Topographic Map Symbols

What is a Topographic Map?

A map is a representation of the Earth, or part of it. The distinctive characteristic of a topographic map is that the shape of the Earth’s surface is shown by contour lines. Contours are imaginary lines that join points of equal elevation on the surface of the land above or below a reference surface, such as mean sea level. Contours make it possible to measure the height of mountains, depths of the ocean bottom, and steepness of slopes.

A topographic map shows more than contours. The map includes symbols that represent such features as streets, buildings, streams, and vegetation. These symbols are constantly refined to better relate to the features they represent, improve the appearance or readability of the map, or reduce production cost.

Consequently, within the same series, maps may have slightly different symbols for the same feature. Examples of symbols that have changed include built-up areas, roads, intermittent drainage, and some lettering styles. On one type of large-scale topographic map, called provisional, some symbols and lettering are hand-drawn.

Reading Topographic Maps

Interpreting the colored lines, areas, and other symbols is the first step in using topographic maps. Features are shown as points, lines, or areas, depending on their size and extent. For example, individual houses may be shown as small black squares. For larger buildings, the actual shapes are mapped. In densely built-up areas, most individual buildings are omitted and an area tint is shown. On some maps, post offices, churches, city halls, and other landmark buildings are shown within the tinted area.

The first features usually noticed on a topographic map are the area features, such as vegetation (green), water (blue), and densely built-up areas (gray or red).

Many features are shown by lines that may be straight, curved, solid, dashed, dotted, or in any combination. The colors of the lines usually indicate similar classes of information: topographic contours (brown); lakes, streams, irrigation ditches, and other hydrographic features (blue); land grids and important roads (red); and other roads and trails, railroads, boundaries, and other cultural features (black). At one time, purple was used as a revision color to show all feature changes. Currently, purple is not used in our revision program, but purple features are still present on many existing maps.

Various point symbols are used to depict features such as buildings, campgrounds, springs, water tanks, mines, survey control points, and wells. Names of places and features are shown in a color corresponding to the type of feature. Many features are identified by labels, such as “Substation” or “Golf Course.”

Topographic contours are shown in brown by lines of different widths. Each contour is a line of equal elevation; therefore, contours never cross. They show the general shape of the terrain. To help the user determine elevations, index contours are wider. Elevation values are printed in several places along these lines. The narrower intermediate and supplementary contours found between the index contours help to show more details of the land surface shape. Contours that are very close together represent steep slopes. Widely spaced contours or an absence of contours means that the ground slope is relatively level. The elevation difference between adjacent contour lines, called the contour interval, is selected to best show the general shape of the terrain. A map of a relatively flat area may have a contour interval of 10 feet or less. Maps in mountainous areas may have contour intervals of 100 feet or more. The contour interval is printed in the margin of each U.S. Geological Survey (USGS) map.

Bathymetric contours are shown in blue or black, depending on their location. They show the shape and slope of the ocean bottom surface. The bathymetric contour interval may vary on each map and is explained in the map margin.
## Bathymetric Features
- Area exposed at mean low tide; sounding datum line
- Channel
- Sunken rock

## Boundaries
- National
- State or territorial
- County or equivalent
- Civil township or equivalent
- Incorporated city or equivalent
- Federally administered park, reservation, or monument (external)
- Federally administered park, reservation, or monument (internal)
- State forest, park, reservation, or monument and large county park
- Forest Service administrative area
- Forest Service ranger district
- National Forest System land status, Forest Service lands
- National Forest System land status, non-Forest Service lands
- Small park (county or city)

## Buildings and Related Features
- Building
- School; house of worship
- Athletic field
- Built-up area
- Forest headquarters
- Ranger district office
- Guard station or work center
- Racetrack or raceway
- Airport, paved landing strip, runway, taxiway, or apron
- Unpaved landing strip
- Well (other than water), windmill or wind generator
- Tanks
- Covered reservoir
- Gaging station
- Located or landmark object (feature as labeled)
- Boat ramp or boat access
- Roadside park or rest area
- Picnic area
- Campground
- Winter recreation area
- Cemetery

## Coastal Features
- Foreshore flat
- Coral or rock reef
- Rock, bare or awash; dangerous to navigation
- Group of rocks, bare or awash
- Exposed wreck
- Depth curve; sounding
- Breakwater, pier, jetty, or wharf
- Seawall
- Oil or gas well; platform

## Contours
- Topographic
  - Index
  - Approximate or indefinite
  - Intermediate
  - Approximate or indefinite
  - Supplementary
  - Depression
  - Cut
  - Fill
  - Continental divide

- Bathymetric
  - Index
  - Intermediate
  - Index primary
  - Primary
  - Supplementary

## Control Data and Monuments
- Principal point
- U.S. mineral or location monument
- River mileage marker
- Boundary monument
  - Third-order or better elevation, with tablet
  - Third-order or better elevation, recoverable mark, no tablet
  - With number and elevation
- Horizontal control
  - Third-order or better, permanent mark
  - With third-order or better elevation
  - With checked spot elevation
  - Coincident with found section corner
  - Unmonumented
CONTROL DATA AND MONUMENTS – continued

Vertical control
Third-order or better elevation, with tablet

Third-order or better elevation, recoverable mark, no tablet

Bench mark coincident with found section corner

Spot elevation

GLACIERS AND PERMANENT SNOWFIELDS

Contours and limits

Formlines

Glacial advance

Glacial retreat

LAND SURVEYS

Public land survey system
Range or Township line
Location approximate
Location doubtful
Protracted
Protracted (AK 1:63,360-scale)
Range or Township labels
Section line
Location approximate
Location doubtful
Protracted
Protracted (AK 1:63,360-scale)
Section numbers
Found section corner
Found closing corner
Witness corner
Meander corner
Weak corner*

Other land surveys
Range or Township line
Section line
Land grant, mining claim, donation land claim, or tract
Land grant, homestead, mineral, or other special survey monument
Fence or field lines

MARINE SHORELINES

Shoreline
Apparent (edge of vegetation)***
Indefinite or unsurveyed

MINES AND CAVES

Quarry or open pit mine
Gravel, sand, clay, or borrow pit
Mine tunnel or cave entrance
Mine shaft
Prospect
Tailings
Mine dump
Former disposal site or mine

PROJECTION AND GRIDS

Neatline
Graticule tick
Graticule intersection
Datum shift tick

State plane coordinate systems
Primary zone tick
Secondary zone tick
Tertiary zone tick
Quaternary zone tick
Quintary zone tick

Universal transverse mercator grid
UTM grid (full grid)
UTM grid ticks*

RAILROADS AND RELATED FEATURES

Standard gauge railroad, single track
Standard gauge railroad, multiple track
Narrow gauge railroad, single track
Narrow gauge railroad, multiple track
Railroad siding
Railroad in highway
Railroad in road
Railroad in light duty road**
Railroad underpass; overpass
Railroad bridge; drawbridge
Railroad tunnel
Railroad yard
Railroad turntable; roundhouse

RIVERS, LAKES, AND CANALS

Perennial stream
Perennial river
Intermittent stream
Intermittent river
Disappearing stream
Falls, small
Falls, large
Rapids, small
Rapids, large
Masonry dam
Dam with lock
Dam carrying road
### Roads and Related Features

- **Primary highway**
- **Secondary highway**
- **Light duty road**
  - Light duty road, paved*
  - Light duty road, gravel*
  - Light duty road, dirt*
  - Light duty road, unspecified*
- **Unimproved road**
- **4WD road**
- **4WD road***
- **Trail**
- **Highway or road with median strip**
- **Highway or road under construction**
- **Highway or road underpass; overpass**
- **Highway or road bridge; drawbridge**
- **Highway or road tunnel**
- **Road block, berm, or barrier***
- **Gate on road***
- **Trailhead***

* USGS-USDA Forest Service Single-Edition Quadrangle maps only.
In August 1993, the U.S. Geological Survey and the U.S. Department of Agriculture’s Forest Service signed an Interagency Agreement to begin a single-edition joint mapping program. This agreement established the coordination for producing and maintaining single-edition primary series topographic maps for quadrangles containing National Forest System lands. The joint mapping program eliminates duplication of effort by the agencies and results in a more frequent revision cycle for quadrangles containing National Forests. Maps are revised on the basis of jointly developed standards and contain normal features mapped by the USGS, as well as additional features required for efficient management of National Forest System lands. Single-edition maps look slightly different but meet the content, accuracy, and quality criteria of other USGS products.

### Submerged Areas and Bogs

- **Marsh or swamp**
- **Submerged marsh or swamp**
- **Wooded marsh or swamp**
- **Submerged wooded marsh or swamp**
- **Land subject to inundation**

### Surface Features

- **Levee**
- **Sand or mud**
- **Disturbed surface**
- **Gravel beach or glacial moraine**
- **Tailings pond**

### Transmission Lines and Pipelines

- **Power transmission line; pole; tower**
- **Telephone line**
- **Aboveground pipeline**
- **Underground pipeline**

### Vegetation

- **Woodland**
- **Shrubland**
- **Orchard**
- **Vineyard**
- **Mangrove**

** Provisional-Edition maps only. Provisional-edition maps were established to expedite completion of the remaining large-scale topographic quadrangles of the conterminous United States. They contain essentially the same level of information as the standard series maps. This series can be easily recognized by the title “Provisional Edition” in the lower right-hand corner.

*** Topographic Bathymetric maps only.

### Topographic Map Information

For more information about topographic maps produced by the USGS, please call: 1-888-ASK-USGS or visit us at http://ask.usgs.gov/

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*Printed on recycled paper*