Publications of the Washington Geological Survey

October 2021
FEATURED PRODUCTS

**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]

**1:100,000-, 1:250,000-, and 1:500,000-scale 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

Mailing Address
Washington Geological Survey
MS 47007; Olympia, WA 98504-7007
See map for street address
Phone: 360-902-1450; Fax: 360-902-1785
E-mail: geology@dnr.wa.gov (general services)
stephanie.earls@dnr.wa.gov (library services)
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.
**PUBLICATION SERIES DESCRIPTIONS**

**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 8 1/2 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 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. 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]

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]

Eighth biennial report of the Department of Conservation and Development—October 1, 1934, to September 30, 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]

Ninth biennial report of the Department of Conservation and Development—October 1, 1936– September 30, 1938, by J. B. Fink. 1939. 115 p. [ONLINE]

[Second biennial report of the] Division of Mines and Mining, January 1, 1937, to December 31, 1938, by T. B. Hill. 1939. 17 p. [ONLINE]

Tenth biennial report of the Department of Conservation and Development, October 1, 1938—September 30, 1940, by J. B. Fink. 1941. 150 p. [ONLINE]

Third biennial report of the Division of Mines and Mining for the period commencing January 1, 1939 and ending January 1, 1941, by T. B. Hill. 1941. [ONLINE]

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

BULLETINS

Washington Geological Survey

3. The coal fields of King County, by G. W. Evans. 1912. 247 p., 23 pl., 59 figs. [ONLINE] Out of print
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] Out of print
6. Geology and ore deposits of the Blewett mining district, by C. E. Weaver. 1911. 104 p., 10 pl., 1 fig. [ONLINE] Out of print
7. Geology and ore deposits of the Index mining district, by C. E. Weaver. 1911. 96 p., 7 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] Out of print
16. Geology and ore deposits of the Covada mining district, by C. E. Weaver. 1913. 87 p., 5 pl., 3 figs. [ONLINE] Out of print
20. The mineral resources of Stevens County, by C. E. Weaver. 1920. 350 p., 20 pl., 14 figs. [PART 1] [PART 2] Out of print
23. The metal mines of Washington, by E. N. Patty. 1921. 366 p., 36 pl., 27 figs. [PART 1] [PART 2] Out of print
26. Underground water supply of the region about White Bluffs and Hanford, by O. P. Jenkins. 1922. 41 p., 3 pl., 1 fig. [ONLINE] Out of print
| Bulletin Number | Title                                                                 | Publication Year | Pages | Availability
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<tr>
<td>38</td>
<td>The place of steam-electric generating stations in the orderly program of electric power development in the Pacific Northwest, by H. H. Houston.</td>
<td>1950</td>
<td>117</td>
<td>Out of print</td>
</tr>
<tr>
<td>39</td>
<td>Antimony occurrences of Washington, by C. P. Purdy Jr.</td>
<td>1951</td>
<td>186</td>
<td>Out of print</td>
</tr>
<tr>
<td>40</td>
<td>Geology of the Bead Lake district, Pend Oreille County, Washington, by M. C. Schroeder.</td>
<td>1952</td>
<td>57</td>
<td>Out of print</td>
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<tr>
<td>41</td>
<td>An outline of mining laws of the State of Washington [includes 16 p. supplement], compiled and annotated by M. H. Van Nys.</td>
<td>1953</td>
<td>142</td>
<td>Out of print</td>
</tr>
<tr>
<td>42</td>
<td>Gold in Washington, by M. T. Hunting.</td>
<td>1955</td>
<td>158</td>
<td>Web only</td>
</tr>
<tr>
<td>43</td>
<td>Eocene stratigraphy of the lower Cowlitz River–eastern Willapa Hills area, southwestern Washington, by D. A. Henriksen.</td>
<td>1956</td>
<td>122</td>
<td>Out of print</td>
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<tr>
<td>44</td>
<td>Peat resources of Washington, by G. B. Rigg.</td>
<td>1958</td>
<td>272</td>
<td>Out of print</td>
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<tr>
<td>45</td>
<td>Washington’s channeled scabland, by J. H. Bretz.</td>
<td>1959</td>
<td>57</td>
<td>Out of print</td>
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<tr>
<td>49</td>
<td>Saline lake deposits in Washington, by W. A. G. Bennett.</td>
<td>1962</td>
<td>129</td>
<td>In print</td>
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<tr>
<td>50</td>
<td>Geology and mineral deposits of the north half of the Van Zandt quadrangle, Whatcom County, Washington, by W. S. Moen.</td>
<td>1962</td>
<td>129</td>
<td>Out of print</td>
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<tr>
<td>51</td>
<td>Barite in Washington, by W. S. Moen.</td>
<td>1964</td>
<td>112</td>
<td>In print</td>
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<tr>
<td>52</td>
<td>Limestone resources of western Washington, by W. R. Danner.</td>
<td>1966</td>
<td>474</td>
<td>Out of print</td>
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<tr>
<td>54</td>
<td>Geology and mineral resources of the Kelso–Cathlamet area, Cowlitz and Wahkiakum Counties, Washington, by V. E. Livingston Jr.</td>
<td>1966</td>
<td>110</td>
<td>Out of print</td>
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<tr>
<td>55</td>
<td>Building stone of Washington, by W. S. Moen.</td>
<td>1967</td>
<td>85</td>
<td>In print</td>
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<tr>
<td>58</td>
<td>Chemical and physical controls for base metal deposition in the Cascade Range of Washington, by A. R. Grant.</td>
<td>1969</td>
<td>107</td>
<td>Out of print</td>
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**Superseded by the online bibliography.**

| Bulletin Number | Title                                                                 | Publication Year | Pages | Availability
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<tr>
<td>60</td>
<td>Cenozoic volcanism in the Cascade Mountains of southern Washington, by W. S. Wise.</td>
<td>1970</td>
<td>45</td>
<td>Out of print</td>
</tr>
<tr>
<td>62</td>
<td>Foraminifera, stratigraphy, and paleoecology of the Quinault Formation, Point Grenville–Raft River coastal area, Washington, by W. W. Rau.</td>
<td>1970</td>
<td>41</td>
<td>In print</td>
</tr>
<tr>
<td>63</td>
<td>Geology and mineral resources of King County, Washington, by V. E. Livingston Jr.</td>
<td>1971</td>
<td>200</td>
<td>Out of print</td>
</tr>
<tr>
<td>65</td>
<td>Distribution of copper and other metals in gully sediments of part of Okanogan County, Washington, by K. F. Fox Jr., and C. D. Rinehart.</td>
<td>1972</td>
<td>38</td>
<td>In print</td>
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**Division of Geology and Earth Resources**

| Bulletin Number | Title                                                                 | Publication Year | Pages | Availability
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<tr>
<td>66</td>
<td>Geology of the Washington coast between Point Grenville and the Hoh River, by W. W. Rau.</td>
<td>1973</td>
<td>58</td>
<td>In print</td>
</tr>
<tr>
<td>68</td>
<td>Geology of the Methow Valley, Okanogan County, Washington, by J. D. Barksdale.</td>
<td>1975</td>
<td>72</td>
<td>Out of print</td>
</tr>
<tr>
<td>69</td>
<td>Silver occurrences of Washington, by W. S. Moen.</td>
<td>1976</td>
<td>188</td>
<td>Out of print</td>
</tr>
<tr>
<td>70</td>
<td>Zinc and lead ore deposits in carbonate rocks, Stevens County, Washington, by J. W. Mills.</td>
<td>1977</td>
<td>171</td>
<td>In print</td>
</tr>
<tr>
<td>72</td>
<td>Washington coastal geology between the Hoh and Quillayute Rivers, by W. W. Rau.</td>
<td>1980</td>
<td>57</td>
<td>In print</td>
</tr>
<tr>
<td>73</td>
<td>Myers Creek and Wauconda mining districts of northeastern Okanogan County, Washington, by W. S. Moen.</td>
<td>1980</td>
<td>96</td>
<td>Out of print</td>
</tr>
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</table>
77. Selected papers on the geology of Washington, edited by J. E. Schuster. 1987. 406 p. [PART 1] [PART 2] [PART 3] [PART 4] [PART 5] [PART 6] [PART 7] [PART 8] [PART 9] [PART 10]
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 1 PART 5] [VOL 2 PART 1] [VOL 2 PART 2] [VOL 2 PART 3] [VOL 2 PART 4]
80. Regional Geology of Washington State, Raymond Lasmanis and E. S. Cheney, convenors. 1994. 227 p., 136 figs., 18 tables. [PART 1, PART 2]

Digital Data Series 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 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

What are landslides and how do they occur? 2015. 2 p. [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. Hunting, 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. [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


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]  
GEOLOGIC MAPS

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


GM-61. Geologic map of the McMurray 7.5-minute quadrangle, Skagit and Snohomish Counties, Washington, with a discussion of the evidence for Holocene activity through the present have been published under the new Map Series. 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-65. Geologic map of the Vaughn 7.5-minute quadrangle, Pierce and Mason Counties, Washington, by R. L. Logan and T. J. Walsh. 2007. 42 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. 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. 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.
INFORMATION CIRCULARS

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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]
12. 1946 directory of Washington mining operations, by S. H. Green. 1946. 57 p. [ONLINE]
20. 1952 directory of Washington mining operations, by C. P. Purdy Jr. 1952. 75 p., 2 figs. [ONLINE]
22. Introduction to Washington geology and resources, by C. D. Campbell. 1953. 42 p., 5 figs. [ONLINE]
22R. Introduction to Washington geology and resources, revised by C. D. Campbell. 44 p., 5 figs. [Revised 1962.] In print
25. 1956 directory of Washington mining operations, by H. D. Banta. 1956. 88 p., 2 fig. [ONLINE]
27. 1957 directory of Washington mining operations, by V. E. Livingston Jr. 1957. 96 p., 2 figs. [ONLINE]
30. Archeology in Washington, by Bruce Stallard. 1958. 64 p., 1 pl., 34 figs. [ONLINE]
34. 1959 directory of Washington mining operations, by G. W. Thorsen. 1960. 78 p., 2 figs. [ONLINE]
37. 1962 directory of Washington mining operations, by G. W. Thorsen. 1963. 81 p., 2 figs. [ONLINE]


42. Landslides in Seattle, by D. W. Tubbs. 1974. 15 p., 1 pl., 9 figs. [ONLINE]


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]


70. Theses on Washington geology—A comprehensive bibliography, 1901–1979, compiled by C. J. Manson. 1980. 212 p., 2 pl. [Superseded by the online bibliography]


73. Index to geologic and geophysical mapping of Washington, compiled by C. J. Manson. 1981. 63 p., 10 pl. [Superseded by Information Circular 75].


76. 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.] [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]


81. The Puget Lowland earthquakes of 1949 and 1965—Reproductions of selected articles describing damage, compiled by G. W. Thorsen. 1986. 113 p. [ONLINE]


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 Mt. 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. Knoblach, 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]


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] Web only
120. Rock aggregate resource inventory map of Lewis County, Washington by D. W. Eungard. 2015. 25 p., 1 pl., scale 1:100,000. [ONLINE] Web only


2014-02 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. [ONLINE]

2014-03 Geologic map of the Quilcene 7.5-minute quadrangle, Jefferson County, by T. A. Contreras, A. I. Patton, Gabriel Legorreta Paulin, T. A. Contreras, and R. J. Carson. 2014. 42 x 36 in. color plate, scale 1:24,000, with 27 p. text. [ONLINE]


2015-02 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. [ONLINE]

2015-03 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]

2016-01 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. Partially superseded by Map Series 2021-01. Four 36 x 36 in. map sheets, scale 1:24,000 and 1:48,000, with 9 p. text. [ONLINE]


Washington Geological Survey


2017-03 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. [ONLINE]


Most open-file reports are preliminary and have not been edited or reviewed for conformity with our standards and geologic nomenclature. Those reports marked “Lib. use only” may be inspected in the Division library in Olympia. Those marked “Web only” may be downloaded from the Division website. Where possible, larger files (20MB+) 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.

**Division of Geology**

**21-0.** Geological investigation of the proposed Grand Coulee Reservoir, by O. P. Jenkins and H. H. Cooper. 1921. 21 p., 1 pl., scale 1:63,360 [plate nonreproducible]. [ONLINE]

**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]
76-12. Earthquake hazards of Clark County [Washington], by Mackey Smith. 1975. 2 p., 1 pl., scale 1:63,360. [ONLINE]  
76-13. 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. [ONLINE]  

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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]


80-1. Geology and energy resources of the Roslyn–Cle Elum area, Kittitas County, Washington, by C. W. Walker. 1980. 59 p., 26 pl. [PART 1] [PART 2] [PART 3] [PART 4] [PART 5] [PART 6] [PART 7]

80-2. Preliminary fault map of Washington, by G. B. McLucas. 1980. 5 p., 2 pl., map scales 1:1,000,000 and 1:500,000. [ONLINE]


Note: Also released as Open File Report 81-3, Chapter IX. Superseded by Open File Report 2009-2.


Note: Reprinted from Geological Society of America Special Paper 184.


Note: Overlays to the 1962 USGS topographic map of Washington.

Note: Also released as OFR 81-3, Appendix A.


Note: Also released as Open File Report 81-3, Appendix B.


Note: Also cited as Open File Report 81-3, Appendix D. Report is not available with OFR 81-3; only available separately.


Note: Overlays to U.S. Forest Service maps.


Note: Also released as Open File Report 81-3, Table 4.1.

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]

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<td><strong>81-7.</strong> The low temperature geothermal resources of the Yakima region—A preliminary report, by J. H. Biggane. 1981. 70 p., 1 pl. [ONLINE]</td>
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<tr>
<td><strong>81-2.</strong> The low temperature geothermal resources of eastern Washington, by M. A. Korosec, W. M. Phillips, and J. E. Schuster. 1982. 20 p. (including appendix), 2 figs., 1 table. [ONLINE]</td>
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<td><strong>82-3.</strong> 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]</td>
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<td><strong>82-4.</strong> Directory of Washington mining operations, 1980–1984. 3 p. [ONLINE]</td>
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<td><strong>83-9.</strong> Geology and coal potential of the Taneum–Manastash region, Kittitas County, Washington, by D. G. Lewellen, C. W. Walker, and C. D. Cushman. 1985. 79 p., 2 pl. [TEXT] [PLATE 1] [PLATE 2]</td>
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<td><strong>83-10.</strong> Targeting geothermal exploration sites in the Mount St. Helens area using soil mercury surveys, by Jenny Holmes and Kathleen Waugh. 1983. 13 p., 3 appendices, 2 pl. [ONLINE]</td>
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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]


86-3. 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]


86-9. Geologic map of the south half of the Tacoma quadrangle, Washington, compiled by T. J. Walsh. 1987. 10 p., 1 pl., scale 1:100,000. [ONLINE]


87-2. Geologic map of the Astoria and Ilwaco quadrangles, Washington and Oregon, compiled by T. J. Walsh. 1987. 28 p., 1 pl., scale 1:100,000. [ONLINE]

87-3. Geologic map of the south half of the Tacoma quadrangle, Washington, compiled by T. J. Walsh. 1987. 10 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]


90-1. Geologic map of the Moses Lake 1:100,000 quadrangle, Washington, compiled by C. W. Gulick. 1990. 9 p., 1 pl., scale 1:100,000. [ONLINE]

90-2. Geologic map of the Ritzville 1:100,000 quadrangle, Washington, compiled by C. W. Gulick. 1990. 7 p., 1 pl., scale 1:100,000. [ONLINE]


90-9. Geologic map of the east half of the Twisp 1:100,000 quadrangle, Washington, compiled by B. B. Bunning. 1990. 52 p., 1 pl., scale 1:100,000. [ONLINE]


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]  


94-10. 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]


94-12. Geologic map of the east 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]


95-1. Landslide map and inventory, Tilton River–Mineral Creek area, Lewis County, Washington, by J. D. Dragovich and M. J. Brunengo. 1995. 165 p., 3 pl., scale 1:36,600. [TEXT] [PLATES]


95-3. Geologic map of the west half of the Twisp 1:100,000 quadrangle, Washington, compiled by J. D. Dragovich and D. K. Norman. 1995. 63 p., 1 pl. [ONLINE]


96-5. Geologic map of the Pomeroy area, southeastern Washington, compiled by P. R. Hooper and B. A. Gillespie. 1996. 26 p., 1 pl., scale 1:38,520. [ONLINE]


96-7. 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, $^{40}$Ar/$^{39}$Ar age dates, and $^{40}$Ar/$^{39}$Ar age plateau and inverse isochron diagrams in Microsoft Excel and Adobe PDF formats. [ONLINE]


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]


2009-2 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]

Supersedes Open File Report 94-1.

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. DuFranc, 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 Alldritt. 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, 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]


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]


2013-04 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]

Earthquake regional impact analysis for Columbia County, Oregon and Clark County, Washington, by J. M. Bauer, Recep Cakir, Corina Allen, Kate Mickelson, Trevor Contreras, Robert Hairston-Porter, and Yumei Wang. 2020. 93 p. text, 14 plates, 3 Esri file geodatabases. [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]
2. Washington iron ores, a summary report, by S. L. Glover. 1942. 23 p. [ONLINE]
4R. Coal and coal mining in Washington, by S. H. Green. 1947. 41 p., 3 figs. [Revision of RI 4.] [ONLINE]
5. Memorandum report on iron ores of the Cle Elum district, Washington, by Carl Zappfe. 1944. 27 p., 2 pl., 1 fig. [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]
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- **Brinnon**  
  WGS Map Series 2012-02—Polenz and others, 2012

- **Buckley**  
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- **Burley**  
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- **Camano**  
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- **Carnation**  
  WGS Open File Report 2010-02—Dragovich and others, 2010

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

- **College Place and Walla Walla**  
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- **Coupeville**  
  WGS Geologic Map 58—Polenz and others, 2005

- **Crescent Harbor**  
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- **Darrington**  
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  WGS Open File Report 2004-14—Polenz and others, 2004

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- Port Townsend South
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- Shelton

- Skokomish Valley and Union
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- Tumwater

- Utslady and Conway
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- Vaughn
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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] [1955] [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