Bedrock Geologic Map of Lake Clark National Park and Preserve

Alaska

National Park Service
U.S. Department of the Interior

Geologic Resources Inventory
Natural Resource Stewardship and Science

This map displays geologic map data compiled by the National Park Service Geologic Resources Inventory.
It is not a substitute for site-specific investigations.

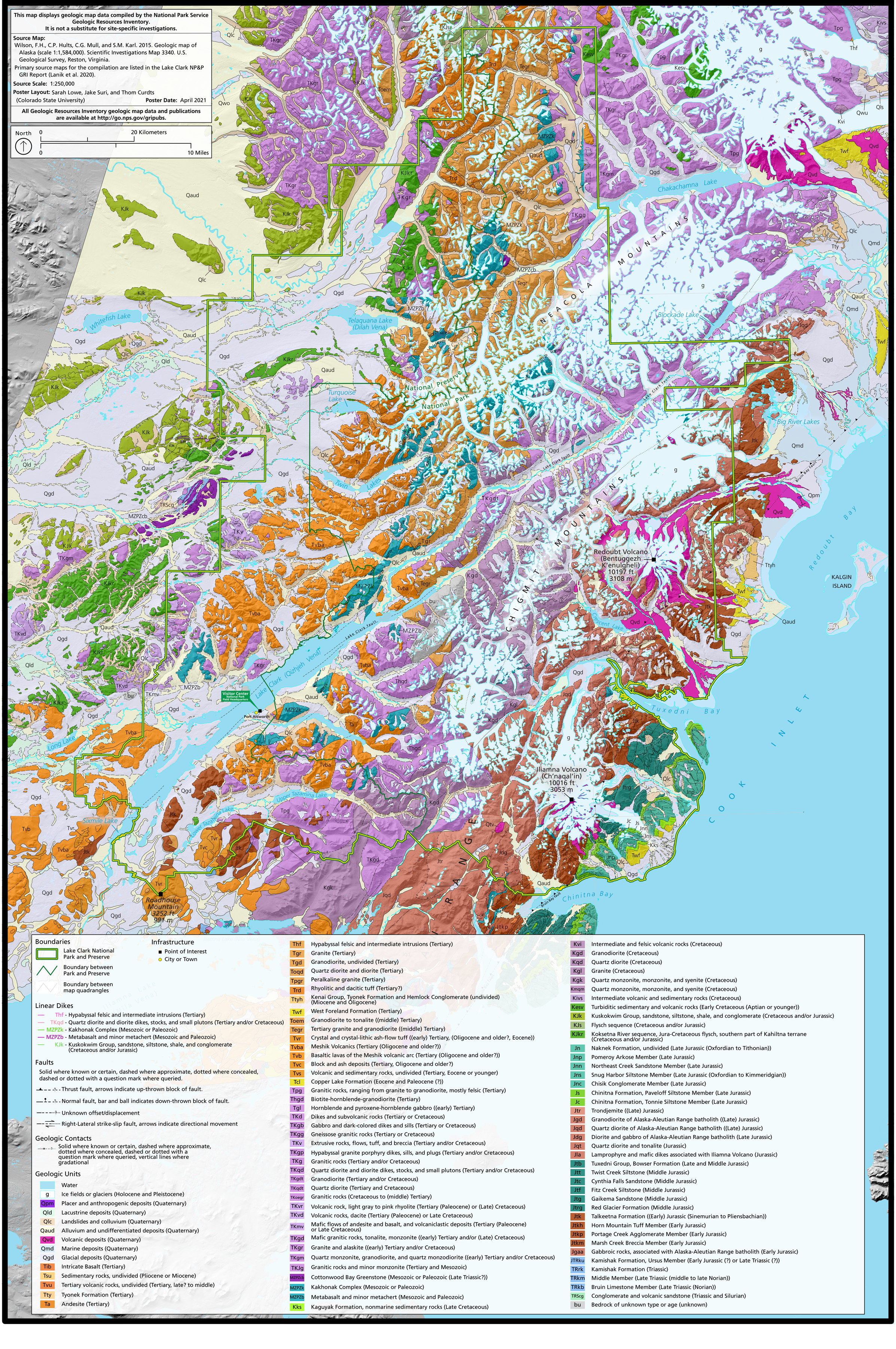
Source Map:
Wilson, F.H., C.P. Hults, C.G. Mull, and S.M. Karl. 2015. Geologic map of Alaska (scale 1:1,584,000). Scientific Investigations Map 3340. U.S. Geological Survey, Reston, Virginia.
Primary source maps for the compilation are listed in the Lake Clark NP&P GRI Report (Lanik et al. 2020).

Source Scale: 1:250,000

Poster Layout: Sarah Lowe, Jake Suri, and Thom Curdts (Colorado State University) **Poster Date:** April 2021

All Geologic Resources Inventory geologic map data and publications are available at http://go.nps.gov/gripubs.

North
0 20 Kilometers
0 10 Miles



Boundaries

- Lake Clark National Park and Preserve
- Boundary between Park and Preserve
- Boundary between map quadrangles

Infrastructure

- Point of Interest
- City or Town

Linear Dikes

- Thf - Hypabyssal felsic and intermediate intrusions (Tertiary)
- TKqd - Quartz diorite and diorite dikes, stocks, and small plutons (Tertiary and/or Cretaceous)
- MZPZk - Kakhonak Complex (Mesozoic or Paleozoic)
- MZPZb - Metabasalt and minor metachert (Mesozoic and Paleozoic)
- KJk - Kuskokwim Group, sandstone, siltstone, shale, and conglomerate (Cretaceous and/or Jurassic)

Faults

Solid where known or certain, dashed where approximate, dotted where concealed, dashed or dotted with a question mark where queried.

- Thrust fault, arrows indicate up-thrown block of fault.
- Normal fault, bar and ball indicates down-thrown block of fault.
- Unknown offset/displacement
- Right-Lateral strike-slip fault, arrows indicate directional movement

Geologic Contacts

Solid where known or certain, dashed where approximate, dotted where concealed, dashed or dotted with a question mark where queried, vertical lines where gradational

Geologic Units

- Water
- g - Ice fields or glaciers (Holocene and Pleistocene)
- Qpm - Placer and anthropogenic deposits (Quaternary)
- Qld - Lacustrine deposits (Quaternary)
- Qlc - Landslides and colluvium (Quaternary)
- Qaud - Alluvium and undifferentiated deposits (Quaternary)
- Qvd - Volcanic deposits (Quaternary)
- Qmd - Marine deposits (Quaternary)
- Qgd - Glacial deposits (Quaternary)
- Tib - Intricate Basalt (Tertiary)
- Tsu - Sedimentary rocks, undivided (Pliocene or Miocene)
- Tvu - Tertiary volcanic rocks, undivided (Tertiary, late? to middle)
- Tty - Tyonek Formation (Tertiary)
- Ta - Andesite (Tertiary)
- Thf - Hypabyssal felsic and intermediate intrusions (Tertiary)
- Tgr - Granite (Tertiary)
- Tgd - Granodiorite, undivided (Tertiary)
- Toqd - Quartz diorite and diorite (Tertiary)
- Tpgr - Peralkaline granite (Tertiary)
- Trd - Rhyolitic and dacitic tuff (Tertiary?)
- Ttyh - Kenai Group, Tyonek Formation and Hemlock Conglomerate (undivided) (Miocene and Oligocene)
- Twf - West Foreland Formation (Tertiary)
- Toem - Granodiorite to tonalite ((middle) Tertiary)
- Tegr - Tertiary granite and granodiorite ((middle) Tertiary)
- Tvr - Crystal and crystal-lithic ash-flow tuff ((early) Tertiary, (Oligocene and older?, Eocene))
- Tvba - Meshik Volcanics (Tertiary (Oligocene and older?))
- Tvb - Basaltic lavas of the Meshik volcanic arc (Tertiary (Oligocene and older?))
- Tvc - Block and ash deposits (Tertiary, Oligocene and older?)
- Tvs - Volcanic and sedimentary rocks, undivided (Tertiary, Eocene or younger)
- Tcl - Copper Lake Formation (Eocene and Paleocene (?))
- Tpg - Granitic rocks, ranging from granite to granodiorite, mostly felsic (Tertiary)
- Thgd - Biotite-hornblende-granodiorite (Tertiary)
- Tgl - Hornblende and pyroxene-hornblende gabbro ((early) Tertiary)
- TKd - Dikes and subvolcanic rocks (Tertiary or Cretaceous)
- TKgb - Gabbro and dark-colored dikes and sills (Tertiary or Cretaceous)
- TKgg - Gneissose granitic rocks (Tertiary or Cretaceous)
- TKv - Extrusive rocks, flows, tuff, and breccia (Tertiary and/or Cretaceous)
- TKgp - Hypabyssal granite porphyry dikes, sills, and plugs (Tertiary and/or Cretaceous)
- TKg - Granitic rocks (Tertiary and/or Cretaceous)
- TKqd - Quartz diorite and diorite dikes, stocks, and small plutons (Tertiary and/or Cretaceous)
- TKgdt - Granodiorite (Tertiary and/or Cretaceous)
- TKqdt - Quartz diorite (Tertiary and Cretaceous)
- TKoegr - Granitic rocks (Cretaceous to (middle) Tertiary)
- TKvr - Volcanic rock, light gray to pink rhyolite (Tertiary (Paleocene) or (Late) Cretaceous)
- TKvd - Volcanic rocks, dacite (Tertiary (Paleocene) or Late Cretaceous)
- TKmv - Mafic flows of andesite and basalt, and volcaniclastic deposits (Tertiary (Paleocene) or Late Cretaceous)
- TKgd - Mafic granitic rocks, tonalite, monzonite ((early) Tertiary and/or (Late) Cretaceous)
- TKgr - Granite and alaskite ((early) Tertiary and/or Cretaceous)
- TKgm - Quartz monzonite, granodiorite, and quartz monzodiorite ((early) Tertiary and/or Cretaceous)
- TKJg - Granitic rocks and minor monzonite (Tertiary and Mesozoic)
- MZPZcb - Cottonwood Bay Greenstone (Mesozoic or Paleozoic (Late Triassic?))
- MZPZk - Kakhonak Complex (Mesozoic or Paleozoic)
- MZPZb - Metabasalt and minor metachert (Mesozoic and Paleozoic)
- Kks - Kaguyak Formation, nonmarine sedimentary rocks (Late Cretaceous)
- Kvi - Intermediate and felsic volcanic rocks (Cretaceous)
- Kgd - Granodiorite (Cretaceous)
- Kqd - Quartz diorite (Cretaceous)
- Kgl - Granite (Cretaceous)
- Kgk - Quartz monzonite, monzonite, and syenite (Cretaceous)
- Kmqm - Quartz monzonite, monzonite, and syenite (Cretaceous)
- Kivs - Intermediate volcanic and sedimentary rocks (Cretaceous)
- Kesv - Turbiditic sedimentary and volcanic rocks (Early Cretaceous (Aptian or younger))
- KJk - Kuskokwim Group, sandstone, siltstone, shale, and conglomerate (Cretaceous and/or Jurassic)
- KJs - Flysch sequence (Cretaceous and/or Jurassic)
- KJkr - Koksetna River sequence, Jura-Cretaceous flysch, southern part of Kahiltna terrane (Cretaceous and/or Jurassic)
- Jn - Naknek Formation, undivided (Late Jurassic (Oxfordian to Tithonian))
- Jnp - Pomeroy Arkose Member (Late Jurassic)
- Jnn - Northeast Creek Sandstone Member (Late Jurassic)
- Jns - Snug Harbor Siltstone Member (Late Jurassic (Oxfordian to Kimmeridgian))
- Jnc - Chisik Conglomerate Member (Late Jurassic)
- Js - Chinitna Formation, Paveloff Siltstone Member (Late Jurassic)
- Jc - Chinitna Formation, Tonnie Siltstone Member (Late Jurassic)
- Jtr - Trondjemite ((Late) Jurassic)
- Jgd - Granodiorite of Alaska-Aleutian Range batholith ((Late) Jurassic)
- Jqd - Quartz diorite of Alaska-Aleutian Range batholith ((Late) Jurassic)
- Jdg - Diorite and gabbro of Alaska-Aleutian Range batholith (Late Jurassic)
- Jqt - Quartz diorite and tonalite (Jurassic)
- Jla - Lamprophyre and mafic dikes associated with Iliamna Volcano (Jurassic)
- Jtb - Tuxedni Group, Bowser Formation (Late and Middle Jurassic)
- Jtt - Twist Creek Siltstone (Middle Jurassic)
- Jtc - Cynthia Falls Sandstone (Middle Jurassic)
- Jtf - Fitz Creek Siltstone (Middle Jurassic)
- Jtg - Gaikema Sandstone (Middle Jurassic)
- Jtrg - Red Glacier Formation (Middle Jurassic)
- Jtk - Talkeetna Formation ((Early) Jurassic (Sinemurian to Pliensbachian))
- Jtkh - Horn Mountain Tuff Member (Early Jurassic)
- Jtkp - Portage Creek Agglomerate Member (Early Jurassic)
- Jtkm - Marsh Creek Breccia Member (Early Jurassic)
- Jgaa - Gabbroic rocks, associated with Alaska-Aleutian Range batholith (Early Jurassic)
- JTRku - Kamishak Formation, Ursus Member (Early Jurassic (?) or Late Triassic (?))
- TRrk - Kamishak Formation (Triassic)
- TRkm - Middle Member (Late Triassic (middle to late Norian))
- TRkb - Bruin Limestone Member (Late Triassic (Norian))
- TRScg - Conglomerate and volcanic sandstone (Triassic and Silurian)
- bu - Bedrock of unknown type or age (unknown)