the landscape mean that many of these maps are no longer accurate and complete. The USGS is committed to organizing and leading cooperative activities to ensure that current geographic base information is readily available and useful.

The National Geospatial Program (NGP)

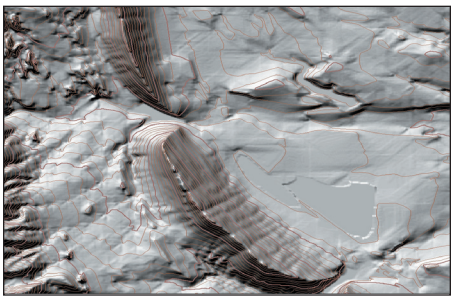
The USGS has realigned its geospatial programs into the National Geospatial Program (NGP) to serve the needs and interests of the geospatial community throughout the Nation. This realignment brings *The National Map*, The National Atlas, Geospatial One-Stop, and the Federal Geographic Data Committee into a single program office. With the creation of the NGP, the essential components of delivering the National Spatial Data Infrastructure (NSDI) and capitalizing on the power of place will be managed as a unified portfolio that benefits the entire geospatial community.

The National Map provides data about the United States and its territories that others can extend, enhance, and reference as they concentrate on maintaining other data that are unique to their needs. *The National Map* promotes cost effectiveness by minimizing the need to find, develop, integrate, and maintain geographic base data each time they are needed.

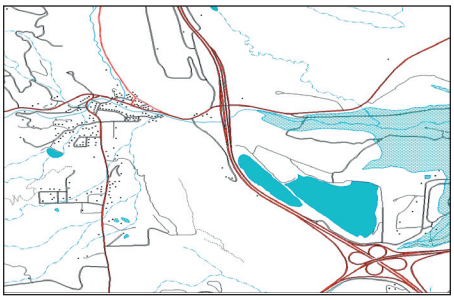
Under National Geospatial Program Office (NGPO) leadership, *The National Map* provides data and operational capabilities that include the following:



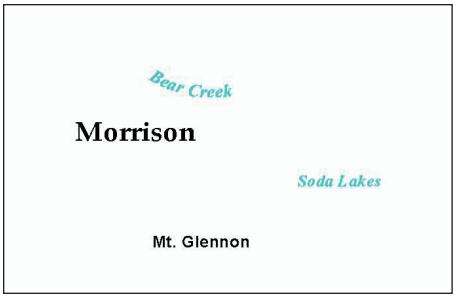
- High-resolution digital ortho-rectified imagery that provides some of the feature information content now symbolized on topographic maps.



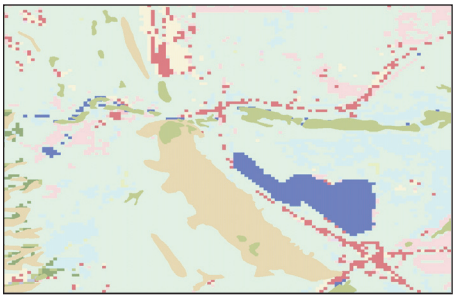
- High-resolution surface elevation data, including bathymetry, to derive contours for primary series topographic maps and to support production of accurate ortho-rectified imagery.



- Vector feature data for hydrography, transportation (roads, railways, and waterways), structures, government unit boundaries, and publicly owned land boundaries.



- Geographic names for physical and cultural features to support the U.S. Board on Geographic Names and other names, such as those for highways and streets.



- Land cover data that classify the land surface into categories such as open water and high-density residential.

Changes affecting *The National Map* will be captured in near real time, rather than through cyclical inspection and revision. Currentness will be measured in days and months.

Data will be seamless and consistently classified, enabling users to extract information for irregular geographic areas, such as counties or drainage basins, and to spatially analyze the information. Data resolution and completeness will vary depending on geographic area and need. For example, *The National Map* will contain higher resolution elevation data in areas of subtle relief variation, such as river flood plains, to support hydrographic modeling.

Positional accuracy will be sufficient to vertically and logically align features from different data themes. Thus, river course will correspond to land surface slope, and boundaries will align with corresponding features, such as roads or rivers. *The National Map* will contain data for many areas that surpass the standards that have been applicable to primary series topographic maps. All content of *The National Map* will be documented by metadata (information about data) that comply with Federal Geographic Data Committee standards and American National Standards Institute geospatial data standards and Open GIS specifications.

Access and Use

The National Map will be a geospatial framework foundation to which all organizations can reference their information, such as land use data, school district boundaries, or wildlife population counts. Users will be able to combine data from *The National Map* with geographic information available from other organizations, such as the Bureau of Land Management and socioeconomic data from the Bureau of the Census with a variety of other applications in The Geospatial One-Stop portal www.geodata.gov.

One of the primary access points using *The National Map* is through our national intergovernmental geospatial data metadata repository called Geospatial One-Stop (GOS). The GOS portal, www.geodata.gov, using *The National Map* as its base map, provides access and discovery of thousands of additional geospatial data sets for viewing and integration through the use of open web map standards. Combining the vast collection of geospatial data holdings found in Geospatial One-Stop with *The National Map* greatly enhances our Nation's ability to access and use geospatial information for decision making activities.

The USGS continues the tradition of the primary series topographic map by enabling a customer to select a topographic map from an online index to create a digital map using *The National Map* data. The digital map then can be printed at home or wherever they have access to an internet-enabled computer printer, or delivered to a USGS business partner for plotting. The initial capabilities will create cell based topographic maps, similar to what is available today. Future enhancements will enable a customer to create their own maps by defining the map's content.

Partnerships

The USGS seeks partnerships and business arrangements with government agencies, the private sector, and other organizations to develop and operate *The National Map*. USGS staff will be located across the Nation to work directly with staff of other USGS disciplines, partner organizations, private industry, and universities.

Taking advantage of the ongoing convergence of broadband wireless communication, mass data storage, and geolocation capabilities in personal digital devices, the USGS will encourage the participation of organizations and private citizens to serve as a volunteer force for change detection, data compilation, and validation.

Commitment

The National Map is a new perspective on geographic base information. By sharing its vision, the USGS affirms its dedication to refocusing and reinvigorating its efforts to meet the Nation's needs for this critical information. The USGS will consolidate and redefine its component mapping activities and seek creative partnerships to ensure that current, complete, consistent, and accurate information is available and useful to the Nation. This will take a sustained commitment to achieve the full goals of *The National Map* vision. The USGS and its partners will concentrate on improving data and map content and currentness for high priority areas, with emphasis on building long-term sustainable partnerships, and on improving data access and dissemination capabilities.

Information

To view and download information about *The National Map*, as well as contact the USGS, go to www.nationalmap.gov.

For more information on the NGP, visit the NGPO at www.usgs.gov/ngpo.