National Mapping Program 8019

Topographic Map Symbols

National Large Scale Series

1:24,000 scale – conventional units

1:25,000 scale – metric units

Provisional edition

U. S. Department of the Interior
Geological Survey
National Mapping Division

Map series and quadrangles

Each map in a U. S. Geological Survey series conforms to established specifications for size, scale, content, and symbolization. Except for maps which are formatted on a County or State basis, USGS quadrangle series maps cover areas bounded by parallels of latitude and meridians of longitude.

Map scale

Map scale is the relationship between distance on a map and the corresponding distance on the ground. Scale is expressed as a ratio, such as 1:25,000, and shown graphically by bar scales marked in feet and miles or in meters and kilometers.

Standard edition maps

Standard edition topographic maps are produced at 1:20,000 scale (Puerto Rico) and 1:24,000 or 1:25,000 scale (conterminous United States and Hawaii) in either 7.5 x 7.5- or 7.5 x 15-minute format. In Alaska, standard edition maps are available at 1:63,360 scale in 7.5 x 20 to 36-minute quadrangles. Generally, distances and elevations on 1:24,000-scale maps are given in conventional units: miles and feet, and on 1:25,000-scale maps in metric units: kilometers and meters.

The shape of the Earth's surface, portrayed by contours, is the distinctive characteristic of topographic maps. Contours are imaginary lines which follow the land surface or the ocean bottom at a constant elevation above or below sea level. The contour interval is the elevation difference between adjacent contour lines. The contour interval is chosen on the basis of the map scale and on the local relief. A small contour interval is used for flat areas; larger intervals are used for mountainous terrain. In very flat areas, the contour interval may not show sufficient surface detail and supplementary contours at less than the regular interval are used.

The use of color helps to distinguish kinds of features:

Black – cultural features such as roads and buildings.
Blue – hydrographic features such as lakes and rivers.
Brown – hypsographic features shown by contour lines.
Green – woodland cover, scrub, orchards, and vineyards.
Red – important roads and public land survey system.
Purple – features added from aerial photographs during map revision. The changes are not field checked.

Some quadrangles are mapped by a combination of orthophotographic images and map symbols. Orthophotographs are derived from aerial photographs by removing image displacements due to camera tilt and terrain relief variations. An orthophotoquad is a standard quadrangle format map on which an orthophotograph is combined with a grid, a few place names, and highway route numbers. An orthophotomap is a standard quadrangle format map on which a color enhanced orthophotograph is combined with the normal cartographic detail of a standard edition topographic map.

Provisional edition maps

Provisional edition maps are produced at 1:24,000 or 1:25,000 scale (1:63,360 for Alaskan 15-minute maps) in conventional or metric units and in either a 7.5 x 7.5- or 7.5 x 15-minute format. Map content generally is the same as for standard edition 1:24,000- or 1:25,000-scale quadrangle maps. However, modified symbolism and production procedures are used to speed up the completion of U.S. large-scale topographic map coverage.

The maps reflect a provisional rather than a finished appearance. For most map features and type, the original manuscripts which are prepared when the map is compiled from aerial photographs, including hand lettering, serve as the final copy for printing. Typeset lettering is applied only for features which are designated by an approved name. The number of names and descriptive labels shown on provisional maps is less than that shown on standard edition maps. For example, church, school, road, and railroad names are omitted.

Provisional edition maps are sold and distributed under the same procedures that apply to standard edition maps. At some future time, provisional maps will be updated and reissued as standard edition topographic maps.

National Mapping Program indexes

Indexes for each State, Puerto Rico, the U. S. Virgin Islands, Guam, American Samoa, and Antarctica are available. Separate indexes are available for 1:100,000-scale quadrangle and county maps; USGS/Defense Mapping Agency 15-minute (1:50,000-scale) maps; U. S. small scale maps (1:250,000, 1:1,000,000, 1:2,000,000 scale; State base maps; and U. S. maps); land use/land cover products; and digital cartographic products.

Series	Scale	1 inch represents approximately	1 centimeter represents	Size (latitude x longitude)	Area (square miles)
Puerto Rico 7.5-minute	1:20,000	1,667 feet	200 meters	7.5 x 7.5 min.	71
7.5-minute	1:24,000	2,000 feet (exact)	240 meters	7.5 x 7.5 min.	49 to 70
7.5-minute	1:25,000	2,083 feet	250 meters	7.5 x 7.5 min.	49 to 70
7.5 x 15-minute	1:25,000	2,083 feet	250 meters	7.5 x 15 min.	98 to 140
USGS/DMA 15-minute	1:50,000	4,166 feet	500 meters	15 x 15 min.	197 to 282
15-minute	1:62,500	1 mile	625 meters	15 x 15 min.	197 to 282
Alaska 1:63,360	1:63,360	1 mile (exact)	633.6 meters	15 x 20 to 36 min.	207 to 281
County 1:50,000	1:50,000	4,166 feet	500 meters	County area	Varies
County 1:100,000	1:100,000	1.6 miles	1 kilometer	County area	Varies
30 x 60-minute	1:100,000	1.6 miles	1 kilometer	30 x 60 min.	1,568 to 2,240
U. S. 1:250,000	1:250,000	4 miles	2.5 kilometers	1° x 2° or 3°	4,580 to 8,669
State maps	1:500,000	8 miles	5 kilometers	State area	Varies
U. S. 1:1,000,000	1:1,000,000	16 miles	10 kilometers	4° x 6°	73,734 to 102,759
U. S. Sectional	1:2,000,000	32 miles	20 kilometers	State groups	Varies
Antarctica 1:250,000	1:250,000	4 miles	2.5 kilometers	1° x 3° to 15°	4,089 to 8,336
Antarctica 1:500,000	1:500,000	8 miles	5 kilometers	2° x 7.5°	28,174 to 30,462

How to order maps

Mail orders. Order by map name, State, and series/scale. Payment by money order or check payable to the U. S. Geological Survey must accompany your order. Your complete address, including ZIP code, is required.

Maps of areas *east* of the Mississippi River, including Minnesota, Puerto Rico, the Virgin Islands of the United States, and Antarctica.
Eastern Distribution Branch
U. S. Geological Survey
1200 South Eads Street
Arlington, VA 22202

Maps of areas *west* of the Mississippi River, including Alaska, Hawaii, Louisiana, American Samoa, and Guam.
Western Distribution Branch
U. S. Geological Survey
Box 25286, Federal Center
Denver, CO 80225

A single order combining both eastern and western maps may be placed with either office.

Residents of Alaska may order Alaska maps or an index for Alaska from the Alaska Distribution Section, U. S. Geological Survey, New Federal Building – Box 12, 101 Twelfth Avenue, Fairbanks, AK 99701.

Sales counters. Maps of the area may be purchased over the counter at the following U. S. Geological Survey offices.

Alaska	Anchorage	Room 108, Skyline Building, 508 Second Avenue
	Fairbanks	Room 126, New Federal Building, 101 Twelfth Avenue
California	Los Angeles	Room 7638, Federal Building, 300 North Los Angeles Street
	Menlo Park	Room 122, Building 3, 345 Middlefield Road
	San Francisco	Room 504, Custom House, 555 Battery Street
Colorado	Denver	Building 41, Federal Center
	Denver	Room 169, Federal Building, 1961 Stout Street
District of Columbia	Washington	Room 1028, General Services Administration Bldg., 19th and F Sts. NW
Missouri	Rolla	1400 Independence Road
Texas	Dallas	Room 1C45, Federal Building, 1100 Commerce Street
Utah	Salt Lake City	Room 8105, Federal Building, 125 South State Street
Virginia	Arlington	1200 South Eads Street
	Reston	Room 1C402, National Center, 12201 Sunrise Valley Drive
Washington	Spokane	Room 678, U. S. Court House, West 920 Riverside Avenue

Commercial dealers. Names and addresses of dealers are listed in each State index. Commercial dealers sell U. S. Geological Survey maps at their own prices.

Provisional edition maps - metric or conventional units
Metric unit maps
Conventional unit maps

CONTROL DATA AND MONUMENTS

- Aerial photograph roll and frame number — Not Shown
- Horizontal control:
  - Third order or better, permanent mark
  - With third order or better elevation
  - Checked spot elevation
  - Coincident with section corner
  - Unmonumented — Not Shown
- Vertical control:
  - Third order or better, with tablet
  - Third order or better, recoverable mark
  - Bench mark at found section corner
  - Spot elevation
- Boundary monument:
  - With tablet
  - Without tablet
  - With number and elevation
- U.S. mineral or location monument

BOUNDARIES

- National
- State or territorial
- County or equivalent
- Civil township or equivalent
- Incorporated city or equivalent
- Park, reservation, or monument
- Small park

LAND SURVEY SYSTEMS

- U.S. Public Land Survey System:
  - Township or range line
  - Location doubtful
  - Section line
  - Location doubtful
  - Found section corner; found closing corner
  - Witness corner; meander corner

Provisional edition maps - metric or conventional units
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Conventional unit maps

- Other land surveys:
  - Township or range line
  - Section line
- Land grant or mining claim; monument
- Fence line

ROADS AND RELATED FEATURES

- Primary highway
- Secondary highway
- Light duty road
- Unimproved road
- Trail
- Dual highway
- Dual highway with median strip
- Road under construction
- Underpass; overpass
- Bridge
- Drawbridge
- Tunnel

BUILDINGS AND RELATED FEATURES

- Dwelling or place of employment: small; large
- School; church
- Barn, warehouse, etc.: small; large
- House omission tint
- Racetrack
- Airport
- Landing strip
- Well (other than water); windmill
- Water tank: small; large
- Other tank: small; large
- Covered reservoir
- Gaging station
- Landmark object
- Campground; picnic area
- Cemetery: small; large — Cem

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Conventional unit maps

RAILROADS AND RELATED FEATURES

- Standard gauge single track; station
- Standard gauge multiple track
- Abandoned
- Under construction
- Narrow gauge single track
- Narrow gauge multiple track
- Railroad in street
- Juxtaposition
- Roundhouse and turntable

TRANSMISSION LINES AND PIPELINES

- Power transmission line: pole; tower
- Telephone or telegraph line
- Aboveground oil or gas pipeline
- Underground oil or gas pipeline

CONTOURS

- Topographic:
  - Intermediate
  - Index
  - Supplementary
  - Depression
  - Cut; fill
- Bathymetric:
  - Intermediate
  - Index
  - Primary
  - Index Primary
  - Supplementary

MINES AND CAVES

- Quarry or open pit mine
- Gravel, sand, clay, or borrow pit
- Mine tunnel or cave entrance
- Prospect; mine shaft
- Mine dump
- Tailings

Not Shown

Provisional edition maps - metric or conventional units
Metric unit maps
Conventional unit maps

SURFACE FEATURES

- Levee
- Sand or mud area, dunes, or shifting sand
- Intricate surface area
- Gravel beach or glacial moraine
- Tailings pond

VEGETATION

- Woods
- Scrub
- Orchard
- Vineyard
- Mangrove

MARINE SHORELINE

- Topographic maps:
  - Approximate mean high water
  - Indefinite or unsurveyed
- Topographic-bathymetric maps:
  - Mean high water
  - Apparent (edge of vegetation)

COASTAL FEATURES

- Foreshore flat
- Rock or coral reef
- Rock bare or awash
- Group of rocks bare or awash
- Exposed wreck
- Depth curve; sounding
- Breakwater, pier, jetty, or wharf
- Seawall

BATHYMETRIC FEATURES

- Area exposed at mean low tide; sounding datum
- Channel
- Offshore oil or gas well; platform
- Sunken rock

Not Shown

Not Shown

Provisional edition maps - metric or conventional units
Metric unit maps
Conventional unit maps

RIVERS, LAKES, AND CANALS

- Intermittent stream
- Intermittent river
- Disappearing stream
- Perennial stream
- Perennial river
- Small falls; small rapids
- Large falls; large rapids
- Masonry dam
- Dam with lock
- Dam carrying road
- Intermittent lake or pond
- Dry lake
- Narrow wash
- Wide wash
- Canal, flume, or aqueduct with lock
- Elevated aqueduct, flume, or conduit
- Aqueduct tunnel
- Water well; spring or seep

GLACIERS AND PERMANENT SNOWFIELDS

- Contours and limits
- Form lines

SUBMERGED AREAS AND BOGS

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