Publications of the Washington Geological Survey

July 2022
The Survey now has a blog, called the Washington State Geology News, where we share current events within the Survey, preliminary research findings, exciting geology photography, and recent publication announcements. Once there you can subscribe to receive new blog posts automatically. [ONLINE]

The portal allows you to access interactive earth science mapping, data, and related information. Using our interactive maps, you can create, save, and print custom maps, find out more about map features, and download map data for use in a geographic information system (GIS). In addition to a variety of geoscience layers that can be turned on and off, each interactive map has many base layers to choose from, so you can customize your map in any number of ways. [ONLINE]

Looking for an obscure geologic report? This searchable database of library holdings will help you find it. The Washington Geology library contains more than 40,000 titles on the geology of Washington State, more than 3000 current and historic topographic and geologic maps, a comprehensive set of dissertations and theses, environmental impact statements and watershed analyses, and the National Tsunami Hazard Mitigation Program library collection. There are links to online publications where available. [ONLINE]

All of our geologic maps are now available through our website on our Publications and Maps page. Scroll down and click on “Geologic Maps”. The maps can also be found on a page-size color map that shows published geologic mapping of 7.5-minute topographic quadrangles in Washington State from all sources. Attached text lists quads alphabetically and by author, with links to online publications. [ONLINE]

Geoscience GIS Data
A variety of geographic information system (GIS) data is available on our website in ESRI shapefile format, including geologic coverage of the entire state of Washington at scales of 1:24,000, 1:100,000, 1:250,000, and 1:500,000. [ONLINE]

TsuInfo Alert
TsuInfo Alert is a bi-monthly newsletter that links scientists, emergency responders, and community planners to the latest tsunami research. It is published by WGS for the National Tsunami Hazard Mitigation Program, a state/federal partnership funded through the National Oceanic and Atmospheric Administration. It is made possible by a grant from the Federal Emergency Management Agency via the Washington Military Department Emergency Management Division. [ONLINE]

Coal Mine Map Collection
Coal has been mined in Washington since 1853. Although current production is from surface mines, nearly all coal produced prior to about 1970 came from underground workings. Since early in this century, Washington State law has required mine operators to submit detailed plans of all underground coal operations to the state on an annual basis. About 1,100 individual maps representing about 230 mines have been scanned and are available electronically. [ONLINE]
HOW TO OBTAIN PUBLICATIONS

Publications are listed by series. This document is searchable using the Acrobat search function. Online publications are indicated by a hyperlink [ONLINE] at the end of the publication description. Where possible, larger files have been broken into parts for ease of downloading [PART 1] [PART 2]. For unusual cases, we have tried to make the link name descriptive enough to distinguish between files. If you need a hard copy of a large-format report, such as a map, and do not have access to a plotter, your local copy center may be able to print it out. Reports marked “Lib. use only” may be viewed in the Survey library in Olympia. All new Survey reports and maps are announced on our website.

PRINTED PUBLICATIONS

Our publications are no longer for sale as printed documents through the Department of Enterprise Services, but they are available online. If you can’t find what you are looking for in this publications list, search our online library catalog at: http://www.dnr.wa.gov/programs-and-services/geology/washington-geology-library. Printed items are sometimes returned to the Survey and are made available ‘first-come, first-served’. Availability changes often; e-mail stephanie.earls@dnr.wa.gov for current availability.

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URL: www.dnr.wa.gov/geology

Visitors may enter the Natural Resources Building parking lot using the Washington Street entrance. Visitor parking (VP) is on level P1. Follow the signs. There is a fee for parking.

The Survey is across the Rotunda, past the four elevators, on the north side of first floor. See the building directory in the lobby. Sign in at the Information Desk in the Rotunda to get a visitor’s pass.

Staff List
The Survey Staff List has contact information for individual staff.
**Bulletin**

The subject matter of a Bulletin is of widespread interest in the geologic community and the subject matter is treated thoroughly and in a well-organized, scholarly manner. Bulletins are usually written for geologic audiences. Bulletins are peer reviewed and edited to Survey/USGS/major journal standards.

**Geologic Map (GM) and Map Series (MS)**

Geologic Maps (GMs) and Map Series (MS) publications are geological, geophysical, or derivative maps, with text on the map or in an accompanying pamphlet. The maps are the chief vehicles of communication. They are usually the result of original field investigations or extensive compilation and re-presentation of data in map form. Geologic Maps are peer reviewed and edited to Survey/USGS/major journal standards. Map Series are not peer reviewed, but are still edited to conform to Survey/USGS/major journal standards.

**Report of Investigations (RI)**

A Report of Investigations (RI) conveys the results of significant field investigations, usually by a Survey staff geologist. It may contain a map or maps larger than page size, but the report is chiefly text and page-sized figures and tables. It is usually shorter than a Bulletin and narrower in scope and more restricted in geographic coverage. It is still a thorough and often scholarly presentation that conveys important information and is complete and able to stand on its own. RIs are usually written for a geologic audience. They are peer reviewed and edited to Survey/USGS/major journal standards.

**Information Circular (IC)**

An Information Circular (IC) is a vehicle for all types of geologic or geology-related information, usually in 8½ x 11 in. format. Original field work may be involved but often is not. Instead, the report is usually a compilation of data or historical records, assembled because the information has geologic significance, is needed by a large number of people, or is otherwise unavailable in convenient form. An IC is sometimes written for a geologic audience, but is more often written to be useful to geologists and understandable to the general public. ICs have been catalogs (earthquake hypocenters, oil and gas exploration wells, mining operations, map indexes, theses), road logs, or reports on particular areas. An IC is edited to Survey/USGS/major journal standards, but is not always peer reviewed.

**Topographic Map (TM)**

The only Topographic Maps (TM) issued to date are the 1:250,000 topographic maps prepared by the Survey to serve as base maps for the southwest, northeast, and southeast quadrants of the state geologic map (GM-34, GM-39, and GM-45).

**Digital Data Series (DS)**

Digital Data Series (DS) present geologic data in GIS file geodatabase format. The data are available online and intended to be used interactively (that is, the data can be analyzed, displayed, or otherwise manipulated to meet the user’s needs). The datasets may be updated from time to time, will not exist on paper, and are not archived; that is, when the data is updated, no copy of the previous version is kept. For DSs, there are specific hardware/software/expertise requirements. Updates are identified by a version number, typically the date. For some Digital Reports, requesters may be asked to execute a product license agreement. Digital Data Series are usually edited for conformance to Survey digital data standards.

**Digital Report (DR)**

Digital Reports (DR) present large data sets in electronic form. The reports are available online and intended to be used interactively (that is, the data can be sorted, subdivided, or otherwise manipulated to meet the user’s needs). The reports may be updated from time to time, may not exist on paper, and are not archived; that is, when the report is updated, no copy of the previous version is kept. For some DRs, there are specific hardware/software/expertise requirements. Updates are identified by a version number, typically the date (for example, DR-1, ver. 8/26/1998). For some Digital Reports, requesters may be asked to execute a product license agreement. Digital Reports are usually not edited or peer reviewed in the usual sense. Instead they are prepared with due care and then modified or corrected as authors and (or) users find problems or errors.

**Open File Report (OFR)**

An Open File Report (OFR) is a body of geologic or geology-related information in map and (or) text form that is significant enough to make available to the public, but, for one reason or another, has not been prepared and released as a Bulletin, GM, RI, or IC. These reasons include: (1) the report is preliminary, (2) the report must be released quickly, (3) the report was never intended for publication, perhaps because very few copies will be needed, (4) the report is informal or doesn’t lend itself to one of the formal report series, or (5) people, money, and (or) time are not available to prepare a Bulletin, GM, RI, or IC. OFRs may or may not be peer reviewed and (or) edited to Survey/USGS/major journal standards.

**Field Trip Guide (FTG)**

A Field Trip Guide (FTG) is just what it says it is—a field trip guide. FTGs may or may not be peer reviewed and (or) edited to Survey/USGS/major journal standards.
ANNUAL REPORTS

Annual Reports are available online only.

Washington State Geologist
Mines and minerals of Washington—Annual report of George A. Bethune, first State Geologist, 1890, by G. A. Bethune. 1891. 122 p. [ONLINE]

Washington Mining Bureau
First annual report of the Mining Bureau of the State of Washington, from April 1, 1891 to April 1, 1892. 1892. 46 p., 5 pl. [ONLINE]

Washington Geological Survey
Annual Report for 1901; Volume I. 1902. 344 p. [PARTS I-II] [PARTS III-VI]
The chapters are also available separately:
Part II. The metalliferous resources of Washington, except iron, by Henry Landes, W. S. Thyny, D. A. Lyon, and Milnor Roberts. 1902. 123 p., 4 pl. [ONLINE]
Part III. The non-metalliferous resources of Washington, except coal, by Henry Landes. 1902. 55 p., 11 pl. [ONLINE]
Part V. The water resources of Washington—Potable and mineral water, by H. G. Byers; Artesian water, by C. A. Ruddy; and, Water power, by R. E. Heine. 1902. 37 p., 7 pl. [ONLINE]
Part VI. Bibliography of the literature referring to the geology of Washington, by Ralph Arnold. 1902. 16 p. [ONLINE]
The biennial report of the Board of Geological Survey of the State of Washington for the term 1901-1903. 1903. 7 p. [ONLINE]
The biennial report of the Board of Geological Survey of the State of Washington for the term 1911-13. 1913. 24 p. 3 pl. [ONLINE]
The biennial report of the Board of Geological Survey of the State of Washington for the term 1913-1915. 1915. 31 p. 3 pl. [ONLINE]
The biennial report of the Board of Geological Survey of the State of Washington for the term 1915-1917. 1917. 29 p. 3 pl. [ONLINE]
The biennial report of the Board of Geological Survey of the State of Washington for the term 1917-1919. 1919. 26 p. 3 pl. [ONLINE]
The biennial report of the Board of Geological Survey of the State of Washington for the term 1919-1921. 1921. 29 p. [ONLINE]

Department of Conservation and Development*
Report of the Supervisor of Geology, Department of Conservation and Development, from April 1, 1921, to September 30, 1922, by Solon Shedd. 1922. 9 p. [ONLINE]
Third biennial report of the Department of Conservation and Development from April 1, 1925, to September 30, 1926, by E. J. Barnes. 1927. 93 p. 2 pl. [ONLINE]
Fourth biennial report of the Department of Conservation and Development from October 1, 1926, to September 30, 1928, by E. J. Barnes. 1928. 75 p. 2 pl. [ONLINE]
Seventh biennial report of the Department of Conservation and Development from October 1, 1932, to September 30, 1934, by E. F. Banker. 1935. 57 p. [ONLINE]
Biennial report of Division of Geology—April 1, 1933, to November 30, 1934, by H. E. Culver. 1935. 14 p. [ONLINE]
First biennial report of the Division of Mines and Mining, June 1, 1935, to December 31, 1936, by T. B. Hill. 1937. 6 p. [ONLINE]
Summary report of major activities, Division of Geology, for the biennium 1935-37, by H. E. Culver. 1936. 7 p. [ONLINE]
Eleventh biennial report of the Department of Conservation and Development—October 1, 1940–September 30, 1942, by J. B. Fink. 1943. 54 p. [ONLINE]

* We have published under several different names, as our organization and our parent agency have changed significantly since its inception. Former publishing names include the Department of Conservation and Development, the Division of Geology, the Division of Mines and Mining, and the Division of Mines and Geology. In 1965, the Division was made a part of the Department of Natural Resources. In 1973, the Division of Mines and Geology became the Division of Geology and Earth Resources. In 2017, we became the Washington Geological Survey.
Fourth biennial report of the Division of Mines and Mining for the period commencing October 1, 1940 and ending September 30, 1942, by S. L. Glover. 1943. 9 p. [ONLINE]

Twelfth biennial report of the Department of Conservation and Development—October 1, 1942–September 30, 1944, by Ed Davis. 1944. 52 p. [ONLINE]

Fifth biennial report of the Division of Mines and Mining for the period commencing October 1, 1942, and ending September 30, 1944, by S. L. Glover. 1944. 6 p. [ONLINE]

Biennial report no. 1 of the Division of Mines and Geology for the period commencing October 1, 1944 and ending September 30, 1946, by S. L. Glover. 1946. 24 p. [ONLINE]

Biennial report no. 2 of the Division of Mines and Geology for the period commencing October 1, 1946 and ending September 30, 1948; including a report on Washington’s mineral industry, by S. L. Glover. 1948. 28 p. [ONLINE]

Biennial report no. 3 of the Division of Mines and Geology for the period commencing October 1, 1948 and ending September 30, 1950, by S. L. Glover. 1951. 13 p. [ONLINE]

Biennial report no. 4 of the Division of Mines and Geology for the period commencing October 1, 1950 and ending September 30, 1952, by S. L. Glover. 1952. 8 p. [ONLINE]


Biennial report no. 7 of the Division of Mines and Geology for the period commencing July 1, 1956 and ending June 30, 1958, by M. T. Huntting. 1958. 19 p. [ONLINE]


Department of Natural Resources
Division of Geology and Earth Resources


The Washington Division of Geology and Earth Resources—Geology in the public interest. 2003. 4 p. [ONLINE]

The Washington Division of Geology and Earth Resources—Geology in the public interest. 2005. 4 p. [ONLINE]

The Washington Division of Geology and Earth Resources—Geology in the public interest [short version]. 2005. 2 p. [ONLINE]

The Washington Division of Geology and Earth Resources—Geology in the public interest. 2009. 4 p. [ONLINE]
BULLETINS

Contact us to see if paper copies are available (see p. 3)

Washington Geological Survey

1. Geology and ore deposits of Republic mining district, by J. B. Umpleby. 1910. 66 p., 13 pl., 5 figs. [ONLINE]
2. The road materials of Washington, by Henry Landes. 1911. 204 p., 17 pl., 51 figs. [ONLINE]
3. The coal fields of King County, by G. W. Evans. 1912. 247 p., 23 pl., 59 figs. [ONLINE]
4. Cement materials and industry in Washington, by Solon Shedd. 1913. 268 p., 21 pl., 10 figs. [PART 1] [PART 2]
5. Part I. Geology and ore deposits of the Myers Creek mining district; Part II. Geology and ore deposits of the Oroville–Nighthawk mining district, by J. B. Umpleby. 1911. 113 p., 3 pl., 5 figs. [ONLINE]
6. Geology and ore deposits of the Blewett mining district, by C. E. Weaver. 1911. 104 p., 10 pl., 1 fig. [ONLINE]
7. Geology and ore deposits of the Index mining district, by C. E. Weaver. 1912. 96 p., 7 pl. [ONLINE]
8. Glaciation of the Puget Sound region, by J. H. Bretz. 1913. 244 p., 24 pl., 27 figs. [ONLINE]
9. The coal fields of Kittitas County, by E. J. Saunders. 1914. 204 p., 38 pl., 52 figs. [ONLINE]
10. The coal fields of Pierce County, by Joseph Daniels. 1914. 146 p., 30 pl., 23 figs. [ONLINE]
11. The mineral resources of Washington, with statistics for 1912, by Henry Landes. 1914. 53 p., 1 pl. [ONLINE]
Superseded by the online bibliography.
13. The Tertiary formations of western Washington, by C. E. Weaver. 1916. 327 p., 30 figs., 3 pl. [PART 1] [PART 2]
16. Geology and ore deposits of the Cowdina mining district, by C. E. Weaver. 1913. 87 p., 5 pl., 3 figs. [ONLINE]
17. A geographic dictionary of Washington, by Henry Landes. 1917. 346 p., 10 pl. [PART 1] [PART 2]
18. The country about Camp Lewis, by M. M. Leighton. 1918. 105 p., 12 pl., 6 figs. [ONLINE]
20. The mineral resources of Stevens County, by C. E. Weaver. 1920. 350 p., 20 pl., 14 figs. [PART 1] [PART 2]
23. The metal mines of Washington, by E. N. Patty. 1921. 366 p., 36 pl., 27 figs. [PART 1] [PART 2]
24. Clays and shales of Washington, by S. L. Glover. 1941. 368 p., 14 pl., 6 figs. [PART 1] [PART 2]
25. The magnesite deposits of Washington, their occurrence and technology, by G. E. Whitwell and E. N. Patty. 1921. 194 p., 13 pl., 5 figs. [ONLINE]
26. Underground water supply of the region about White Bluffs and Hanford, by O. P. Jenkins. 1922. 41 p., 3 pl., 1 fig. [ONLINE]
30. The mineral resources of Washington, with statistics for 1922, by Solon Shedd, with an article on coal and coke by G. W. Evans. 1924. 224 p., 3 figs. [ONLINE]
34. Tungsten resources of Washington, by H. E. Culver and W. A. Broughton. 1945. 89 p., 23 pl., 9 figs. [ONLINE]

Division of Mines and Geology

37. Inventory of Washington minerals:
In print

Out of print

7 RETURN TO TABLE OF CONTENTS
38. The place of steam-electric generating stations in the orderly program of electric power development in the Pacific Northwest, by H. H. Houston. 1950. 117 p., 1 pl., 25 figs. [ONLINE]


40. Geology of the Bead Lake district, Pend Oreille County, Washington, by M. C. Schroeder. 1952. 57 p., 1 pl., 6 figs. [ONLINE]


44. Peat resources of Washington, by G. B. Rigg. 1958. 272 p., 1 pl., 263 figs. [PART 1] [PART 2] [PART 3]


48. High-calcium limestones of eastern Washington, by J. W. Mills. 1962. 268 p., 7 pl., 64 figs. [PART 1] [PART 2] [PART 3] [PART 4]


52. Limestone resources of western Washington, by W. R. Danner. 1966. 474 p. [PART 1] [PART 2] [PART 3]


58. Chemical and physical controls for base metal deposition in the Cascade Range of Washington, by A. R. Grant. 1969. 107 p., 33 figs. [ONLINE]


Superseded by the online bibliography.


63. Geology and mineral resources of King County, Washington, by V. E. Livingston Jr. 1971. 200 p., 6 pl., 103 figs. [PART 1, PART 2]


65. Distribution of copper and other metals in gully sediments of part of Okanogan County, Washington, by K. F. Fox Jr., and C. D. Rinehart. 1972. 38 p., 4 pl. (pl. 1: 26 x 28 in. color geologic map, scale 1:96,000, with 2 overlays), 10 figs. [ONLINE]

Division of Geology and Earth Resources


68. Geology of the Methow Valley, Okanogan County, Washington, by J. D. Barksdale. 1975. 72 p., 1 pl., 17 figs. [ONLINE]


73. Myers Creek and Wauconda mining districts of northeastern Okanogan County, Washington, by W. S. Moen. 1980. 96 p., 6 pl., 36 figs. [ONLINE]
77. Selected papers on the geology of Washington, edited by J. E. Schuster. 1987. 406 p. [PART 1] [PART 2] [PART 3] In print  
78. Engineering geology in Washington, edited by R. W. Galster, chairman. 1989. [2 v.], 1234 p. [VOL 1 PART 1] [VOL 1 PART 2] [VOL 1 PART 3] [VOL 1 PART 4] [VOL 2 PART 1] [VOL 2 PART 2] [VOL 2 PART 3] [VOL 2 PART 4] In print  

**DIGITAL DATA SERIES**

Digital Data Series are available online only.

15. Hazardous minerals database—GIS data, by Washington Division of Geology and Earth Resources. 2015. [ONLINE] Web only  
18. Surface geology, 1:100,000—GIS data, by Washington Division of Geology and Earth Resources. 2016. [ONLINE] Web only  
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<th>No.</th>
<th>Description</th>
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■ DIGITAL REPORTS ■

Digital Reports are available online only.

1. Digital bibliography of the geology and mineral resources of Washington State, 1798–2000, by C. J. Manson, editor and compiler. 20010. Superseded by the online bibliography.


■ FACT SHEETS ■

Fact Sheets are available online only.

Geology in the public interest. 2015. 4 p. [ONLINE] Web only

The Washington Geology Library. 2015. 2 p. [ONLINE] Web only

Landslide hazards in Washington state. 2015. 2 p. [ONLINE] Web only


Waterfall loop tour on the historic Columbia River Highway [Oregon] [ONLINE] Web only

■ FIELD TRIP GUIDES ■

Contact us to see if paper copies are available (see p. 3)


Waterfall loop tour on the historic Columbia River Highway [Oregon] [ONLINE] Web only

■ GEOLOGIC MAPS ■

Contact us to see if paper copies are available (see p. 3)

Note: Geologic maps may also be found under other categories, such as Open File Reports, Bulletins, and Information Circulars.

Division of Geology

Preliminary geologic map, State of Washington, compiled from published and unpublished sources, edited by G. W. Stose. 1936. 53 x 35 in. color sheet, scale 1:500,000. [Accompanied by Bulletin 32, which is out of print.] [ONLINE] Out of print

Division of Mines and Geology

Geologic map of Washington, by M. T. Huntingting, W. A. G. Bennett, V. E. Livingston Jr., and W. S. Moen. 1961. One 75 x 50 in. color sheet or two 50 x 40 in. color sheets, scale 1:500,000. [1 SHEET] [SHEET 1 OF 2] [SHEET 2 OF 2] Out of print


GM-1. Preliminary geologic map of the Hobart and Maple Valley [7.5-minute] quadrangles, King County, Washington, by J. D. Vine. 1962. 43 x 36 in. color sheet, scale 1:24,000. [ONLINE] In print

GM-2. Preliminary geologic map of the Cumberland [7.5-minute] quadrangle, King County, Washington, by H. D. Gower and A. A. Wanek. 1963. 30 x 41 in. color sheet, scale 1:24,000. [ONLINE] In print


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<th>GEOLOGIC MAPS</th>
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<td>Contact us to see if paper copies are available (see p. 3)</td>
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| GM-16. Relative ground settlement hazards of Thurston County, Washington, by E. R. Artim. 1976. 31 x 19 in. color sheet, scale 1:125,000. [ONLINE] | In print |
| GM-20. Preliminary surficial geologic map of the Mukilteo and Everett [7.5-minute] quadrangles, Snohomish County, Washington, by Mackey Smith. 1976. 35 x 24 in. sheet, scale 1:24,000. [ONLINE] | In print |


GM-63. Geologic map of the Fox Island 7.5-minute quadrangle, Pierce County, Washington, by R. L. Logan, T. J. Walsh, and K. G. Troost. 2006. 33 x 36 in. color sheet, scale 1:24,000. [ONLINE]

GM-64. Geologic map of the Freemont and northern part of the Hansville 7.5-minute quadrangles, Island County, Washington, by Michael Polenz, H. W. Schasse, and B. B. Petersen. 2006. 46 x 36 in. color sheet, scale 1:24,000. [ONLINE]


GM-67. Geologic map of the Fall City 7.5-minute quadrangle, King County, Washington, by J. D. Dragovich, M. L. Anderson, T. J. Walsh, B. L. Johnson, and T. L. Adams. 2007. 42 x 36 in. color sheet, scale 1:24,000, with 16 p. text. [ONLINE]


GM-69 Geologic map of the Langley and western part of the Tulalip 7.5-minute quadrangles, Island County, Washington, by H. W. Schasse, M. L. Kalk, B. B. Petersen, and Michael Polenz. 2009. 47 x 36 in. color sheet, scale 1:24,000. [ONLINE]

GM-70 Geologic map of the Juniper Beach 7.5-minute quadrangle, Island County, Washington, by H. W. Schasse, M. L. Kalk, and Michael Polenz. 2009. 39 x 36 in. color sheet, scale 1:24,000. [ONLINE]


GM-72 Geologic map of the Maytown 7.5-minute quadrangle, Thurston County, Washington, by R. L. Logan, T. J. Walsh, B. W. Stanton, and I. Y. Sarikhan. 2009. 38 x 36 in. color sheet, scale 1:24,000. [ONLINE]

GM-73 Geologic map of the North Bend 7.5-minute quadrangle, King County, Washington, with a discussion of major faults, folds, and basins in the map area, by J. D. Dragovich, T. J. Walsh, M. L. Anderson, Renate Hartog, S. A. DuFrane, Jeff Vervoot, S. A. Williams, Recep Cakir, K. D. Stanton, F. E. Wolff, and D. K. Norman. 2009. 38 x 36 in. color sheet, scale 1:24,000, with 39 p. text. [ONLINE]

GM-74 Geologic map of the Meeks Table and western two-thirds of the Nile 7.5-minute quadrangles, Yakima County, Washington, by P. E. Hammond. 2009. 36 x 38 in. color sheet, scale 1:24,000, with 12 p. text. [ONLINE]

GM-75 Geologic map of the Snoqualmie 7.5-minute quadrangle, King County, Washington, by J. D. Dragovich, H. A. Littke, M. L. Anderson, Renate Hartog, G. R. Wessel, S. A. DuFrane, T. J. Walsh, J. H. MacDonald Jr., J. F. Mangano, and Recep Cakir. 2009. Two 42 x 36 in. color sheets, scale 1:24,000. [ONLINE]

GM-76 Geologic map of the Cliffs dell and western two-thirds of the Manastash Lake 7.5-minute quadrangles, Yakima and Kittitas Counties, Washington, by P. E. Hammond. 2010. 36 x 48 in. color sheet, scale 1:24,000, with 11 p. text. [ONLINE]

Note: STATEMAP 7.5-minute quadrangles from 2012 through the present have been published under the new Map Series.
Division of Geology

Division of Mines and Mining
5. Directory of Washington metallic mining properties, by the Division of Mines and Mining. 1940. 72 p. [ONLINE] Out of print

Division of Mines and Geology
22R. Introduction to Washington geology and resources, revised by C. D. Campbell. 44 p., 5 figs. [Revised 1962.] In print
### INFORMATION CIRCULARS

Contact us to see if paper copies are available (see p. 3)

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#### Division of Geology and Earth Resources

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<td>50.</td>
<td>Energy resources of Washington, by Washington Division of Geology and Earth Resources staff; and others. 1974. 158 p. [ONLINE]</td>
<td>Out of print</td>
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<td>54.</td>
<td>A geologic road log over Chinook, White Pass, and Ellensburg to Yakima highways, by N. P. Campbell. 1975. 82 p., figs. [ONLINE]</td>
<td>In print</td>
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<td>58.</td>
<td>Engineering geologic studies, by Washington Division of Geology and Earth Resources staff; and others. 1976. 40 p. [ONLINE]</td>
<td>Out of print</td>
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<td>61.</td>
<td>Annotated guide to sources of information on the geology, minerals, and ground-water resources of the Puget Sound region, Washington, King County section, by W. H. Reichert, with supplemental references by D. D. Dethier. 1978. 63 p., 8 figs. [ONLINE]</td>
<td>In print</td>
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76. Mount St. Helens—Annotated index to video archives, by R. L. Logan and C. J. Manson. 1983. 51 p. [Note: the videos were ¼-inch broadcast tapes. The collection was sent to the Smithsonian for preservation.] [ONLINE]


78. A guide for the preliminary evaluation of rock for road surfacing, by V. E. Livingston Jr. 1984. 8 p., 7 photos, 3 tables. [ONLINE]


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86. Geologic guidebook for Washington and adjacent areas, edited by N. L. Joseph and others. 1989. 369 p. [loose-leaf only] [ONLINE]


88. Roadside geology of Mount St. Helens National Volcanic Monument and vicinity, by P. T. Pringle. 1993. 132 p., 70 figs. [Revised 2002.] [WHOLE BOOK] [PART 1] [PART 2]


91. Reconnaissance investigation of sand, gravel, and quarried bedrock resources in the Bellingham 1:100,000 quadrangle, Washington, by J. S. Loen, W. S. Lingley Jr., Garth Anderson, and T. J. Lapen. 2001. 45 p., 4 figs., 4 tables, 1 pl., scale 1:100,000. [ONLINE]

92. Reconnaissance investigation of sand, gravel, and quarried bedrock resources in the Yakima 1:100,000 quadrangle, Washington, by K. D. Weberling, A. B. Dunn, and J. E. Powell. 2001. 34 p., 2 figs., 5 tables, 1 pl., scale 1:100,000. [ONLINE]

93. Reconnaissance investigation of sand, gravel, and quarried bedrock resources in the Toppenish 1:100,000 quadrangle, Washington, by A. B. Dunn. 2001. 23 p., 3 figs., 5 tables, 1 pl., scale 1:100,000. [ONLINE]


95. Reconnaissance investigation of sand, gravel, and quarried bedrock resources in the Mount St. Helens 1:100,000 quadrangle, Washington, by D. K. Norman, A. B. Dunn, and C. M. Kenner. 2001. 52 p., 2 figs., 4 tables, 1 pl., scale 1:100,000. [ONLINE]

96. Reconnaissance investigation of sand, gravel, and quarried bedrock resources in the Snoqualmie Pass 1:100,000 quadrangle, Washington, by W. S. Lingley Jr., D. A. Knoblauch, and C. K. B. Nightingale. 2002. 63 p., 4 figs., 4 tables, 1 pl., scale 1:100,000. [ONLINE]

97. Reconnaissance investigation of sand, gravel, and quarried bedrock resources in the Shelton 1:100,000 quadrangle, Washington, by A. B. Dunn, Gordon Adams, W. S. Lingley Jr., J. S. Loen, and A. L. Pittelkau. 2002. 54 p., 1 fig., 5 tables, 1 pl., scale 1:100,000. [ONLINE]


118. Geomorphic mapping of the Chehalis River floodplain, Cosmopolis to Pe Ell, Grays Harbor, Thurston, and Lewis Counties, Washington by S. L. Slaughter and I. J. Hubert. 2014. 61 p. [ONLINE]

119. Rock aggregate resource inventory map of Pierce County, Washington by D. W. Eungard and J. L. Czajkowski. 2015. 23 p., 1 pl., scale 1:100,000. [ONLINE]

120. Rock aggregate resource inventory map of Lewis County, Washington by D. W. Eungard. 2015. 25 p., 1 pl., scale 1:100,000. [ONLINE]
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<td>2012-01</td>
<td>Geologic map of the Lake Joy 7.5-minute quadrangle, King County, Washington, by J. D. Dragovich, M. L. Anderson, S. A. Mahan, J. H. MacDonald, Jr., C. P. McCabe, Recep Cakir, B. A. Stoker, N. M. Villeneuve, D. T. Smith, and J. P. Bethel. Two color plates, 45 x 36 in. and 36 x 48.5 in., scale 1:24,000, with 79 p. text and 1 Microsoft Excel file.</td>
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<td>Geologic map of the Center 7.5-minute quadrangle, Jefferson County, Washington, by M. P. Polenz, H.O. Gordon, J. J. Hubert, T. A. Contreras, A. I. Patton, Gabriel Legorreta Paulin, and Recep Cakir. 2014. 42 x 36 in. color plate, scale 1:24,000, with 35 p. text.</td>
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<td>2014-03</td>
<td>Geologic map of the Quilcene 7.5-minute quadrangle, Jefferson County, Washington, by T. A. Contreras, A. I. Patton, Gabriel Legorreta Paulin, I. J. Hubert, Recep Cakir, and R. J. Carson. 2014. 42 x 36 in. color plate, scale 1:24,000, with 27 p. text.</td>
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<td>2015-02</td>
<td>Geologic map of the Port Ludlow and southern half of the Hansville 7.5-minute quadrangles, Kitsap and Jefferson Counties, Washington, by Michael Polenz, J. G. Favia, I. J. Hubert, Gabriel Legorreta Paulin, and Recep Cakir. 2015. 42 x 36 in. color plate, scale 1:24,000, with 40 p. text.</td>
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<td>Geologic map of the Tacoma 1:100,000-scale quadrangle, Washington, by J. E. Schuster, A. A. Cabibbo, J. F. Schilter, and I. J. Hubert. 2015. 42 x 36 in. color plate, scale 1:100,000, with 31 p. text.</td>
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<td>Tsunami hazard maps of the San Juan Islands, Washington—Model results from a Cascadia subduction zone earthquake scenario, by T. J. Walsh, Edison Gica, Diego Arcas, V. V. Titov, and D. W. Eungard. 2016. Four 36 x 36 in. map sheets, scale 1:24,000 and 1:48,000, with 9 p. text.</td>
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<td>2017-03</td>
<td>Geologic map of the Rimrock Lake, Tieton Basin, and western two-thirds of the Weddle Canyon 7.5-minute quadrangles, Yakima County, Washington, by P. E. Hammond. 2017. 48 x 36 in. color plate, scale 1:24,000, with 19 p. text.</td>
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25-0. Geology and resources of the Pasco and Prosser quadrangles, by Solon Shedd. 1925. 125 p., 1 pl. [PART 1] [PART 2] [PART 3]

### Division of Mines and Geology


69-0. Compilation of geologic mapping in Washington through 1968—A continuation of Leona Boardman’s index to geologic mapping in Washington; also, Geologic maps from theses on Washington geology, by W. H. Reichert. 1969. 43 p., 11 maps, scale 1:1,000,000.


69-2. Analyses of stream sediment samples in Washington for copper, molybdenum, lead, and zinc, by W. S. Moen. 1969. 91 p. (including 15 tables), 39 pl., scale 1:125,000. [PART 1] [PART 2] [PART 3] [PART 4] [PART 5] [PART 6] [PART 7] [PART 8] [PART 9]


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73-1. Preliminary report on the geology of southern Snohomish County, by Gerald Capps, J. D. Simmons, and F. D. Videgar. 1973. 12 p., 1 pl. [PART 1] [PART 2] [PART 3] [PART 4] [PART 5] [PART 6] [PART 7]


73-3. Preliminary geologic map of the southern Cascade Range, by P. E. Hammond. 1973. 5 pl., scales 1:24,000, 1:125,000, 1:500,000. [ONLINE]


73-5. East Wenatchee and vicinity geologic hazard maps, by E. R. Artim. 1973. 9 sheets, scale 1:24,000 [nonreproducible]. [PART 1] [PART 2] [PART 3] [PART 4] [PART 5] [PART 6]


74 Flood hazards of part of Chelan County, Washington, by E. R. Artim. 1974. 3 p., 1 pl. [plate missing] [ONLINE]


75-1. Ground water in the Methow Valley, Mazama to Winthrop, by E. R. Artim. 1975. 9 p., 4 pl., scale 1:200. [PART 1] [PART 2]

75-2. Environmental geology of the Parkland–Spanaway area, Washington, by John Battie, Donnella Johnston, and Craig Searls. 1975. 7 sheets, scale 1:24,000. [PART 1] [PART 2]


75-6. Geologic mapping of the Wenatchee area, by R. L. Gresens. 1975. 2 sheets, scale 1:12,000. Also available in hand-colored version. [ORIGINAL] [COLOR 1] [COLOR 2]

75-7. Geologic interpretive map showing areas of unstable slopes, Kitsap County, Washington, by K. L. Othberg. 1975. 5 p., 12 pl., 1 fig., explanation, scale 1:24,000. [PART 1] [PART 2] [PART 3] [PART 4]


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<td>75-12</td>
<td>Earthquake hazards of Clark County [Washington], by Mackey Smith. 1975. 2 p., 1 pl., scale 1:63,360.</td>
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<td>75-13</td>
<td>Preliminary geologic map and cross sections with emphasis on Quaternary volcanic rocks, southern Cascade mountains, Washington, by P. E. Hammond. 1975. 1 sheet, scale ≈1:120,000.</td>
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<td>Selected geologic reports of Washington for the period 1969 through 1976 [bibliography], compiled by W. H. Reichert. 1976. 19 p.</td>
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Note: Superseded by the online bibliography.


Note: Chapter IX available separately as Open File Report 80-4; Table 4.1 available separately as OFR 80-11; Appendix A available separately as OFR 80-7; Appendix B available separately as OFR 80-8; Appendix D only available separately as OFR 80-9.


Superseded by Open File Report 2006-1.


Superseded by Open File Report 94-7.
83-17. Map of coal mine workings in part of King County, Washington, by T. J. Walsh. 1983. 1 pl., scale 1:24,000, 4-p. explanation. [ONLINE]
84-3. Geology and coal resources of central King County, Washington, by T. J. Walsh. 1984. 24 p., 3 pl. [ONLINE]
86-1. Preliminary geologic framework studies showing bathymetry, locations of geophysical track lines and exploratory wells, sea floor geology and deeper geologic structures, magnetic contours, and inferred thickness of Tertiary rocks on the continental shelf and upper continental slope off southwestern Washington between latitudes 46°N. and 48°30′N. and from the Washington coast to 125°20′W, by H. C. Wagner, L. D. Batattian, T. M. Lambert, and J. H. Tomson. 1986. 8 p., 6 pl. [ONLINE]
86-3. Geologic map of the west half of the Toppenish quadrangle, Washington, compiled by T. J. Walsh. 1986. 7 p., 1 pl., scale 1:100,000. [ONLINE]
86-4. Geologic map of the west half of the Yakima quadrangle, Washington, compiled by T. J. Walsh. 1986. 9 p., 1 pl., scale 1:100,000. [ONLINE]
86-10. Geologic map of the south half of the Tacoma quadrangle, Washington, compiled by T. J. Walsh. 1987. 8 p., 1 pl., scale 1:100,000. [ONLINE]


87-12. Bibliography and index of mineral resources of the U.S. Exclusive Economic Zone west of the Washington State coastline, compiled by V. J. Taken. 1987. 151 p., 1 pl., scale 1:2,000,000. [ONLINE]


87-17. Geology of the Twisp River–Chelan divide region, North Cascades, Washington, by R. B. Miller. 1987. 12 p., 12 pl., scales 1:100,000 (pl. 1); 1:24,000 (pl. 2-11); cross sections, pl. 12. [PART 1] [PART 2] [PART 3] [PART 4]


88-5. Structural geology along the northwestern Columbia River basalt margin, Washington, by N. P. Campbell. 1988. 108 p., 8 pl. [PART 1] [PART 2] [PART 3] [PART 4]


90-16. Geologic map of the Nespelem 1:100,000 quadrangle, Washington, compiled by N. L. Joseph. 1990. 47 p., 1 pl., scale 1:100,000. [ONLINE]


91-4. Geologic strip map of the Ninemile Creek–Wilmont Creek–Hunters Creek area, Ferry and Stevens Counties, Washington, by M. T. Smith. 1991. 9 p., 1 pl., scale 1:24,000. [ONLINE]


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| 94-10. | Geologic map of the eastern half of the Toppenish 1:100,000 quadrangle, Washington, compiled by J. E. Schuster. 1994. 1 sheet, scale 1:100,000, with 17 p. text. [ONLINE] |
| 94-12. | Geologic map of the eastern half of the Yakima 1:100,000 quadrangle, Washington, compiled by J. E. Schuster. 1994. 1 sheet, scale 1:100,000, with 22 p. text. [ONLINE] |
| 95-6. | Maps of the surficial geology and depth to bedrock of False Bay, Friday Harbor, Richardson, and Shaw Island 7.5-minute quadrangles, San Juan County, Washington, by D. P. Dethier, D. P. White, and C. M. Brookfield. 1996. 7 p., 2 pl. [ONLINE] |


2002-1. Tsunami inundation map of the Port Angeles, Washington, area, by T. J. Walsh, E. P. Myers III, and A. M. Baptista. 2002. 48 x 36 in. color sheet, scale 1:24,000. [ONLINE]


2003-1. Tsunami inundation map of the Quileute, Washington, area, by T. J. Walsh, E. P. Myers III, and A. M. Baptista. 2003. 44 x 36 in. color sheet, scale 1:24,000. [ONLINE]


2003-4. Geologic map of the Mount Olympus 1:100,000 quadrangle, Washington, by W. J. Gerstel and W. S. Lingley Jr. 2003. 52 x 36 in. color sheet, scale 1:100,000. [ONLINE]

2003-5. Geologic map of the Washington portion of the Cape Flattery 1:100,000 quadrangle, by H. W. Schasse. 2003. 45 x 36 in. color sheet, scale 1:100,000. [ONLINE]

2003-6. Geologic map of the Washington portion of the Port Angeles 1:100,000 quadrangle, by H. W. Schasse. 2003. 45 x 36 in. color sheet, scale 1:100,000. [ONLINE]


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2005-4. Development of design guidelines for structures that serve as tsunami vertical evacuation sites, by Harry Yeh, Ian Robertson, and Jane Preuss. 2005. 34 p. [ONLINE]

2005-5. Supplement to Geologic Map GM-60. Geologic map of the Timberwolf Mountain 7.5-minute quadrangle, Yakima County, Washington, by P. E. Hammond. 2005. Contains description and location of sample sites by map unit, analyses of samples, Ar/Ar age dates, and Ar/Ar age plateau and inverse isochron diagrams in Microsoft Excel and Adobe PDF formats. [ONLINE]


2007-3. Sand point count and geochemical data in the Fall City and Carnation 7.5-minute quadrangles, King County, Washington, by J. D. Dragovich. 2007. 2 Microsoft Excel files with 6 p. text. [ONLINE]

2007-4. Seismic design category maps for residential construction in Washington, by Recep Cakir and T. J. Walsh. 2007. 2 color sheets, 58 x 36 in., scale 1:500,000. [ONLINE]


2008-4. Geochemical sample analyses of Tertiary and pre-Tertiary volcanic rocks in and around the North Bend 7.5-minute quadrangle, King County, Washington, by J. D. Dragovich and T. J. Walsh. 2008. 1 Microsoft Excel file with 6 p. text. [ONLINE]


2009-3 Data supplement to GM-74—Geologic map of the Meeks Table and western two-thirds of the Nile 7.5-minute quadrangles, Yakima County, Washington, by P. E. Hammond. 2009. 1 Microsoft Excel file. [ONLINE]

2009-4 Geochemistry, geochronology, and sand point count data for the Snoqualmie 7.5-minute quadrangle, King County, Washington, by J. D. Dragovich, H. A. Littke, J. H. MacDonald Jr., S. A. DuFrane, M. L. Anderson, G. R. Wessel, Renate Hartog. 2009. 3 Microsoft Excel files with 35 p. text. [ONLINE]

2009-5 Geologic map of the Lake Wooten 7.5-minute quadrangle, Mason County, Washington, by R. E. Derkey, N. J. Hehemann, and Katelin Allldritt. 2009. 35 x 36 in. color sheet, scale 1:24,000. [ONLINE]


2010-4 Geologic map of the Lilliwaup 7.5-minute quadrangle, Mason County, Washington, by T. A. Contreras, Gabriel Legorreta Paulin, J. L. Czajkowski, Michael Polenz, R. L. Logan, R. J. Carson, S. A. Mahan, C. N. Johnson, and R. H. Skov. 2010. 27.5 x 36 in. color sheet, scale 1:24,000, with 13 p. text. [ONLINE]


2013-01 Passive seismic analyses in the Sultan 7.5-Minute quadrangle, King and Snohomish Counties, Washington, by Koichi Hayashi, Recip Cakir, J. D. Dragovich, B. A. Stoker, T. J. Walsh, and H. A. Litke. 2013. 9 p. [ONLINE]


2014-02 Geothermal favorability model of Washington State, by D. E. Boschmann, J. L. Czajkowski, and J. D. Bowman. 2014. 20 p. with 48 x 36 in. color plate, scale 1:900,000. [ONLINE]

2014-03 Tsunami hazard map of Everett, Washington: Model results for magnitude 7.3 and 6.7 Seattle fault earthquakes, by T. J. Walsh, Diego Arcas, V. V. Titov, and C. C. Chamberlin. 2014. 50 x 36 in. color sheet, scale 1:32,000. [ONLINE]

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<td>J. M. Bauer, Recep Cakir, Corina Allen, Kate Mickelson, Trevor Contreras, Robert Hairston-Porter, and Yumei Wang</td>
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<td>W. C. Duckworth, Y. E. Perez, C. B. Amos, E. R. Schermer, and Michael Polenz</td>
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**Note:** STATEMAP 7.5-minute quadrangles from 2012 through the present have been published under the new Map Series.
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1. Olympic Peninsula manganese, by J. W. Melrose. 1940. 50 p. [ONLINE]
2. Washington iron ores, a summary report, by S. L. Glover. 1942. 23 p. [ONLINE]
5. Memorandum report on iron ores of the Cle Elum district, Washington, by Carl Zappfe. 1944. 27 p., 2 pl., 5 figs. [ONLINE]

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1. Abstract of the report [by Solon Shedd] on the geology and resources of the Pasco and Prosser quadrangles, by H. E. Culver. 1926. 7 p., 1 pl., 29 x 22 in., scale 1:125,000. [ONLINE]
2. Oil and gas possibilities of western Whatcom County, by S. L. Glover. 1935. 69 p., 1 pl., 1 fig. [ONLINE]
3. A report on a geologic reconnaissance of the St. Helens mining district, Washington, by Everett Hougland. 1935. 4 p., 1 fig., 1 pl., 18 x 19 in. [ONLINE]
5. Preliminary report on manganiferous deposits of Stevens County, Washington, by W. A. B. Bennett. 1941. 25 p., 2 pl., 1 fig. [ONLINE]
6. Inventory of mineral properties in Snohomish County, Washington, by W. A. Broughton. 1942. 64 p., 1 pl. [ONLINE]
7. Character and tonnages of the Turk manganese deposit, by W. A. G. Bennett. 1943. 22 p., 1 pl., 1 fig. [ONLINE]
8. The Buckhorn iron deposits of Okanogan County, Washington; Results of a magnetic survey, by W. A. Broughton. 1943. 21 p., 1 pl., 4 figs. [ONLINE]
10. The Blewett iron deposit, Chelan County, Washington (with preliminary tonnage estimates), by W. A. Broughton. 1943. 17 p., 1 pl., 2 figs. [ONLINE]
15. Pumice and pumicite occurrences of Washington, by Ward Carithers. 1946. 78 p., 6 pl., 7 figs. [ONLINE]
17. Perlite and other volcanic glass occurrences in Washington, by M. T. Hunning. 1949. 32 p. [ONLINE]
21. Stratigraphy of Eocene rocks in a part of King County, Washington, by J. D. Vine. 1962. 20 p., 3 figs. [ONLINE]


32. **Liquefaction features from a subduction zone earthquake—Preserved examples from the 1964 Alaska earthquake**, by T. J. Walsh, R. A. Combellick, and G. L. Black. 1995. 80 p., 75 figs., 3 tables. [ONLINE]


34. **Digital landslide inventory for the Cowlitz County urban corridor—Kelso to Woodland (Coweeman River to Lewis River), Cowlitz County, Washington**, by K. W. Wegmann. 2003. Consists of a GIS inventory of landslides as ArcView shapefiles, a Microsoft Access database, a Microsoft Excel spreadsheet version of the database, digital photographs of individual landslides, associated metadata, 1:24,000-scale landslide inventory maps for 7.5-minute quadrangles in the inventory area, and 20 p. text. 1 CD-ROM. Superseded by Report of Investigations 35.


41. **Landslide inventory of western King County, by K. A. Mickelson, K. E. Jacobacci, T. A. Contreras, W. N. Gallin, and S. L. Slaughter. 2019. 7 p. text and 1 ESRI geodatabase. [ONLINE]

42. **Landslide inventory of western Whatcom County, by K. A. Mickelson, T. A. Contreras, W. N. Gallin, K. E. Jacobacci, and S. L. Slaughter. 2020. 7 p. text and 1 ESRI geodatabase. [ONLINE]
5. What are the prospects in Washington State?, by F. H. Wurden; and Puget Sound area has several prospective oil and gas basins, by J. Q. Anderson. 1959. 10 p. [ONLINE] Web only


State of Washington—Southwest quadrant, prepared by Division of Geology and Earth Resources staff. 1987. 1 sheet, scale 1:250,000. [Available rolled (R) or folded (F).] [ONLINE] Web only

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Topographic map, State of Washington—Southeast quadrant, prepared by Division of Geology and Earth Resources staff. 1997. 1 sheet, scale 1:250,000. [Available rolled (R) or folded (F).] [ONLINE] Web only
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<td>Introduction to the petroleum geology of the Olympic coast of Washington and adjacent portions of the continental shelf—A road log—Ocean Shores to Kalaloch guidebook, by Washington Division of Geology and Earth Resources staff. 1988. 46 p. [ONLINE]</td>
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<td>Landslide of January 1967 which diverted the North Fork of the Stillaguamish River near Hazel [Snohomish County], by G. W. Thorsen. 1970. 8 p. [ONLINE]</td>
<td>1970</td>
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<td>Origin of Dry Falls [Grant County]</td>
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<td>Preliminary surveys for highway salvage archeology in the State of Washington—A final report</td>
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<td>C. P. Purdy, Jr.</td>
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<td>S. H. Green and M. T. Huntting</td>
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OTHER PUBLICATIONS

Other publications are available online only.

Color Page-Size Geologic Map of Washington
This 8½ x 14 in. map, compiled by J. E. Schuster, includes a brief description of the geologic history of Washington. Scale 1:2,250,000 (or 1 in. ≈ 37 mi). Revised 2021. [ONLINE]

Mining Districts of Washington
A map (circa 1980?) of the named mining districts. This map is not definitive—names have changed over the years. [ONLINE]

Mount St. Helens Slide Sets
Two sets of slides of the eruptions and short descriptions of the scenes are available:
Set 1 contains 20 slides and covers the period from March through June 1980. This slide set was digitally remastered in 2015. [ONLINE]
Set 2 contains 20 slides and covers the period from May 18, 1980, to May 13, 1981. This slide set was digitally remastered in 2015. [ONLINE]
Set 3 contains 16 digitally remastered photographs and slides of the eruption and its aftermath. [ONLINE]

DGer News
DGER News was an electronic-only newsletter about the activities of the Survey. It was published quarterly from 2003 to 2007 and is available in PDF format. [ONLINE]

Washington Geology Journal
Washington Geology was published about four times a year from 1973 to 2002. It is currently on hiatus. All issues are available in PDF format. Articles cover topics of interest to both geologists and the general public. [ONLINE]

GEOLOGY RECREATION AND EDUCATION

Fossil and Mineral Collecting

Geology Resources for Teachers
Selected information about earth science for teachers, including online sources. [ONLINE]

Gold Panning
Information on recreational placer gold mining and mining claims procedures (both state and federal), includes Mining Claims and Sites on Federal Lands, Small Scale Prospecting and Placer Mining in Washington, Boundaries of State-owned Aquatic Lands, Recreational Gold Panning, and the "Gold & Fish" brochure.

REGULATORY INFORMATION

Rules, Regulations and Forms – Surface Mining Reclamation and Oil and Gas Conservation Acts and accompanying rules, regulations, fees, and forms. [ONLINE]

SCENARIO EARTHQUAKES FOR WASHINGTON STATE
Emergency management experts have created a series of reports on seismic zones at risk of a major earthquake in Washington State. These reports discuss the most likely size and type of earthquake and the amount and location of damage expected. The most up-to-date version of these data can be found in our Geologic Hazard Maps page on our website. Reports are available for the following:
- Boulder Creek in Whatcom County (M6.8)
- Canyon River–Saddle Mountain in Mason County (M7.4)
- Cascadia (M9.0)
- Cascadia North (M8.3)
- Chelan (M7.2)
- Cle Elum (M6.8)
- Darrington–Devils Mountain (M7.1)
- Darrington–Devils Mountain West (M7.4)
- Hite in Walla Walla County (M6.8)
- Lake Creek–Boundary Creek in Clallam County (M6.8)
- Mill Creek in Yakima County (M7.1)
- Nisqually (M7.2)
- Olympia (M5.7)
- Saddle Mountain in south-central Washington (M7.4)
- SeaTac (M7.2)
- Seattle (M7.2)
- Latah in Spokane County (M5.5)
- Mount St. Helens (M7.0)
- southern Whidbey Island (M7.4)
- Tacoma (M7.1)

TOPOGRAPHIC INDEXES FOR WASHINGTON STATE
We have scanned our collection of U.S. Geological Survey topographic quadrangle indexes and catalogs for Washington State. Some quadrangle names have changed over the years. These indexes provide a historical record of the evolution of topographic mapping in Washington State. [1996] [1987] [1983] [1982] [1980] [1976] [1974] [1973] [1965] [1960] [1959] [1958] [1957] [1956] [1953] [1953] [1953] [1941] [1933] [1914] [1903]

Washington State Historic Topographic Maps—Inventory held by the Washington Geology Library. This is a list of topographic maps by the USGS and Army Map Service at scales of 1:24,000, 1:25,000, 1:62,500, and 1:125,000. The maps themselves are not online, but the inventory will tell you what we have on hand before you make the trip to Olympia. [ONLINE]

You may be able to find scans of historic topographic maps at the USGS Historical Topographic Map Collection at http://nationalmap.gov/historical/.

For more information on the topographic mapping of Washington State, see the article in Washington Geology [v. 20, no. 1, p. 41].

HISTORICAL FIELD NOTEBOOK COLLECTION
We have scanned our collection of field notebooks dating back to the first years of the Survey in 1899. This digitized collection includes field notebooks, maps, theses, and other publications that are out-of-print and some that may never have been published. These notebooks document geologic insights and records of mineral resources across Washington State. [ONLINE]