

MOUNT RAINIER QUADRANGLE

1:100,000-SCALE SERIES



Mapped, edited, and published by the Geological Survey
in cooperation with the Bureau of Land Management
and the U.S. Forest Service.

Compiled from USGS 1:24,000 and 1:62,500-scale topographic maps
dated 1962-1971. Planimetry revised from aerial photographs
taken 1975 and other source data. Revised information not
field checked. Map dated 1978.

50 000-foot grid ticks based on Washington coordinate system,
south zone 1927 North American datum.

Dashed gray lines indicate protracted land lines.
Boundaries as shown represent the proclamation or designated areas.
There may be private inholding within these boundaries.

SCALE 1:100,000

1 2 3 4 5 6 7 8 9 10

KILOMETERS

1 2 3 4 5

MILES

5000 10000 15000 20000 25000

FEET

NATIONAL GEODETIC VERTICAL DATUM OF 1929

Village or locality
Landmark building
Perennial stream, lake
Intermittent stream, lake
Public park or recreation area

Other public area or
military or Indian reservation

ROAD CLASSIFICATION

Primary highway, hard surface

Secondary highway, hard surface

Light-duty road, hard or improved surface

Street or unimproved road

Trail

Interstate Route U.S. Route State Route

MOUNT RAINIER, WASH.

NW 1/4 SECTION 16, T4N, R3E, W12E, S46E MAP

N4630 W1210030650

1978

GEOLOGIC UNITS FOR THE MOUNT RAINIER QUADRANGLE

QUATERNARY UNCONSOLIDATED DEPOSITS

- Qgl Glacier
- Qaf Artificial fill
- Qal Alluvium
- Qaf Alluvial fan deposits
- Qls Landslide debris
- Qta Talus deposits
- Qne Electron Mudflow
- Qnr Round Pass Mudflow
- Qscu Sycamore Mudflow
- Qng Greenwater lahar
- Qmp Paradise lahar
- Qmu Undifferentiated mudflows and interbedded mudflows and alluvium
- Qgd Garde Drift
- Qsm Burroughs Mountain Drift
- Qmck Mckee Drift
- Qut Undifferentiated terrace deposits
- Qde Evans Creek Drift
- Qev Evans Creek Drift, till
- Qoh Hayden Creek Drift, till
- Qum Undifferentiated alpine glacial moraine deposit

QUATERNARY VOLCANIC ROCKS

- Qvmo Andesite of Observation and Echo Rocks at Mount Rainier
- Qvde Andesite of Mount Rainier volcano
- Qvdp Dacite of Deer Lake
- Qvdf Dacite of Clear Fork
- Qvdl Andesite of Deer Lake Mountain
- Qvde Andesite of Deer Lake complex
- Qvde Andesite of Round Mountain
- Qvru Andesite of Russell Ridge
- Qvde Basalt of Tuna Mountain
- Qva Andesite flows, unnamed
- Qvsl Basalt of Kincadee Lake
- Qvsl Basalt of Lava Creek
- Qvsl Andesite of Old Snowy Mountain
- Qvdp Andesite of Deep Creek
- Qvsl Basalt of Humpback Lake
- Qvsl Teton Andesite
- Qvsl Mafic rocks of Humpback Mountain
- Qvsl Basalt flows, unnamed
- Qvsl Basaltic andesite flows, unnamed

QUATERNARY INTRUSIVE ROCKS

- Qivr Plugs and dikes of Mount Rainier volcano

PLIOCENE-PLEISTOCENE VOLCANIC ROCKS

- Qvmo Mafic rocks of Humpback Mountain
- Qvsl Dacite of Snyder Mountain
- Qvsl Andesite of Bear Flat
- Qvsl Andesite of Goat Rocks
- Qvsl Dacite flows, unnamed
- Qvsl Andesite flows, unnamed

PLIOCENE-PLEISTOCENE INTRUSIVE ROCKS

- Qvsa Andesite domes, plugs, and dikes

TERTIARY STRATIFIED ROCKS

- Tvsg Pliocene volcanoclastic sediments, conglomerates, and tuffaceous sandstone
- Tvsg Pliocene tuff and tuff breccia
- Tvsg Pliocene dacite porphyry
- Tvsg Pliocene basalt of Bettle Ridge (Pliocene?)
- Tvsg Devils Washbasin basalt (Pliocene)
- Tvsg Devils Horse rhyolite (Pliocene)
- Tvsg Ellensburg Formation (middle to upper Miocene)
- Tvsg Grande Ronde Basalt, (middle Miocene)
- Tvsg Grande Ronde Basalt, upper flow, normal magnetic polarity
- Tvsg Grande Ronde Basalt, upper flow, reversed magnetic polarity
- Tvsg Grande Ronde Basalt, lower flow, normal magnetic polarity
- Tvsg Lower Miocene volcanoclastic rocks
- Tvsg Lower Miocene tuffs and tuff breccia
- Tvsg Stevens Ridge Formation (upper Oligocene-lower Miocene)
- Tvsg Welded tuff of the Palisades (lower Miocene)
- Tvsg Lower Miocene volcanic sediments
- Tvsg Lower Miocene andesite flows
- Tvsg Lower Miocene basaltic andesite flows
- Tvsg Lower Miocene basalt flows
- Tvsg Tuff of Bettle Mountain (Miocene-Oligocene)
- Tvsg Battlesnake Creek tuff (Miocene-Oligocene)
- Tvsg Tuff at Bumping River (Miocene-Oligocene)
- Tvsg Oligocene or lower Miocene andesite flows
- Tvsg Oligocene or lower Miocene volcanoclastic rocks
- Tvsg Oligocene or lower Miocene tuffaceous rocks
- Tvsg Channeled Formation (Oligocene)
- Tvsg Channeled Formation, lava flows (Oligocene)
- Tvsg Channeled Formation, rhyolite flows (Oligocene)
- Tvsg Volcanoclastic rocks of Wildcat Creek (Oligocene)
- Tvsg Oligocene basalt of Milk Creek (Oligocene)
- Tvsg Sediments of Spencer Creek (Oligocene)
- Tvsg Sandstone and conglomerate of Spencer Creek (Oligocene)
- Tvsg Upper Oligocene andesite flows
- Tvsg Upper Oligocene volcanoclastic rocks
- Tvsg Lower Oligocene(?) rhyolite
- Tvsg Lower Oligocene(?) volcanoclastic rocks
- Tvsg Basalt flows (middle to upper Eocene)
- Tvsg Rocks of the Puget Group (middle to upper Eocene)
- Tvsg Summit Creek sandstone (middle to upper Eocene)
- Tvsg Chambers Creek beds (middle to upper Eocene)
- Tvsg Unconformity sandstone (middle to upper Eocene)
- Tvsg Eocene volcanoclastic rocks
- Tvsg Welded tuff at Spencer Creek (middle to upper Eocene)
- Tvsg Undifferentiated andesitic volcanic rocks (Eocene)
- Tvsg Basalt of Summit Creek (lower?) to middle Eocene
- Tvsg Basalt at Teton Pass (middle Eocene)
- Tvsg Basalt at Discovery Creek (middle Eocene?)

TERTIARY INTRUSIVE-VOLCANIC COMPLEXES

- Tvss Skycraper Mountain complex (lower Miocene)
- Tvsa Mount Aix volcanic complex (upper Oligocene-lower Miocene)

TERTIARY INTRUSIVE ROCKS

- Tia Intrusive andesite (upper Oligocene to Pliocene)
- Tib Intrusive basalt and diabase (upper Oligocene?) and lower Miocene)
- Tib Intrusive diabase and basalt of Box Canyon (lower Miocene)
- Tid Intrusive dacite (Pliocene and Miocene)
- Tid Diorite intrusions (upper Oligocene?) and Miocene)
- Tid Unnamed granodiorite intrusions (Miocene)
- Tid Rhyolite intrusions (upper Miocene)
- Tib Bumping Lake pluton, quartz monzonite and granodiorite (Miocene)
- Tibldg Granodiorite stocks associated with Bumping Lake pluton (Miocene)
- Tijl Jug Lake quartz diorite sills (middle to upper Miocene)
- Tivr White River pluton, quartz diorite and gneiss (middle Miocene)
- Tivrg White River pluton, granitic phase (middle Miocene)
- Tivns Nisqually granodiorite (lower to middle Miocene)
- Tivnq Nisqually granodiorite, quartz diorite phase (lower to middle Miocene)
- Titg Tatoush pluton, quartz monzonite (lower to middle Miocene)
- Titg Tatoush pluton, granodiorite
- Titg Tatoush pluton, quartz diorite
- Titg Tatoush pluton, undifferentiated granodiorite and quartz monzonite
- Titg Undifferentiated intrusives related to Tatoush pluton (lower Miocene)
- Ticr Carbon River stock (lower Miocene)
- Ticw Clear West intrusive complex, soda-rhyolite, (lower Miocene)

PRE-TERTIARY ROCKS

- Russell Ranch Unit
- Kjr Clastic subunit (Cretaceous-Jurassic)
- Kjrc Chert-tuff subunit (Cretaceous-Jurassic)
- Kjrg Tectonic blocks of greenstone (Cretaceous-Jurassic)
- pjr Eastern greenstone unit (Cretaceous-Jurassic)
- pjr Siliceous metavolcanic unit (pre-Tertiary)

Indian Creek Plutonic Complex

- Jid Directionless to weakly foliated plutonic rocks (upper Jurassic)
- Jif Well-foliated metaplutonic rocks (upper Jurassic)

MAP EXPLANATION

- Strike and dip of beds
- Strike and dip of overturned beds
- Approximate bedding attitude
- Strike and dip of cleavage in Russell Ranch unit and foliation in the Indian Creek metaplutonic rocks
- Contact - known and approximate location
- Scratch boundary
- FOLDS - dashed where existence and location inferred, dotted where concealed
- Anticline, showing plunge
- Syncline, showing plunge
- Monocline, showing trace of upper axial plane and direction of dip away from trace
- Fault, showing sense of displacement; dashed where existence and location inferred, dotted where concealed
- Quaternary and Pliocene volcanic centers
- Apparent dip of Neogene lava flows
- Dikes and sills, with map symbol of unit
- Radiometric age date sample location (see Table 2)
- Potassium-Argon age determination
- Fission-track age determination

GEOLOGIC MAP OF THE MOUNT RAINIER QUADRANGLE, WASHINGTON

Compiled by
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THIS REPORT CONSISTS OF 1 MAP AND A 46 PAGE TEXT.