Publications of the Washington Geological Survey

June 2019
**Washington State Geology News**

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]

**Washington Geologic Information Portal**

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]

**Catalog of the Washington Geology Library**

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]

**1:24,000-scale (7.5-minute) Geologic Maps of Washington State**

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.

Contact Us

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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. [ONLINE]

Washington Geological Survey
Annual Report for 1901; Volume I. 1902. 344 p. [PARTS I-II]
The chapters are also available separately:
Part II. The metalliferous resources of Washington, except iron, by Henry Landes, W. S. Thyng, 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]

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]
Biennial report of Division of Geology—April 1, 1934, to December 31, 1936, by J. B. Fink. 1937. 68 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]
Fourth biennial report of the Division of Mines and Mining, January 1, 1937, to December 31, 1938, by J. B. Fink. 1939. 115 p. [ONLINE]
Biennial report of the Department of Conservation and Development—October 1, 1938—September 30, 1939, by T. B. Hill. 1939. 17 p. [ONLINE]
Biennial report of the Department of Conservation and Development—October 1, 1939—September 30, 1940, by T. B. Hill. 1940. 150 p. [ONLINE]
Biennial report of the Department of Conservation and Development—October 1, 1940—September 30, 1942, by Ed Davis. 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.
ANNUAL REPORTS

Annual Reports are available online only.

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] Out of print

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

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] Out of print


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] Out of print


Department of Natural Resources
Division of Geology and Earth Resources


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. 344 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]
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 Covada 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. 155 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:
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]


Superseded by the online bibliography.


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]


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 Waunaconda mining districts of northeastern Okanogan County, Washington, by W. S. Moen. 1980. 96 p., 6 pl., 36 figs. [ONLINE]
Digital Data Series are available online only.

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. 2001. Lib. use only
   Superseded by the online bibliography.

2. Digital geologic maps of the 1:100,000 quadrangles of Washington, by Washington Division of Geology and Earth Resources staff. 2001 and 2003. Lib. use only
   Superseded by the Geologic Information Portal.


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

In print

Web only

Web only

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

Geologic Maps are available online only.

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. Huntingt, 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

Geologic cross section to accompany the 1961 Geologic Map of Washington, by V. E. Livingston, Jr. 1961. 1 sheet, scale 1:500,000. [ONLINE]
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

In print

In print


Division of Geology and Earth Resources


GM-14. Preliminary surficial geologic map of the Edmonds East and Edmonds West [7.5-minute] quadrangles, Snohomish and King Counties, Washington, by Mackey Smith. 1975. 31 x 24 in. sheet, scale 1:24,000. [ONLINE]


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]


GM-44. Liquefaction susceptibility for the Sumner 7.5-minute quadrangles, Washington, by J. D. Dragovich and P. T. Pringle, with a section on liquefaction by S. P. Palmer. 1995. 24 x 26 in. color sheet, scale 1:24,000, with 26 p. text. [ONLINE]


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 Freeland 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-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. DuFran, 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. DuFran, 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 Cliffdell 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
3. State publications in geology, issued by the First State Geologist, 1890-1892, the Washington Geological Survey, 1901-1902, the Division of Geology, 1921— , compiled by S. L. Glover. 1937. 5 p. [ONLINE]

Division of Mines and Mining
1. Directory of Washington mines 1938, compiled by the Division of Mines and Mining. 1938. 15 p. [ONLINE]
2. Directory of Washington mines, 1939, compiled by the Division of Mines and Mining. 1939. 21 p. [ONLINE]
3. January, 1940, supplement to directory of Washington mines, 1939, compiled by the Division of Mines and Mining. 1940. 3 p. [ONLINE]
4. Preliminary report on strategic metals in Washington, by the Division of Mines and Mining. 1940. 7 p. [ONLINE]
5. Directory of Washington metallic mining properties, by the Division of Mines and Mining. 1940. 72 p. [ONLINE]
6. Summary of information on iron ore deposits of Washington, by the Division of Mines and Mining. 1940. 11 p. [ONLINE]
7. Directory of Washington metallic mining properties, by Division of Mines and Mining. 1941. 74 p. [ONLINE]
9. 1944 directory of Washington mining operations, by S. H. Green. 1944. 36 p. [ONLINE]

Division of Mines and Geology
12. 1946 directory of Washington mining operations, by S. H. Green. 1946. 57 p. [ONLINE]
17. 1948 directory of Washington mining operations, by S. H. Green. 1948. 51 p. [ONLINE]
20. 1951 directory of Washington mining operations, by R. H. Stebbins. 1951. 75 p., 2 figs. [ONLINE]
22. 1953 directory of Washington mining operations, by C. P. Purdy Jr. 1953. 81 p., 2 figs. [ONLINE]
23. Introduction to Washington geology and resources, by C. D. Campbell. 1953. 42 p., 5 figs. [ONLINE]
27. Uranium in Washington (an extract from Bulletin 37, Part II), by M. T. Huntting. 1957. 10 p., 1 pl. [ONLINE]
31. Archeology in Washington, by Bruce Stallard. 1958. 64 p., 1 pl., 34 figs. [ONLINE]
38. 1962 directory of Washington mining operations, by G. W. Thorsen. 1963. 81 p., 2 figs. [ONLINE]
38. A geologic trip along Snoqualmie, Swauk, and Stevens Pass highways, by University of Washington Geology Department staff, revised by V. E. Livingston Jr. 1963. 51 p. [ONLINE]


42. 1964 directory of Washington mining operations, by W. S. Moen and G. W. Thorsen. 1965. 86 p., 3 figs. [ONLINE]


Division of Geology and Earth Resources

50. Energy resources of Washington, by Washington Division of Geology and Earth Resources staff; and others. 1974. 158 p. [ONLINE]


54. A geologic road log over Chinook, White Pass, and Ellensburg to Yakima highways, by N. P. Campbell. 1975. 82 p., figs. [ONLINE]


58. Engineering geologic studies, by Washington Division of Geology and Earth Resources staff; and others. 1976. 40 p. [ONLINE]


61. 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]


Superseded by Information Circular 75.


Superseded by Information Circular 75.


Superseded by the online bibliography.


<table>
<thead>
<tr>
<th>Number</th>
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<tr>
<td>76.</td>
<td>Mount St. Helens—Annotated index to video archives, by R. L. Logan and C. J. Manson. 1983. 51 p. [Note: the videos were ¾-inch broadcast tapes. The collection was sent to the Smithsonian for preservation.]</td>
<td>ONLINE</td>
<td>[ONLINE]</td>
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<td>78.</td>
<td>A guide for the preliminary evaluation of rock for road surfacing, by V. E. Livingston Jr. 1984. 8 p., 7 photos, 3 tables.</td>
<td>ONLINE</td>
<td>[ONLINE]</td>
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<tr>
<td>81.</td>
<td>The Puget Lowland earthquakes of 1949 and 1965—Reproductions of selected articles describing damage, compiled by G. W. Thorsen. 1986. 113 p.</td>
<td>ONLINE</td>
<td>[ONLINE]</td>
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<td>92.</td>
<td>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 fgs., 5 tables, 1 pl., scale 1:100,000.</td>
<td>ONLINE</td>
<td>[ONLINE]</td>
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<tr>
<td>93.</td>
<td>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 fgs., 5 tables, 1 pl., scale 1:100,000.</td>
<td>ONLINE</td>
<td>[ONLINE]</td>
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<tr>
<td>95.</td>
<td>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 fgs., 4 tables, 1 pl., scale 1:100,000.</td>
<td>ONLINE</td>
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<td>97.</td>
<td>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.</td>
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</table>


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>2013-03</td>
<td>Geologic map of the Lofall 7.5-minute quadrangle, Jefferson and Kitsap Counties, Washington, by T. A. Contreras, K. A. Stone, and Gabriel Legorreta Paulín. 2013. 40 x 36 in. color plate, scale 1:24,000, with 19 p. text. [ONLINE]</td>
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<td>2014-02</td>
<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 Paulín, and Recep Cakir. 2014. 42 x 36 in. color plate, scale 1:24,000, with 35 p. text. [ONLINE]</td>
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<td>Geologic map of the Quilcene 7.5-minute quadrangle, Jefferson County, Washington, by T. A. Contreras, A. I. Patton, Gabriel Legorreta Paulín, I. J. Hubert, Recep Cakir, and R. J. Carson. 2014. 42 x 36 in. color plate, scale 1:24,000, with 27 p. text. [ONLINE]</td>
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<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 Paulín, and Recep Cakir. 2015. 42 x 36 in. color plate, scale 1:24,000, with 40 p. text. [ONLINE]</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. [ONLINE]</td>
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<td>2016-01</td>
<td>Tsunami hazard maps of the San Juan Islands, Washington—Model results from a Cascadia subduction zone earthquake scenario, by T. J. Walsh, Edson 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. [ONLINE]</td>
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### Washington Geological Survey

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<td>Geologic map of the Rimrock Lake, Tieton Basin, and western two-thirds of the Weddell 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. [ONLINE]</td>
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### MAP SERIES

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| 2018-01 | Tsunami hazard maps of southwest Washington—  
Model results from a ~2,500-year Cascadia subduction zone earthquake scenario, by D. W. Eungard, Corina Forson, T. J. Walsh, Edison Gica, and Diego Arcas. 2018. Six 36 x 42 in. map sheets, scale 1:48,000, with 11 p. text. [Revised 2018] | [ONLINE]                                                                                     | Web only                                      |            |                   |
| 2018-02 | Tsunami hazard maps of the Anacortes–Bellingham area, Washington—  
Model results from a ~2,500-year Cascadia subduction zone earthquake scenario, by D. W. Eungard, Corina Forson, T. J. Walsh, Edison Gica, and Diego Arcas. 2018. Six 36 x 36 in. map sheets, scale 1:30,000, with 10 p. text. | [ONLINE]                                                                                     | Web only                                      |            |                   |
| 2018-03 | Tsunami hazard maps of Port Angeles and Port Townsend, Washington—  
Model results from a ~2,500-year Cascadia subduction zone earthquake scenario, by D. W. Eungard, Corina Forson, T. J. Walsh, F. I. Gonzalez, R. J. LeVeque, and L. M. Adams. 2018. Six 36 x 36 in. map sheets, scales 1:11,000 and 1:16,000, with 11 p. text. | [ONLINE]                                                                                     | [ONLINE]                                       |            |                   |
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Division of Geology

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]


Division of Geology and Earth Resources
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]


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]


77-3. Whatcom County, Washington, coal reserves, by E. R. Vonheeder. 1977. 3 sheets, scale 1:130,000. [ONLINE]

77-4. Lewis County, Washington, coal resources, by E. R. Vonheeder. 1977. 7 sheets, scale 1:130,000. [ONLINE]

77-5. Cowlitz County, Washington, coal resources, by E. R. Vonheeder. 1977. 2 sheets, scale 1:130,000. [ONLINE]


77-7. Geology, relative slope stability, and flood hazards of the Selah area, Yakima County, Washington, by N. P. Campbell. 1977. 3 sheets, scale 1:24,000. [ONLINE]

77-8. Geology, relative slope stability, and flood hazards of the Snipes Mountain area, Yakima County, Washington, by N. P. Campbell. 1977. 3 sheets, scale 1:24,000. [ONLINE]

77-9. Geologic map of the City of Tacoma, Pierce County, Washington, by Mackey Smith. 1977. 1 sheet, scale 1:24,000. [ONLINE]


78-1. Kittitas County, Washington, coal reserves, by E. R. Vonheeder. 1978. 6 sheets including 3 maps, scale 1:130,000. [ONLINE]


78-5. Skagit County, Washington, coal reserves, by E. R. Vonheeder. 1978. 3 sheets, scale 1:130,000. [ONLINE]


79-2. An assessment of the uranium potential in the Ellensburg Formation, south-central Washington, by P. C. Milne. 1979. 32 p., 4 pl., scale 1:250,000. [PART 1] [PART 2] [PART 3] [PHOTOS]


79-4. Pierce County, Washington, coal reserves, by E. R. Vonheeder. 1979. 5 sheets, scale 1:130,000, including 6 tables. [ONLINE]


80-12. Ash from the May 18, 1980, eruption of Mount St. Helens—maps showing bulk density, depth of uncompacted ash [2 sheets], time of first ashfall, kilograms of ash per square meter, and depth of rain-compacted ash, by M. M. Folsom and R. R. Quinn. 1980. 6 sheets, scales 1:100,000 and 1:200,000 [ONLINE]

81-1. Detailed fault maps—Hoquiam, Vancouver, Yakima, and The Dalles [1 x 2°] quadrangles, by G. B. McLucas. 1981. 5 sheets including explanation, scale 1:250,000. [PART 1] [PART 2]


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.


82-3. Table of chemical analyses for thermal and mineral spring and well waters collected in 1980 and 1981, by M. A. Korosec. 1982. 5 p. [ONLINE]


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. Batatian, T. M. Lambert, J. H. Tomson. 1986. 8 p., 6 pl. [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]

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<td>Geologic map of the Clarkston 1:100,000 quadrangle, Washington–Idaho, and the Washington portion of the Orofino 1:100,000 quadrangle, compiled by J. E. Schuster. 1993. 43 p., 1 pl., scale 1:100,000. [ONLINE]</td>
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<td>Geologic map of the Naches Ranger District, Wenatchee National Forest, Kittitas and Yakima Counties, Washington, by N. P. Campbell and Daryl Gusey. 1992. 12 p., 2 pl. [TEXT] [PLATE 1] [PLATE 2]</td>
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<td>94-5.</td>
<td>Tsunamis on the Pacific coast of Washington State and adjacent areas—An annotated bibliography and directory, compiled by C. J. Manson. 1994. 18 p.</td>
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<td>Geologic map of the east half of the Toppenish 1:100,000 quadrangle, Washington, compiled by J. E. Schuster. 1994. 1 sheet, scale 1:100,000, with 15 p. text. [ONLINE]</td>
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<td>96-1.</td>
<td>Preliminary bibliography and index of the geology and mineral resources of Washington, 1996, compiled by C. J. Manson. 1997. 135 p. Supersedes the online bibliography.</td>
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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]


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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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<td>2005-4</td>
<td>Development of design guidelines for structures that serve as tsunami vertical evacuation sites</td>
<td>By Harry Yeh, Ian Robertson, and Jane Preuss. 2005. 34 p. [ONLINE]</td>
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<td>2005-5</td>
<td>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, $^{40}$Ar/$^{39}$Ar age dates, and $^{40}$Ar/$^{39}$Ar age plateau and inverse isochron diagrams in Microsoft Excel and Adobe PDF formats. [ONLINE]</td>
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<td>2006-2</td>
<td>The Darrington–Devils Mountain fault—A probably active reverse-oblique-slip fault zone in Skagit and Island Counties, Washington, by J. D. Dragovich and B. W. Stanton. 2007. 2 color sheets: 101 x 36 in. (scale 1:31,104) and 26 x 36 in. [ONLINE]</td>
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<td>2006-3</td>
<td>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]</td>
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<td>2006-4</td>
<td>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]</td>
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<td>2006-8</td>
<td>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]</td>
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<td>2007-2</td>
<td>Bibliography and index of geothermal resources and development in Washington State, with selected general works, compiled by R. A. Christie and updated by Lee Walkling. 2009. 90 p. [ONLINE]</td>
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<td>2007-3</td>
<td>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]</td>
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<td>2007-4</td>
<td>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]</td>
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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, T. J. Walsh, C. N. Johnson, and R. H. Skov. 2010. 27.5 x 36 in. color sheet, scale 1:24,000, with 13 p. text. [ONLINE]


2010-6 Supplement to GM-76, Geologic map of the Cliffellin and western two-thirds of the Manastash Lake 7.5-minute quadrangles, Yakima and Kittitas Counties, Washington, by P. E. Hammond. 2010. 1 Microsoft Excel file. [ONLINE]


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


2014-05 Faults and earthquakes in Washington State, by J. L. Czajkowski and J. D. Bowman. 2014. 36 x 45 color sheet, scale 1:750,000. [ONLINE]


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

1. **Olympic Peninsula manganese**, by J. W. Melrose. 1940. 50 p. [ONLINE]
4. **Coal and coal mining in Washington**, by S. H. Green. 1943. 41 p., 3 figs. [ONLINE]
5. **Memorandum report on iron ores of the Cle Elum district**, Washington, by Carl Zappfe. 1944. 27 p., 2 pl., 5 figs. [ONLINE]

### Division of Geology

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]
6. **Inventory of mineral properties in Snohomish County, Washington**, by W. A. Broughton. 1942. 64 p., 1 pl. [Accompanied by Index to mineral properties of Snohomish County. 1942. 8 p., tables.] [ONLINE]
7. **Character and tonnage of the Turk magnesite 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]

### Division of Mines and Geology

15. **Pumice and pumicocite occurrences of Washington**, by Ward Carithers. 1946. 78 p., 6 pl., 7 figs. [ONLINE]
21. **Stratigraphy of Eocene rocks in a part of King County, Washington**, by J. D. Vine. 1962. 20 p., 3 figs. [ONLINE]

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<td>Mima Mounds—An evaluation of proposed origins with special reference to the Puget Lowland, by A. L. Washburn</td>
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<td>Geology of the Upper Proterozoic to Lower Cambrian Three Sisters Formation, Gypsy Quartzite, and Addy Quartzite, Stevens and Pend Oreille Counties, northeastern Washington, by K. A. Lindsey, D. R. Gaylord, and L. H. Groffman</td>
<td>1990</td>
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<td>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</td>
<td>1995</td>
<td>80</td>
<td>75 figs, 3 tables</td>
<td>In print</td>
<td>ONLINE</td>
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<td>33</td>
<td>Late Pleistocene stratigraphy in the south-central Puget Lowland, Pierce County, Washington, by R. K. Borden and K. G. Troost</td>
<td>2001</td>
<td>33</td>
<td>29 figs., 3 tables</td>
<td>In print</td>
<td>ONLINE</td>
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<td>34</td>
<td>Digital landslide inventory for the Cowlitz County urban corridor—Kelso to Woodland (Coweeman River to Lewis River), Cowlitz County, Washington, by K. W. Wegmann</td>
<td>2003</td>
<td>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</td>
<td>1 CD-ROM</td>
<td>Online only</td>
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<td>35</td>
<td>Digital landslide inventory for the Cowlitz County urban corridor, Washington, by K. W. Wegmann</td>
<td>2006</td>
<td>Consists of a GIS inventory of landslides as ESRI shapefiles with associated metadata, digital photographs of individual landslides, 1:24,000-scale landslide inventory maps for 7.5-minute quadrangles in the inventory area, and a 24 p. text</td>
<td>1 CD-ROM</td>
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<td>36</td>
<td>Earthquake-induced landslide and liquefaction susceptibility and initiation potential maps for tsunami inundation zones in Aberdeen, Hoquiam, and Cosmopolis, Grays Harbor County, Washington, for a M9+ Cascadia subduction zone event, by S. L. Slaughter, T. J. Walsh, Anton Ypma, K. M. D. Stanton, Recep Cakir, and T. A. Contreras</td>
<td>2013</td>
<td>Two color sheets: 36 x 43 in. and 36 x 28 in., scale 1:18,000, plus 39 p. text</td>
<td>ONLINE</td>
<td>In print</td>
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<tr>
<td>37</td>
<td>Landslide and liquefaction maps for the Long Beach Peninsula, Pacific County, Washington—Effects on tsunami inundation zones of a Cascadia subduction zone earthquake, by S. L. Slaughter, T. J. Walsh, Anton Ypma, K. M. D. Stanton, Recep Cakir, and T. A. Contreras</td>
<td>2013</td>
<td>Three color sheets: 44.5 x 36 in., scale 1:18,000, plus 27 p. text</td>
<td>ONLINE</td>
<td>In print</td>
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<td>38</td>
<td>Landslide and liquefaction maps for the Ocean Shores and Westport peninsulas, Grays Harbor County, Washington—Effects on tsunami inundation zones of a Cascadia subduction zone earthquake, by S. L. Slaughter, T. J. Walsh, Anton Ypma, and Recep Cakir</td>
<td>2014</td>
<td>Three color sheets: 39 x 36 in., scale 1:18,000, plus 26 p. text</td>
<td>ONLINE</td>
<td>In print</td>
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**Washington Geological Survey**

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<th>Report Number</th>
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<td>39</td>
<td>Landslide inventory, susceptibility, and exposure analysis of Pierce County, Washington, by K. A. Mickelson, K. E. Jacobacci, T. A. Contreras, A. Biel, and S. L. Slaughter</td>
<td>2017</td>
<td>26</td>
<td>2 ESRI geodatabases, and 1 Microsoft Excel file</td>
<td>ONLINE</td>
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<td>41</td>
<td>Landslide inventory of western King County, by K. A. Mickelson, K. E. Jacobacci, T. A. Contreras, W. N. Gallin, and S. L. Slaughter</td>
<td>2019</td>
<td>7</td>
<td>1 ESRI geodatabase</td>
<td>ONLINE</td>
<td>Web only</td>
</tr>
</tbody>
</table>

**REPRINTS**

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


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]


**RESOURCE MAPS**

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


**TOPOGRAPHIC MAPS**

*Topographic Maps are available online only.*

TM-1. 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]

TM-2. State of Washington—Northeast quadrant, prepared by Division of Geology and Earth Resources staff. 1991. 1 sheet, scale 1:250,000. [Available rolled (R) or folded (F).] [ONLINE]

TM-3. 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]


Shallow seismic site characterizations at 25 ANSS/PNSN stations and compilation of site-specific data for the entire strongmotion network in Washington and Oregon, by Recep Cakir and T. J. Walsh. 2012. 61 p. [ONLINE]

Shallow seismic site characterizations at 23 strong-motion station sites in and near Washington State, by Recep Cakir and T. J. Walsh. 2011. 101 p. [ONLINE]

Shallow-seismic site characterizations of near-surface geology at 20 strongmotion stations in Washington State, by Recep Cakir and T. J. Walsh. 2010. 39 p. [ONLINE]


Thunder Creek basin, Skagit County—Report of DNR Study Team, by Jerry Thorsen. 1989. 33 p. [ONLINE]


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]


Notes on division history, by J. E. Schuster. 1986. 9 p. [ONLINE]


A pre-1980 eruption description of Mount St. Helens, by the Washington Division of Geology and Earth Resources. 1980. 10 p. [ONLINE]

Bibliography of Snohomish County geology, with an index to geologic mapping, by S. J. Simpson. 1979. 81 p., 6 pl. [ONLINE]


Geothermal energy—Questions and answers, by J. E. Schuster. 1972. 4 p. [ONLINE]

Holden tailings [Holden mine, Chelan County], by G. W. Thorsen. 1970. 20 p. [ONLINE]

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]


Ghost town references, by the State of Washington Board of Natural Resources. 1968? 3 p. [ONLINE]

 Mineral resources in the Puget Sound area, by the U.S. Bureau of Mines; Washington Division of Mines and Geology; Washington Department of Natural Resources. 1968. 150 p. [ONLINE]


Mine resource programs—Present and future, by M. T. Huntting. 1964. 3 p. [ONLINE]

Origin of Dry Falls [Grant County], by V. E. Livingston, Jr. 1964. 4 p. [ONLINE]

Tumtum Mountain [Clark County]—A potential source of feldspar, by W. A. G. Bennett. 1964. 5 p. [ONLINE]

Annotated bibliography of Washington clays, by W. H. Reichert. 1963. 19 p. [ONLINE]

Dolomite and andalusite deposits of northern Stevens County, by W. S. Moen and W. A. G. Bennett. 1963. 4 sheets, scale 1:62,500. [ONLINE]


Preliminary report on mineral resources of the Cougar Lake limited area [Yakima County], by W. S. Moen. 1962. 9 p. [ONLINE]


Preliminary surveys for highway salvage archeology in the State of Washington—A final report, by Bruce Stallard. 1958. 23 p. [ONLINE]

Mining in Washington, by C. P. Purdy, Jr. 1953. 3 p. [ONLINE]

Steilacoom gravel, by S. H. Green and M. T. Huntting. 1948. 9 p. [ONLINE]


Preliminary report on the mines and prospects of the upper Methow region, Okanogan and Whatcom Counties, by Ward Carithers. 1946. 40 p. [ONLINE]


Superceded by Bulletin 41.

Oil and gas studies by the Division of Geology, by S. L. Glover. 1936. 8 p. [ONLINE]

Report of natural resources survey from October 1, 1933, to March 1, 1935, by T. B. Hill. 1935. 30 p. [ONLINE]

Colloidal fuel, by M. C. Butler. 1934. 9 p. [ONLINE]

Mining in the Pacific Northwest, by L. K. Hodges. 1897. 183 p. [ONLINE]

■ MISCELLANEOUS REPORTS ■

Miscellaneous Reports are available online only.
The following geologic maps have been processed and converted into 3D models. The listed publisher, series, author, and year are for the original publication.

- Airway Heights
  WGS Open File Report 2004-1—Derkey and others, 2004

- Auburn
  USGS GQ 406—Mullineaux and others, 1961

- Belfair
  WGS Open File Report 2009-7—Polenz and others, 2009

- Black Diamond
  USGS GQ 407—Mullineaux and others, 1965

- Brinnon
  WGS Map Series 2012-02—Polenz and others, 2012

- Buckley
  USGS PP 388A—Crandell and others, 1959

- Burley
  WGS Open File Report 2009-8—Polenz and others, 2009

- Camano
  WGS Geologic Map 68—Polenz and others, 2009

- Carnation
  WGS Open File Report 2010-02—Dragovich and others, 2010

- Center
  WGS Map Series 2014-02—Hanson and others, 1976

- Chattaroy
  WGS Geologic Map 55—Hamilton and others, 2005

- Cliffdell and Manastash Lake
  WGS Geologic Map 76—Hammond and others, 2010

- College Place and Walla Walla
  WGS Geologic Map 62—Derkey and others, 2006

- Coupeville
  WGS Geologic Map 58—Polenz and others, 2005

- Crescent Harbor
  WGS Geologic Map 59—Dragovich and others, 2005

- Darrington
  WGS Open File Report 2002-7—Dragovich and others, 2002

- Deer Island
  WGS Geologic Map 54—Evarts and others, 2002

- East Olympia
  WGS Geologic Map 56—Walsh and others, 2005

- Eldon
  WGS Map Series 2012-03—Contreras and others, 2012

- Elwha and Angeles Point
  WGS Open File Report 2004-14—Polenz and others, 2004

- Fall City
  WGS Geologic Map 67—Dragovich and others, 2007

- Fortson
  WGS Open File Report 2002-6—Dragovich and others, 2002

- Four Lakes
  WGS Open File Report 2004-2—Hamilton and others, 2004

- Four Mound Prairie
  WGS Geologic Map 66—Derkey and others, 2007

- Fox Island
  WGS Geologic Map 63—Logan and others, 2006

- Freeland and Hansville
  WGS Geologic Map 64—Polenz and others, 2006

- Greenacres

- Holly
  WGS Open File Report 2011-6—Contreras and others, 2012

- Hoodsport
  WGS Open File Report 2011-3—Polenz and others, 2012

- Juniper Beach
  WGS Geologic Map 70—Schasse and others, 2009

- Lacey

- Lake Chaplain
  WGS Map Series 2014-01—Dragovich and others, 2014

- Lake Joy
  WGS Map Series 2012-01—Dragovich and others, 2012

- Lake Wooten
  WGS Open File Report 2009-5—O’Neal and others, 2005

- Langley
  WGS Geologic Map 69—Schasse and others, 2009

- Liberty Lake and Newman Lake
  WGS Open File Report 2004-12—Derkey and others, 2004

- Lilliwaup
  WGS Open File Report 2010-4—O’Neal and others, 2005

- Lofall
  WGS Map Series 2013-03—Contreras and others, 2013

- Longbranch

- Mason Lake
  WGS Open File Report 2009-6—Derkey and others, 2009

- Maytown
  WGS Geologic Map 72—Logan and others, 2009

- McMurray
  WGS Geologic Map 61—Dragovich and others, 2006

- McNeil Island

- Meeks Table and Nile
  WGS Geologic Map 74—Hammond and others, 2009

- Monroe
  WGS Open File Report 2011-1—Capps and others, 1973

- Morse Creek
  WGS Open File Report 2002-8—Schasse and others, 2002

- Mt Higgins

- Nine Mile Falls

- Nisqually

- North Bend
  WGS Geologic Map 73—Dragovich and others, 2009
The following geologic maps have been processed and converted into 3D models. The listed publisher, series, author, and year are for the original publication.

Oak Harbor
WGS Geologic Map 59—Dragovich and others, 2005

Olsen Canyon
WGS Geologic Map 71—Derkey and others, 2009

Orting
USGS PP 388A—Crandell and others, 1959

Port Angeles and Ediz Hook
WGS Open File Report 2004-13—Schasse and others, 2004

Port Townsend South
WGS Geologic Map 57—Schasse and others, 2005

Quilcene
WGS Map Series 2014-03—Hanson and others, 1976

Seabeck and Poulsbo
WGS Map Series 2013-02—Polenz and others, 2013

Shelton

Skokomish Valley and Union
WGS Open File Report 2010-03—Polenz and others, 2011

Snoqualmie
WGS Geologic Map 75—Dragovich and others, 2009

Spokane NW
WGS Open File Report 2004-3—Derkey and others, 2004

Spokane SW
WGS Open File Report 2004-4—Hamilton and others, 2004

Squaxin Island

Stimson Hill

Sultan
WGS Map Series 2013-01—Dragovich and others, 2013

Summit Lake
WGS Open File Report 2004-10—Logan and others, 2004

Timberwolf Mtn
WGS Geologic Map 60—Hammond and others, 2005

Tumwater

Utslady and Conway
WGS Open File Report 2002-5—Dragovich and others, 2002

Vaughn
WGS Geologic Map 65—Logan and others, 2007

Wilkeson
USGS PP 388A—Crandell and others, 1959
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 2013. [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)