3D geologic map of the Meeks Table and western two-thirds of the Nile 7.5-minute quadrangles, Yakima County, Washington

Disclaimer

Citation and link

WASHINGTON STATE DEPARTMENT OF
Natural Resources
Peter Goldmark - Commissioner of Public Lands

This 3D geologic map is derived from previously published geologic mapping and analysis. Some of the borehole data are considered preliminary and have not been examined for accuracy of either location or lithologic identification. While lithologic identification for all wells was made by the author of the published geologic map, not all of the wells shown in this 3D product were necessarily used to construct the geologic cross section. The map, cross section, and the borehole data within the 3D model are not intended for analytical use. Instead, the published map and (or) pamphlet should be consulted for original data and interpretation.

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3D PDF INSTRUCTIONS

NAVIGATION
(1 of 2)

- Click inside the window to manipulate the 3D view—the compass will rotate to point towards north
- Hold the left mouse button and move the mouse to tilt the view
- Use the mouse wheel to zoom
- Hold both the right and left mouse buttons to pan the view
- Toggle individual layers in the lower left corner
- Change the vertical scaling or layer separation in the lower toolbar
- Selecting an object will display its data below

OBJECT DATA

undefined

undefined

undefined

undefined

Layer001
Layer002

No Separation | 5% | 50% | 100%

5

Probe

1x Z-Scale | 10x Z-Scale | Default Scale | 10

Web tutorial

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PDF3D

3D model creation: Daniel W. Eungard

Editing and production: Alexander N. Steely

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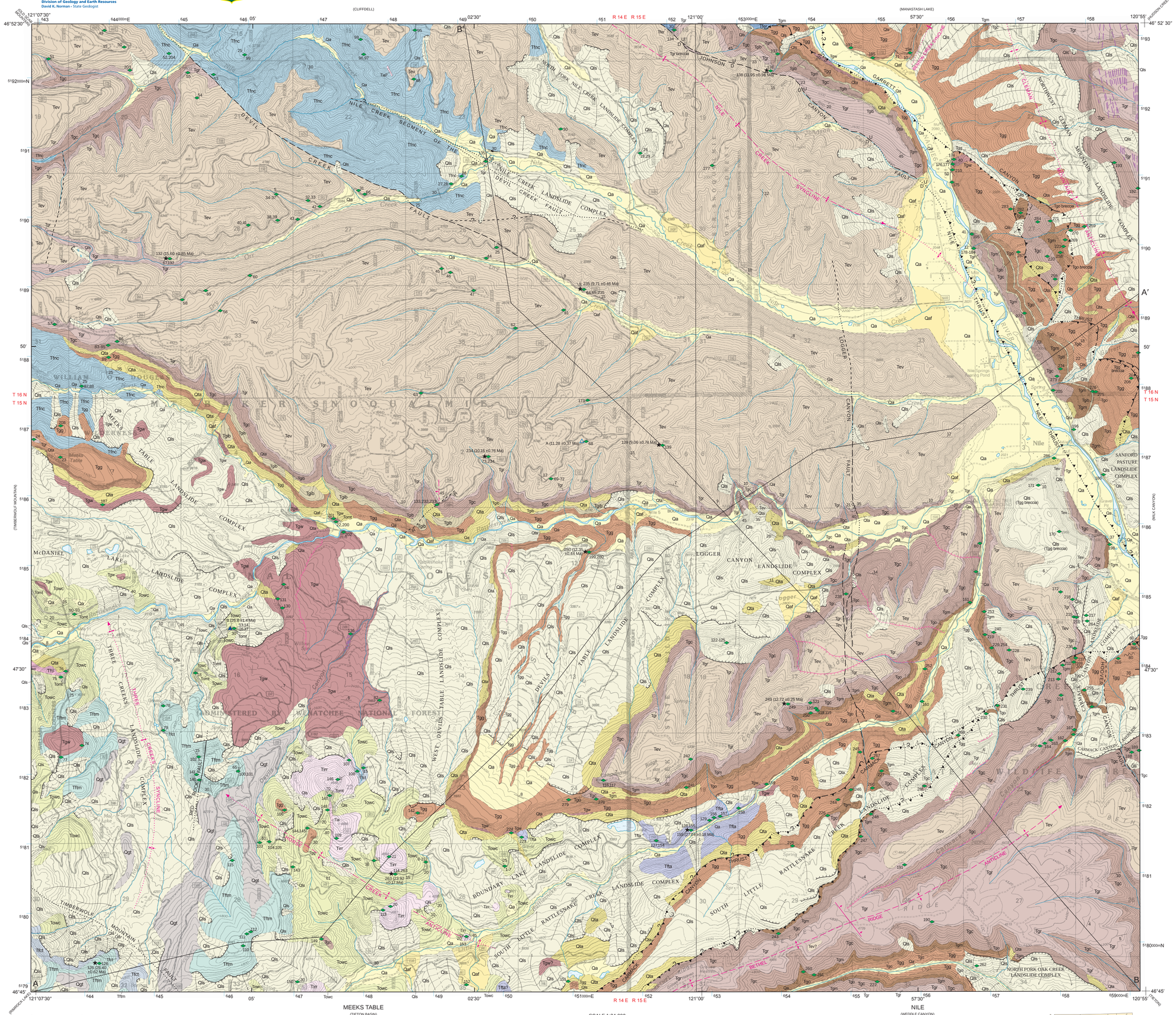
Prepared in cooperation with the
United States Department of Agriculture
Forest Service

WASHINGTON DIVISION OF GEOLOGY AND EARTH RESOURCES
GEOLOGIC MAP GM-74

Meeks Table and western two-thirds Nile 7.5-minute quadrangles
May 2009

Pamphlet accompanies map



Lambert conformal conic projection
North American Datum of 1927; to place on North American Datum of 1983, move the projection lines approximately 17 meters north and approximately 90 meters east
Base map from scanned and rectified U.S. Geological Survey 7.5-minute Meeks Table and Nile quadrangles, 2000
Digital cartography and GIS by J. Eric Schuster
Editing by Jaretta M. Roloff and Jessica L. Czajkowski
Production by Jaretta M. Roloff

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2009

DESCRIPTION OF MAP UNITS

Quaternary Surficial Deposits

Qa — **Alluvium**—Gravel, sand, and mud deposited in stream flow, sheet flood, overbank, and lake deposits; includes loess and colluvium.

Qaf — **Alluvial fan**—Rock and sand; restricted lateral extent at or near mouth of tributary stream at marked change in gradient.

Qta — **Talus**—Rock, generally monolithic; restricted extent at base of cliff or steep, rocky slope; commonly partly overgrown.

Qls — **Landslide**—Boulders and cobbles; consists of rock avalanche, slump, or earthflow deposits composed of locally derived rock and soil.

Qgt — **Glacial till**—Boulders, cobbles, and pebbles in a matrix of sand, silt, and clay; brown; thin veneer along valley floors and slopes.

Middle to Upper Miocene Stratified Volcanic Deposits

Tev — **Ellensburg Formation, volcanic facies**—Interstratified conglomerate, tuff-breccia, sandstone, siltstone, and tuff of dacite.

Grande Ronde Basalt—Six single lava flows of basaltic andesite. All flows generally form steep benched slopes, rims, or cliffs.

Divided into:

Tgr — **Rocky Coulee lava flow**

Tgc — **Cohassett lava flow**

Tgm — **McCoy Canyon lava flow**

Tgo — **Ortley lava flow**

Tgg — **Grouse Creek lava flow**

Tgw — **Wapshilla Ridge lava flow**

Tgib — **Interbeds in Grande Ronde Basalt**

Upper Oligocene to Lower Miocene Intrusions

Tirr — **Rhyolite of Little Rattlesnake Creek**— Porphyritic rhyolite; intrudes tuffaceous rocks of Wildcat Creek (unit Towc).

Tfti — **Intrusion of Timberwolf Mountain volcano**—A single dike of pyroxene-plagioclase basalt.

Tia — **Andesite intrusions**—Two northerly striking dikes of pyroxene andesite.

Upper Oligocene to Lower Miocene Volcanic Deposits

Fifes Peak Formation—Divided into:

Tftm — **Andesite of Timberwolf Mountain volcano**—Blocky lava flows and breccia of porphyritic andesite and rhyolite.

Tfct — **Rhyodacite-rhyolite tuff of Cash Prairie**—Lithic- and pumice-lapilli crystal-vitric rhyodacite-rhyolite tuff.

Tfta — **Andesite of Tieton volcano**—Blocky lava flows and breccia of basalt, andesite, and dacite.

Tfnc — **Andesite of Nile Creek**—Chiefly blocky porphyritic andesite and dacite lava flows.

Tfer — **Andesite of Edgar Rock volcano**—Chiefly blocky lava flows and breccia of basalt, andesite, and dacite.

Upper Eocene to Upper Oligocene Volcanic Deposits

Ohanapecosh Formation—Divided into:

Towc — **Tuffaceous rocks of Wildcat Creek**—Chiefly interstratified airfall and pyroclastic-flow deposits and volcanic sedimentary deposits.

Tomt — **Rhyolite tuff of McDaniel Lake**—Lithic- and pumice-lapilli crystal-vitric rhyolite tuff.

Middle to Upper Eocene Sedimentary Deposits

Tscs — **Sandstone of Summit Creek (Cross Section A–A' only)**—Medium- to fine-grained lithic-muscovite-quartz-feldspar sandstone, siltstone, mudstone, and rare pebble conglomerate.

GEOLOGIC SYMBOLS

Contact—Long-dashed where approximately located; short-dashed where inferred; dotted where concealed; showing dip; queried where uncertain

Unconformity—Queried where uncertain; cross sections only

Bedding lines—Short dashed where inferred; cross sections only

Fault, unknown offset—Long-dashed where approximately located; short-dashed where inferred; dotted where concealed; queried where uncertain

Thrust fault—Sawteeth on upper plate; long-dashed where approximately located; dotted where concealed; in cross sections arrows show relative movement

High-angle dip-slip fault—Relative motion shown by U and D; long-dashed where approximately located; short-dashed where inferred; dotted where concealed; queried where uncertain; in cross sections arrows show relative movement

Reverse fault, R on upthrown side—Dashed where inferred; dotted where concealed

Fracture—Long-dashed where approximately located; short-dashed where inferred

Anticline—Long-dashed where approximately located; dotted where concealed; showing plunge

Syncline—Long-dashed where approximately located; dotted where concealed; showing plunge

Monocline—Anticlinal bend; dashed where approximately located

Landslide scarp—Hachures on downslope side

Potential or incipient landslide scarp—Hachures on downslope side, lighter-colored where concealed

Direction of landslide movement

Shear—Showing strike and dip

Inclined bedding—Showing strike and dip

Inclined bedding—Showing approximate strike and dip

Flow layering in lava flow or fluidal layering in plutonic rock—Showing strike and dip

Vertical flow layering in lava flow or fluidal layering in plutonic rock—Showing strike

Joint—Showing strike and dip

Geochemistry sample location

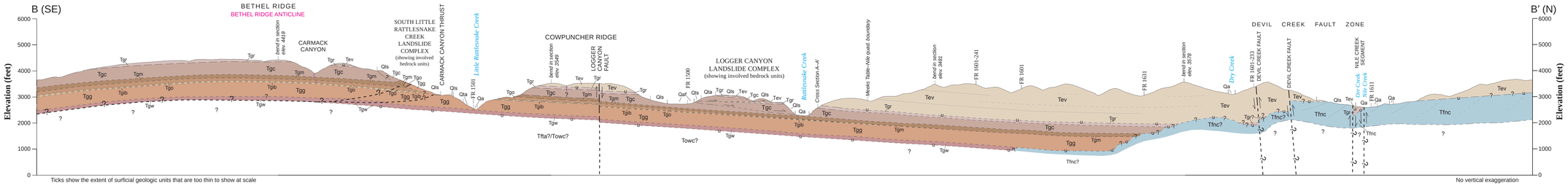
Age-date sample, zircon fission-track

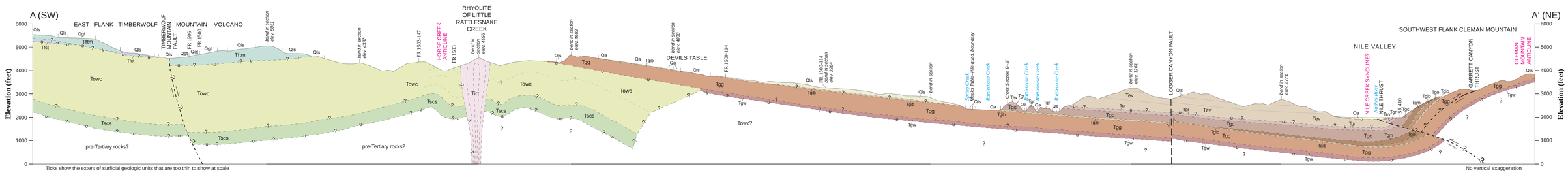
Age-date sample, K-Ar

Age-date sample, Ar-Ar

Dedicated to Peter R. Hooper

This map is dedicated to Peter R. Hooper, Professor Emeritus of the Department of Geology, Washington State University, for encouraging this mapping and to honor his pioneering work in establishing the geochemical correlation of the Columbia River Basalt lava flows.





Additional information is available as Open File Report 2009-3, Supplement to Geologic Map GM-74—Geologic map of the Meeks Table and western two-thirds of the Nile 7.5-minute quadrangles, Yakima County, Washington, which contains: Table S1. Description and location of sample sites by map units and list of abbreviations used in GM-74 and OFR 2009-3; Table S2, Parts 1–3. XRF analyses of samples; Table S3. ICP-MS analyses of samples; Table S4. Summary of $^{40}Ar/^{39}Ar$ dates; and Figures S1A–D. $^{40}Ar/^{39}Ar$ age plateau and inverse isochron diagrams of samples.

Geologic Map of the Meeks Table and Western Two-Thirds of the Nile 7.5-minute Quadrangles, Yakima County, Washington

Compiled and mapped by Paul E. Hammond

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