The National Map Product and Services Directory

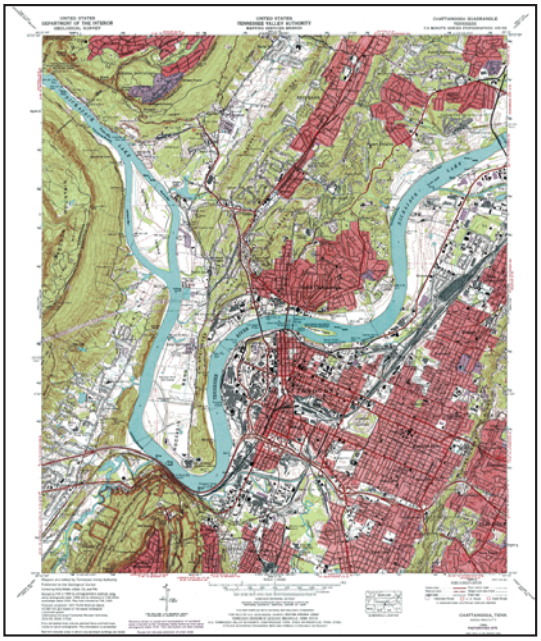
The National Map

As one of the cornerstones of the U.S. Geological Survey's (USGS) National Geospatial Program (NGP), *The National Map* is a collaborative effort among the USGS and other Federal, state, and local partners to improve and deliver topographic information for the Nation. It has many uses ranging from recreation to scientific analysis to emergency response. *The National Map* is easily accessible for display on the Web, as products, and as downloadable data. The geographic information available from *The National Map* includes orthoimagery (aerial photographs), elevation, geographic names, hydrography, boundaries, transportation, structures, and land cover. Other types of geographic information can be added to create specific types of maps. Of major importance, *The National Map* currently is being transformed to better serve the geospatial community.

The USGS National Geospatial Program Office (NGPO) was established to provide leadership for placing geographic knowledge at the fingertips of the Nation. The office supports *The National Map*, Geospatial One-Stop (GOS), National Atlas of the United States®, and the Federal Geographic Data Committee (FGDC). This integrated portfolio of geospatial information and data supports the essential components of delivering the National Spatial Data Infrastructure (NSDI) and capitalizing on the power of place.

Published Maps

Published Topographic Maps The USGS was entrusted with the responsibility for mapping the country in 1879 and has been the primary civilian mapping agency of the United States ever since. The best known USGS maps are the 1:24,000-scale topographic maps, also known as 7.5-minute quadrangles. More than 55,000 7.5-minute maps were made to cover the 48 conterminous states. This is the only uniform map series that covers the entire area of the United States in considerable detail. The 7.5-minute map series was officially completed in 1991; only minor revisions have been made to the printed product in recent years as the program has moved to a digital format. The hard copy maps are still available for sale through the online USGS Store, *http://store.usgs.gov/,* and business partner retailers.



Scanned 7.5-Minute Topographic Maps This product line contains images produced by scanning previously published (printed) versions of USGS primary base series topographic maps. The resulting image files are converted to high resolution, georeferenced GeoPDF's. These maps are downloadable from the new "Map Locator and Downloader" portal of the USGS Store found at: *http://store.usgs.gov/.*

Next Generation of Topographic Maps

Electronic Topographic Quadrangle Map As presently envisioned, the 1:24,000-scale topographic map produced from *The National Map* data will portray contours, hydrography, transportation, boundaries, structures, geographic names, and land cover in the customary 7.5-minute by 7.5-minute quadrangle format. The quality of the map products depends on the accuracy and currentness of the data used to make them. The file format will be georereferenced GeoPDF, GeoTIFF, and ESRI shape. The USGS plans on releasing the first of these maps in a developmental web site in the spring of 2009. Distribution will be in a digital form.

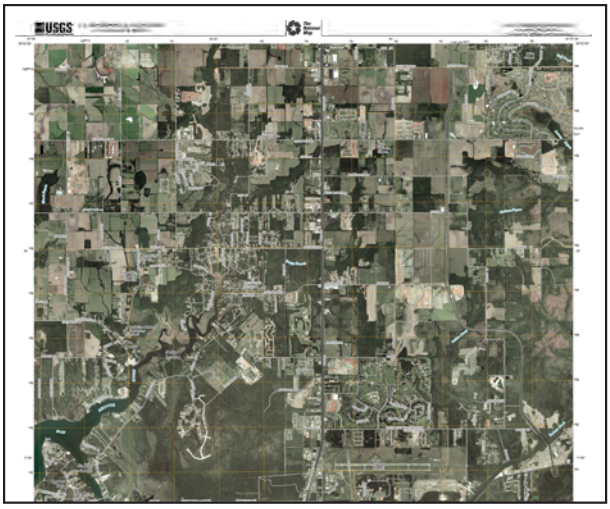
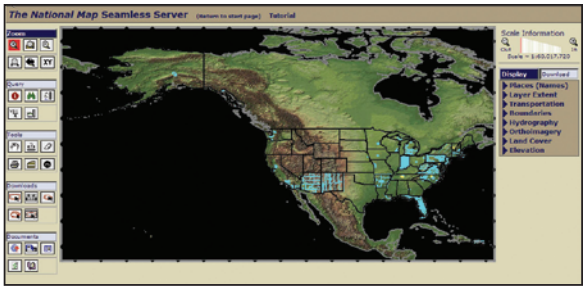


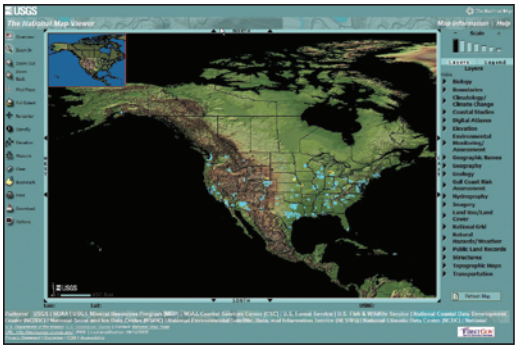
Image Maps The Image Map will be a 7.5-minute by 7.5-minute product based on the best available orthoimage and features content at a 1:24,000-scale. The image will be either natural color or false color infrared. Planned layers include the U.S. National Grid (USNG), roads, selected structures and/or names, and selected hydrographic data. Every quad is based on North American Datum of 1983 (NAD 83) and shows the three coordinate systems traditionally shown on USGS quadrangle maps: geographic corner coordinates and 2.5-minute tics, Universal Transverse Mercator (UTM) 1,000-meter grid conforming to the USNG standard, and State Plane Coordinate System (SPCS) ticks. The file format will be standard PDF, georereferenced GeoPDF, GeoTIFF and ESRI shape. The first of these products should be available for sale and download in 2009 through the online USGS Store at: http://store.usgs.gov/.

Research also is underway to create a "custom map" service that would allow users to re-center, resize, and add layers to the map. User-created maps will adhere to the same basic product standards and be available in the same formats as the standard products. Current plans forecast a prototype custom map service available in early 2010.

Services



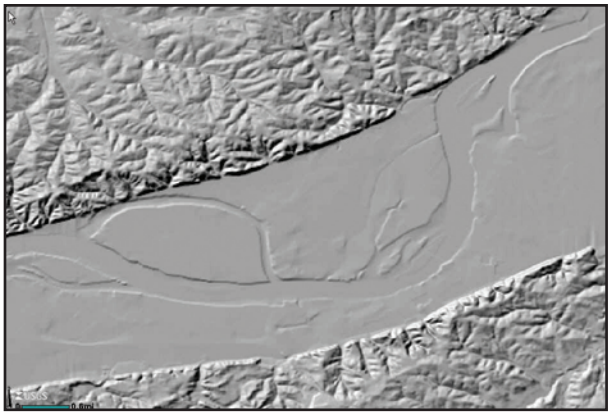
The National Map Seamless Server *The National Map* Seamless Server enables a user to view and download many geospatial data layers, such as the National Elevation Dataset, the National Land Cover Dataset, high resolution orthoimagery, and other seamless data for the Nation. The Seamless Server can be found at: *http://seamless.usgs.gov/.*



The National Map Viewer *The National Map* Viewer is the face of *The National Map* and allows the user to interactively view *The National Map* data as a map, customize the view, and print maps. It provides public access to high-quality geospatial data and information from the eight National Data sets. Map tools allow the user to move around the map, zoom in and out, identify features, and perform other functions. The Viewer currently is undergoing major revisions at: *http://nationalmap.gov/*

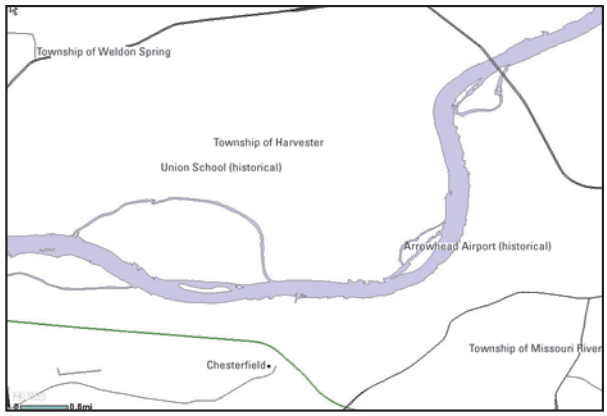
Products

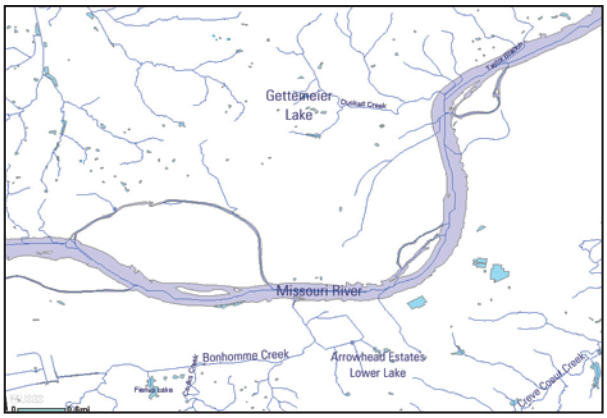
Orthoimagery Orthoimagery data typically are high resolution aerial images that combine the visual attributes of an aerial photograph with the spatial accuracy and reliability of a planimetric map. USGS digital orthoimage resolution may vary from 6 inches to 1 meter. *The National Map* offers free downloads of public domain, 1-meter orthoimagery for the conterminous United States with many urban areas and other locations at 2-foot or finer resolution. Further information and data download are available at: *http://gisdata.usgs.net/website/Orthoimagery/.*



Elevation The National Elevation Dataset (NED) is a seamless raster product primarily derived from USGS 10- and 30-meter Digital Elevation Models (DEMs), and, increasingly, from higher resolution data sources such as Light Detection and Ranging (LIDAR), Interferometric Synthetic Aperture Radar (IFSAR), and high-resolution imagery. NED data are available as 1 arc-second (approximately 30 meters) for the conterminous United States, and at 1/3 and 1/9 arc-seconds (approximately 10 and 3 meters, respectively) for parts of the United States. NED resolution for Alaska primarily is 2 arc-seconds (approximately 60 meters). Further information and data download are available at: *http://ned.usgs.gov/*.

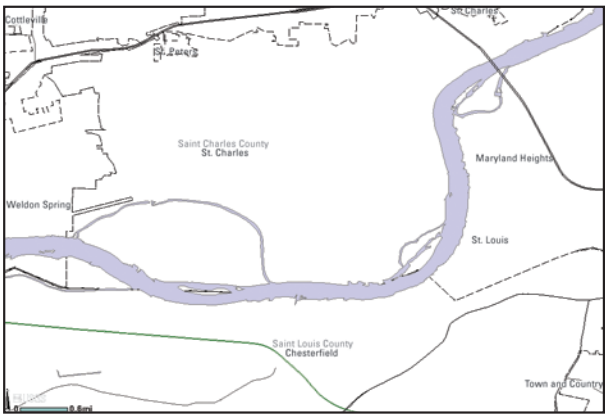
Geographic Names In cooperation with the United States Board on Geographic Names, the USGS maintains the authoritative source of official geographic names, known as the Geographic Names Information System (GNIS). USGS topographic maps display selected place and feature names. These may include physical and cultural features such as mountains, valleys, bays, populated places, hospitals, schools, churches, and cemeteries. The GNIS does not contain the names of streets or roads, and currently does not define the extent of features; however, it does contain attributes to help determine their relative extent. Further information and data download are available at: *http://geonames.usgs.gov/.*

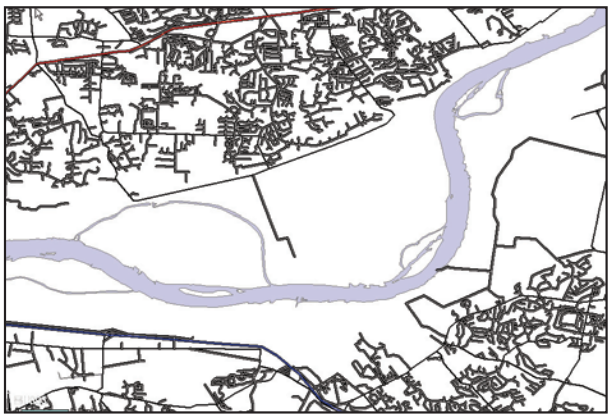




Hydrography Data on America's surface waters are available from the USGS in the National Hydrography Dataset (NHD). The NHD includes data sets covering all streams and lakes at scales of 1:24,000 and 1:100,000. In some areas, the NHD is being supplemented with data larger than 1:24,000-scale. The NHD provides a true network that supports the analysis of any type of movement (navigation, sediment transport, effluent dispersion, for example) by surface waters. Further information and data download available at: *http://nhd.usgs.gov/.*

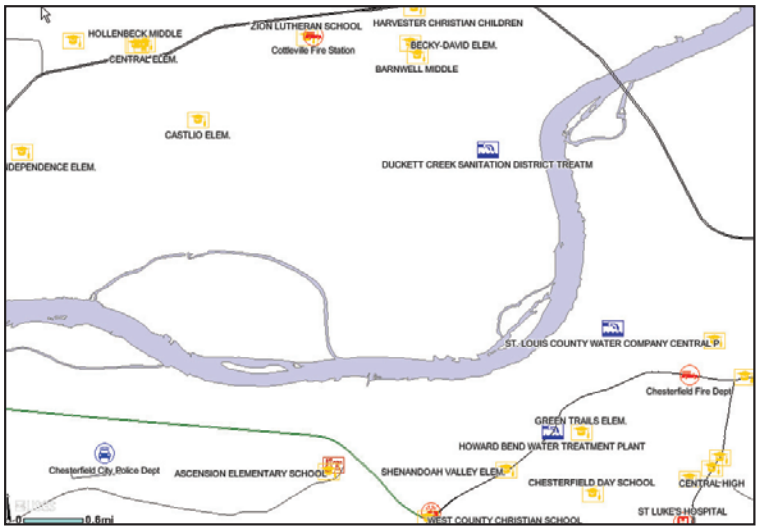
Boundaries Boundaries data or governmental units represent major civil areas including states, counties, Federal, and Native American lands, and incorporated places such as cities and towns. These data are useful for understanding the extent of jurisdictional or administrative areas for a wide range of applications, including managing resources, responding to natural disasters, or recreational activities such as hiking and backpacking. Governmental unit data downloads can be accessed at: *http://bpgeo.cr.usgs.gov/.*

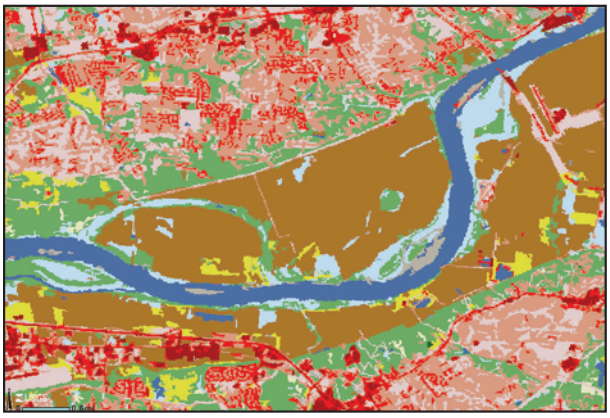




Transportation The transportation data theme consists of roads, airports, railroads, and other features associated with the transport of people or commerce. The data includes the location, classification, name or route designator, and for most roads, address ranges. Transportation data support mapping and also geographic analysis for applications such as routing, traffic safety, congestion mitigation, and disaster planning and response. Transportation data downloads can be accessed at: *http://bpgeo.cr.usgs.gov/.*

Structures USGS data portray selected structures data, including the location and characteristics of manmade facilities. Characteristics consist of a structure's physical form (footprint), function, name, location, and other detailed information about the structure. The types of structures collected are largely determined by the needs of the disaster planning and response and homeland security organizations. Structure data can be accessed at: *http://bpgeo.cr.usgs.gov/.*





Land Cover The USGS collects and maintains data that show both natural and manmade land cover of the United States. These data are collected from orbiting satellites and have been produced for 2 years, 1992 and 2001. The 1992 data set encompasses the conterminous United States, whereas the 2001 data set encompasses all 50 states and Puerto Rico. In addition, a land-cover change product between 1992 and 2001 also is available. These data sets use a 21-class land-cover classification scheme that includes urban, agricultural, rangeland, forest, surface waters, wetlands, barren lands, tundra, and perennial ice and snow classes. The spatial resolution of the data is 30 meters. Further information and data download available at: *http://landcover.usgs.gov/.*

The National Map **is evolving and growing everyday. For the latest information:** ***www.usgs.gov/ngpo/*** **(click on "Reading Room")**