USGS
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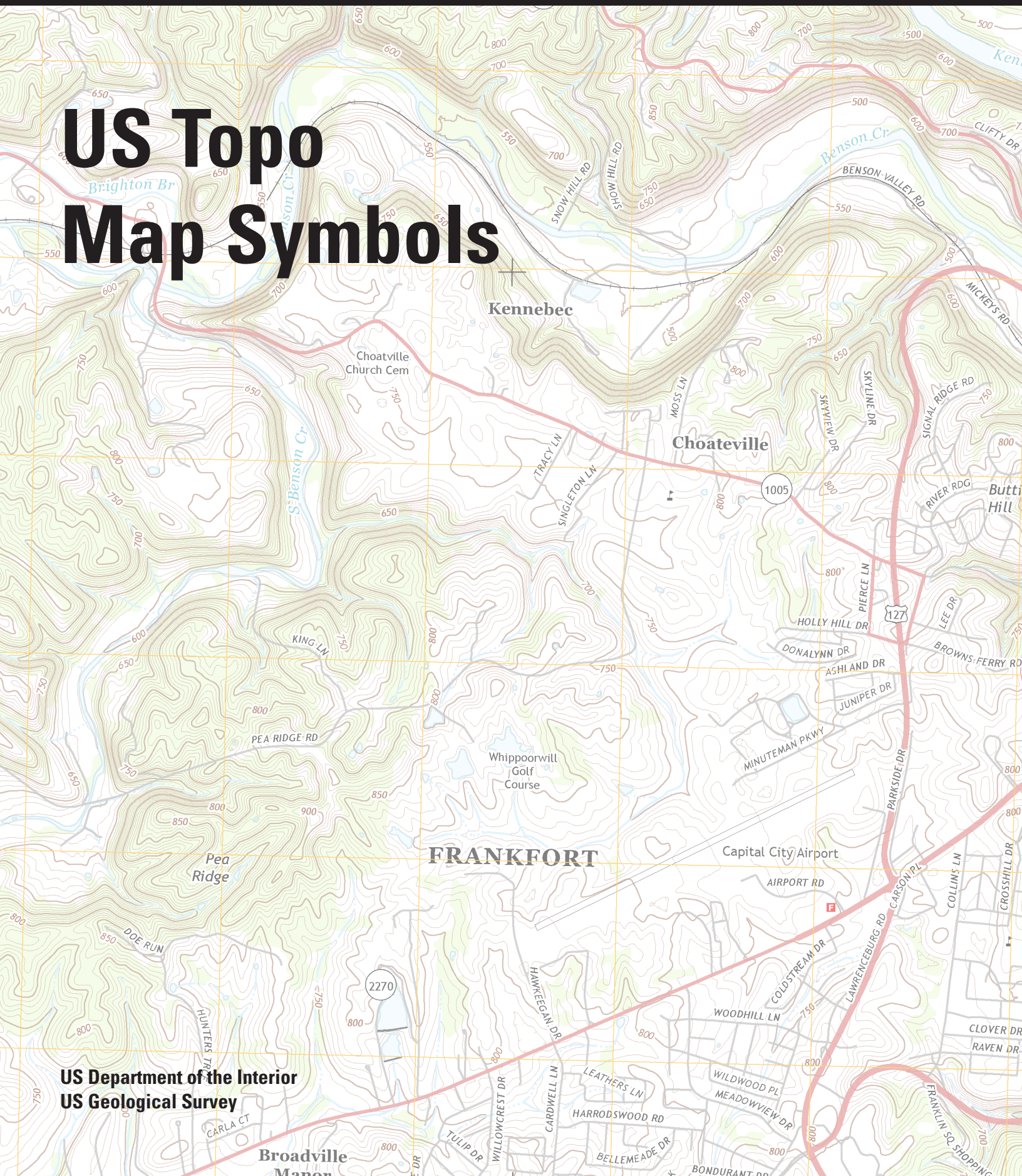
The National Map

US Topo Map Symbols



US Department of the Interior
US Geological Survey

What is a US Topo map?

A US Topo map is a digital topographic map that covers 7.5-minutes of longitude by 7.5-minutes of latitude and is produced at a scale of 1:24,000. US Topo maps are freely distributable and are available for download on the Web from the USGS Store (*https://store.usgs.gov*) in Portable Document Format (PDF) with geospatial extensions. PDF maps can be viewed and printed with any conforming PDF software. Versions 9.x and later of Adobe® Reader® and Acrobat® software provide access to the geospatial functionality of the US Topo map. Adobe Reader is available for free at *http://get.adobe.com/reader*. More information about US Topo maps and their use is available at *https://www.usgs.gov/programs/national-geospatial-program/us-topo-maps-america*.

The base data layer of a US Topo map is a recent orthographic aerial photograph. These orthoimages have been corrected to remove scale distortions that result from the varying terrain and deviations of the aircraft's position from the true vertical. The maps include contours that show the shape of the Earth's surface, hydrographic features such as lakes and rivers, roads, boundaries, and geographic names. Additional data from the geographic data themes of transportation, names, elevation, hydrography, boundaries, structures (such as fire stations) and land cover (such as woodland tint) is being added to the maps as they are updated, resulting in a product that will become progressively more robust over time. Feature data is incorporated from national Geographic Information System (GIS) databases under the stewardship of USGS data programs. The US Topo map is intended for conventional map users, not for advanced GIS analysis. However, most of the data sources used are in the public domain and may be downloaded for free from *The National Map* (*TNM*) (*https://nationalmap.gov*).

US Topo maps are revised on a three-year production cycle.

Symbols on US Topo Maps

The underlying orthoimage for each US Topo map shows those features on the Earth's surface that are visible to the eye. Because each map is made at a scale of 1:24,000 (one inch on the map represents 24,000 inches or 2,000 feet on the ground), selected features are also shown and emphasized by symbols, geographic names, and highway route numbers.

Map features may be represented as points, lines, or polygons. They incorporate different colors and patterns to distinguish between feature types and to show each feature's importance. For example, a perennial stream is symbolized by a solid blue line while an intermittent stream is shown by a blue dashed and dotted line. A large reservoir is depicted by a polygon while a small reservoir may be shown by a point symbol if it is too small to show as a polygon.

Point symbols of different shapes and sizes depict features such as structures, dams, gates, rocks, waterfalls, and wells. Linear map symbols (lines) show such features as roads, rivers, boundaries, and contours. Color is used to show the class of information: topographic contours in brown, streams and rivers and other hydrographic features in blue, and roads in black and red. Areal features are outlined to depict the areal extent and may also be emphasized by a color tint. Names and labels are shown in different type fonts, sizes, and colors.

The unique feature of a topographic map is the contour. These lines do not exist on the Earth's surface. They join points of equal elevation above a zero level surface (such as Mean Sea Level) and therefore show heights of the land and reveal the shape of the land surface. Heavier brown lines are index contours and are labeled with the elevation they represent. Closely spaced contours indicate a steep land slope; widely spaced contours show more level ground. The elevation difference between adjacent contours is the contour interval. A map of a relatively flat area may have a contour interval of 10 feet. In steep areas an interval of 100 feet or more may be used to avoid coalescence or convergence of the contour lines. The contour interval is always noted below the bar scale in the map marginalia.

The cartographic representation of roads has been updated from a characterization based on organizational maintenance (Interstates, US routes, State routes, etc.) to a functional classification defined as follows:

- Expressway[1]: A controlled access, divided arterial highway for through traffic.
- Secondary Highway[1]: Hard surface highways including secondary State routes, primary county routes, and other highways that connect principal cities and towns, and link these places with the primary highway system.
- Local Connector[1]: Hard surface roads not included in a higher class and improved, loose surface roads passable in all kinds of weather. These roads are adjuncts to the primary and secondary highway system and represent major arteries through populated places.
- Local Road[1]: Roads used primarily for local traffic.
- Four Wheel Drive Road[1]: Unimproved roads passable only with four wheel drive vehicles.

[1] Federal Highway Administration Planning Glossary - *https://www.fhwa.dot.gov/planning/glossary/index.cfm*

STRUCTURES

Emergency Service Features

- Fire Station
- Hospital
- Police

Public Service Features

- Cemetery
- City/Town Hall
- College/University
- Court House
- Post Office
- Prison
- School (K-12)
- State Capitol
- Trade/Technical School
- US Supreme Court
- The White House

Recreational Features

- Cabin
- Campground
- Park Headquarters
- Picnic Area
- Ranger Station
- Shelter
- Trailhead
- Visitor Center

Oil & Gas Pipeline Features

- Oil/Gas Pipeline*

TRANSPORTATION

Airport Features

- Airport Runway
- Heliport
- Seaplane

Railroad Features

- Railroad

Road Features

- Expressway
- Ferry
- Four Wheel Drive
- Local Road
- Local Connector
- Ramp
- Secondary Highway
- Tunnel

Road Shields

- Interstate Route
- State Route
- US Route
- Forest Service Primary Route
- Forest Service Secondary Route
- Forest Service High Clearance Route

Trails

- Snow
- Terra
- Water

HYDROGRAPHY

Hydrographic Features

- Area of Complex Channels
- Canal/Ditch
- Coastline
- Underground Conduit
- Dam
- Earthen Dam
- Nonearthen Dam
- Estuary
- Flume
- Foreshore
- Gaging Station
- Gate
- Ice Mass
- Inundation Area

HYDROGRAPHY – *continued*

- Intermittent Lake
- Perennial Lake
- Levee
- Lock Chamber/Spillway
- Ocean
- Pipeline
- Underground Pipeline
- Playa
- Settling Pond
- Tailings Pond
- Rapids
- Reef
- Reservoir
- Nonearthen Reservoir
- Rock
- Nonearthen Shore
- Spring
- Intermittent Stream
- Perennial Stream
- Submerged Stream
- Tunnel
- Wash
- Waterfall
- Well

Wetland Features

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland

TERRAIN

Shaded Relief

- Shaded Relief

Contour Features

- Index
- Intermediate
- Supplemental
- Depression Index
- Depression Intermediate
- Depression Supplemental

LAND COVER

- Woodland

IMAGES

- Orthoimage

BOUNDARIES

Designated Areas

- National Wild and Scenic Rivers

Federal Administered Lands

- American Indian, Alaska Native, and Native Hawaiian Area
- Bureau of Land Management*
  National Park Service
  U.S. Fish and Wildlife Service
  U.S. Forest Service
- Department of Defense
  National Cemetery
- National Monument
- Wilderness Area

Jurisdictional Boundaries

- County or Equivalent
- State or Territory
- International

*Currently on Alaska US Topo maps only

PLSS

- Land Grants
- Section — 1 — 36
- Section (protracted) — 1 — 36
- Township/Range — T 34 NR 79 W
- Township/Range (protracted) — T 34 NR 79 W