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# Publications of the Washington Geological Survey

March 2024



WASHINGTON STATE DEPT OF  
**NATURAL  
RESOURCES**  
WASHINGTON  
GEOLOGICAL SURVEY

## ■ TABLE OF CONTENTS ■

How To Obtain Publications .....	3
Contact Us.....	3
Publication Series Descriptions .....	4
Annual Reports .....	5
Bulletins .....	7
Digital Data Series.....	9
Digital Reports.....	11
Fact Sheets .....	11
Field Trip Guides .....	11
Geologic Maps .....	11
Information Circulars .....	15
Map Series .....	19
Open File Reports.....	22
Reports Of Investigations.....	37
Reprints .....	39
Resource Maps.....	39
Topographic Maps .....	39
Miscellaneous Reports.....	40
Other Publications .....	42

## ■ 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 30- by 60-minute topographic quadrangles in Washington State from all sources, as well as quadrant and whole state maps. Attached text lists quads alphabetically and by author, with links to online publications. [[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](mailto:stephanie.earls@dnr.wa.gov) for current availability.

## ■ CONTACT US ■

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URL: [www.dnr.wa.gov/geology](http://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 pamphlets. 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. [\[ONLINE\]](#) Out of print

Mines and minerals of Washington—Second annual report of George A. Bethune, State Geologist, by G. A. Bethune. 1892. 186 p. [\[ONLINE\]](#) Out of print

### 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. [\[ONLINE\]](#) Out of print

### Washington Geological Survey

Annual Report for 1901; Volume I. 1902. 344 p. [\[PARTS I-II\]](#) [\[PARTS III-VI\]](#) Out of print

*The chapters are also available separately:*

Part I. Creation of a state geological survey, and, An outline of the geology of Washington, by Henry Landes. 1902. 35 p., 5 pl. [\[ONLINE\]](#) Out of print

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. [\[ONLINE\]](#) Out of print

Part III. The non-metalliferous resources of Washington, except coal, by Henry Landes. 1902. 55 p., 11 pl. [\[ONLINE\]](#) Out of print

Part IV. The iron ores of Washington, by Solon Shedd, and, The coal deposits of Washington, by Henry Landes. 1902. 67 p., 13 pl. [\[ONLINE\]](#) Out of print

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. [\[ONLINE\]](#) Out of print

Part VI. Bibliography of the literature referring to the geology of Washington, by Ralph Arnold. 1902. 16 p. [\[ONLINE\]](#) Out of print

Annual report for 1902; Volume II. 1903. 277 p., 23 pl. (Contains: Part I. The building and ornamental stones of Washington, by Solon Shedd [\[ONLINE\]](#); Part II. Coal deposits of Washington, by Henry Landes and C. A. Ruddy [\[ONLINE\]](#)) Out of print

The biennial report of the Board of Geological Survey of the State of Washington for the term 1901-1903. 1903. 7 p. [\[ONLINE\]](#) Out of print

The biennial report of the Board of Geological Survey of the State of Washington for the term 1909-11. 1910. 24 p. 1 pl. [\[ONLINE\]](#) Out of print

The biennial report of the Board of Geological Survey of the State of Washington for the term 1911-13. 1913. 24 p. 3 pl. [\[ONLINE\]](#) Out of print

The biennial report of the Board of Geological Survey of the State of Washington for the term 1913-1915. 1915. 31 p. 3 pl. [\[ONLINE\]](#) Out of print

The biennial report of the Board of Geological Survey of the State of Washington for the term 1915-1917. 1917. 29 p. 3 pl. [\[ONLINE\]](#) Out of print

The biennial report of the Board of Geological Survey of the State of Washington for the term 1917-1919. 1919. 26 p. 3 pl. [\[ONLINE\]](#) Out of print

The biennial report of the Board of Geological Survey of the State of Washington for the term 1919-1921. 1921. 29 p. [\[ONLINE\]](#) Out of print

### 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. [\[ONLINE\]](#) Out of print

Report of the Supervisor of Geology, Department of Conservation and Development, from October 1, 1922, to September 30, 1924, by Solon Shedd. 1924. 12 p. 1 pl. [\[ONLINE\]](#) Out of print

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. [\[ONLINE\]](#) Out of print

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. [\[ONLINE\]](#) Out of print

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. [\[ONLINE\]](#) Out of print

Biennial report of Division of Geology—April 1, 1933, to November 30, 1934, by H. E. Culver. 1935. 14 p. [\[ONLINE\]](#) Out of print

Eighth biennial report of the Department of Conservation and Development—October 1, 1934, to September 30, 1936, by J. B. Fink. 1937. 68 p. [\[ONLINE\]](#) Out of print

First biennial report of the Division of Mines and Mining, June 1, 1935, to December 31, 1936, by T. B. Hill. 1937. 6 p. [\[ONLINE\]](#) Out of print

Summary report of major activities, Division of Geology, for the biennium 1935-37, by H. E. Culver. 1936. 7 p. [\[ONLINE\]](#) Out of print

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

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

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

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. [\[ONLINE\]](#) Out of print

Eleventh biennial report of the Department of Conservation and Development—October 1, 1940—September 30, 1942, by Ed Davis. 1943. 54 p. [\[ONLINE\]](#) Out of print

\* 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. [ <a href="#">ONLINE</a> ]	Out of print	Biennial report no. 8 of the Division of Mines and Geology [for the period commencing July 1, 1958 and ending June 30, 1960], by M. T. Huntting. 1960. 26 p. [ <a href="#">ONLINE</a> ]	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. [ <a href="#">ONLINE</a> ]	Out of print	Biennial report no. 9 [of the] Division of Mines and Geology for the period commencing July 1, 1960 and ending June 30, 1962, by M. T. Huntting. 1962? 19 p. [ <a href="#">ONLINE</a> ]	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. [ <a href="#">ONLINE</a> ]	Out of print	Biennial report no. 10 [of the] Division of Mines and Geology [for the period commencing July 1, 1962 and ending June 30, 1964], by M. T. Huntting. 1964? 18 p. [ <a href="#">ONLINE</a> ]	Out of print
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. [ <a href="#">ONLINE</a> ]	Out of print	Biennial report no. 11 [of the] Division of Mines and Geology [for the period commencing July 1, 1964 and ending June 30, 1966], by M. T. Huntting. 1966? 17 p. [ <a href="#">ONLINE</a> ]	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. [ <a href="#">ONLINE</a> ]	Out of print	[Biennial report no. 12 of the] Mines and Geology Division [1966-1968], by M. E. Felt. 1968? 5 p. [ <a href="#">ONLINE</a> ]	Out of print
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. [ <a href="#">ONLINE</a> ]	Out of print	<b>Department of Natural Resources</b> <b>Division of Geology and Earth Resources</b>	
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. [ <a href="#">ONLINE</a> ]	Out of print	Geology for the decade 1980-1990, by Raymond Lasmanis. 1983. 67 p. [ <a href="#">ONLINE</a> ]	Out of print
Biennial report no. 5 of the Division of Mines and Geology for the period commencing July 1, 1952 and ending June 30, 1954; Including a special report: One hundred years of mining, by S. L. Glover. 1954? 20 p. [ <a href="#">ONLINE</a> ]	Out of print	The Washington Division of Geology and Earth Resources—Geology in the public interest. 2003. 4 p. [ <a href="#">ONLINE</a> ]	Out of print
Biennial report no. 6 of the Division of Mines and Geology for the period commencing July 1, 1954 and ending June 30, 1956, by S. L. Glover. 1956? 12 p. [ <a href="#">ONLINE</a> ]	Out of print	The Washington Division of Geology and Earth Resources—Geology in the public interest. 2005. 4 p. [ <a href="#">ONLINE</a> ]	Out of print
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. [ <a href="#">ONLINE</a> ]	Out of print	The Washington Division of Geology and Earth Resources—Geology in the public interest [short version]. 2005. 2 p. [ <a href="#">ONLINE</a> ]	Out of print
		The Washington Division of Geology and Earth Resources—Geology in the public interest. 2009. 4 p. [ <a href="#">ONLINE</a> ]	Out of print

## ■ BULLETINS ■

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

### Washington Geological Survey

- |     |   |              |     |   |              |
|-----|---|--------------|-----|---|--------------|
| 1.  | Geology and ore deposits of Republic mining district, by J. B. Umpleby. 1910. 66 p., 13 pl., 5 figs. <a href="#">[ONLINE]</a>   | Out of print |     |   |              |
| 2.  | The road materials of Washington, by Henry Landes. 1911. 204 p., 17 pl., 51 figs. <a href="#">[ONLINE]</a>  | Out of print |     |   |              |
| 3.  | The coal fields of King County, by G. W. Evans. 1912. 247 p., 23 pl., 59 figs. <a href="#">[ONLINE]</a>   | Out of print |     |   |              |
| 4.  | Cement materials and industry in Washington, by Solon Shedd. 1913. 268 p., 21 pl., 10 figs. <a href="#">[PART 1]</a> <a href="#">[PART 2]</a>   | 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. <a href="#">[ONLINE]</a> | Out of print |     |   |              |
| 6.  | Geology and ore deposits of the Blewett mining district, by C. E. Weaver. 1911. 104 p., 10 pl., 1 fig. <a href="#">[ONLINE]</a>   | Out of print |     |   |              |
| 7.  | Geology and ore deposits of the Index mining district, by C. E. Weaver. 1912. 96 p., 7 pl. <a href="#">[ONLINE]</a>   | Out of print |     |   |              |
| 8.  | Glaciation of the Puget Sound region, by J. H. Bretz. 1913. 244 p., 24 pl., 27 figs. <a href="#">[ONLINE]</a>   | Out of print |     |   |              |
| 9.  | The coal fields of Kittitas County, by E. J. Saunders. 1914. 204 p., 38 pl., 52 figs. <a href="#">[ONLINE]</a>  | Out of print |     |   |              |
| 10. | The coal fields of Pierce County, by Joseph Daniels. 1914. 146 p., 30 pl., 23 figs. <a href="#">[ONLINE]</a>  | Out of print |     |   |              |
| 11. | The mineral resources of Washington, with statistics for 1912, by Henry Landes. 1914. 53 p., 1 pl. <a href="#">[ONLINE]</a>   | Out of print |     |   |              |
| 12. | Bibliography of Washington geology and geography, by Gretchen O'Donnell. 1913. 63 p.<br><i>Superseded by the <a href="#">online bibliography</a>.</i>   | Out of print |     |   |              |
| 13. | The Tertiary formations of western Washington, by C. E. Weaver. 1916. 327 p., 30 figs., 3 pl. <a href="#">[PART 1]</a> <a href="#">[PART 2]</a>   | Out of print |     |   |              |
| 14. | A preliminary report on the Quincy Valley Irrigation Project, by Henry Landes, A. W. Mangum, H. K. Benson, E. J. Saunders, and Joseph Jacobs. 1912. 49 p., 7 pl. <a href="#">[ONLINE]</a>                                 | Out of print |     |   |              |
| 15. | A preliminary report on the Tertiary paleontology of western Washington, by C. E. Weaver. 1912. 80 p., 16 pl. <a href="#">[ONLINE]</a>  | Out of print |     |   |              |
| 16. | Geology and ore deposits of the Covada mining district, by C. E. Weaver. 1913. 87 p., 5 pl., 3 figs. <a href="#">[ONLINE]</a>   | Out of print |     |   |              |
| 17. | A geographic dictionary of Washington, by Henry Landes. 1917. 346 p., 10 pl. <a href="#">[PART 1]</a> <a href="#">[PART 2]</a>  | Out of print |     |   |              |
| 18. | The country about Camp Lewis, by M. M. Leighton. 1918. 105 p., 12 pl., 6 figs. <a href="#">[ONLINE]</a>   | Out of print |     |   |              |
| 19. | The coal fields of southwestern Washington, by H. E. Culver. 1919. 155 p., 24 pl., 12 figs. <a href="#">[ONLINE]</a>  | Out of print |     |   |              |
| 20. | The mineral resources of Stevens County, by C. E. Weaver. 1920. 350 p., 20 pl., 14 figs. <a href="#">[PART 1]</a> <a href="#">[PART 2]</a>  | Out of print |     |   |              |
|     |   |              | 21. | The mineral resources of Washington, with statistics for 1919, by E. N. Patty and S. L. Glover. 1921. 155 p., 13 pl., 3 figs. <a href="#">[ONLINE]</a>  | Out of print |
|     |   |              | 22. | The road building sands and gravels of Washington, by M. M. Leighton. 1919. 307 p., 9 pl., 36 figs. <a href="#">[ONLINE]</a>  | Out of print |
|     |   |              | 23. | The metal mines of Washington, by E. N. Patty. 1921. 366 p., 36 pl., 27 figs. <a href="#">[PART 1]</a> <a href="#">[PART 2]</a>   | Out of print |
|     |   |              |     | <b>Division of Geology</b>  |              |
|     |   |              | 24. | Clays and shales of Washington, by S. L. Glover. 1941. 368 p., 14 pl., 6 figs. <a href="#">[PART 1]</a> <a href="#">[PART 2]</a>  | Out of print |
|     |   |              | 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. <a href="#">[ONLINE]</a>  | 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. <a href="#">[ONLINE]</a>  | Out of print |
|     |   |              | 27. | Iron ores, fuels, and fluxes of Washington, by Solon Shedd, O. P. Jenkins, and H. H. Cooper. 1922. 160 p., 1 pl., 11 figs. <a href="#">[ONLINE]</a>   | Out of print |
|     |   |              | 28. | Geological investigation of the coal fields of western Whatcom County, Washington, by O. P. Jenkins. 1923. 135 p., 4 pl., 2 figs. <a href="#">[ONLINE]</a>  | Out of print |
|     |   |              | 29. | Geological investigation of the coal fields of Skagit County, Washington, by O. P. Jenkins. 1924. 63 p., 7 pl., 5 figs. <a href="#">[ONLINE]</a>  | Out of print |
|     |   |              | 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. <a href="#">[ONLINE]</a>  | Out of print |
|     |   |              | 31. | Lead deposits of Pend Oreille and Stevens Counties, Washington, by O. P. Jenkins. 1924. 153 p., 3 pl., 15 figs. <a href="#">[ONLINE]</a>  | Out of print |
|     |   |              | 32. | Geology of Washington, by H. E. Culver. (Part I: General features of Washington geology; to accompany the preliminary geologic map, 1936). 1936. 70 p. <a href="#">[ONLINE]</a>   | Out of print |
|     |   |              | 33. | Nonmetallic mineral resources of Washington, with statistics for 1933, by S. L. Glover. 1936. 135 p. <a href="#">[ONLINE]</a>   | Out of print |
|     |   |              | 34. | Tungsten resources of Washington, by H. E. Culver and W. A. Broughton. 1945. 89 p., 23 pl., 9 figs. <a href="#">[ONLINE]</a>  | Out of print |
|     |   |              | 35. | Bibliography and index of geology and mineral resources of Washington, 1814–1936, by W. A. G. Bennett. 1939. 140 p.<br><i>Superseded by the <a href="#">online bibliography</a>.</i>  | Out of print |
|     |   |              |     | <b>Division of Mines and Geology</b>  |              |
|     |   |              | 36. | Geology and ore deposits of the Sultan Basin, Snohomish County, Washington, by Ward Carithers and A. K. Guard. 1945. 90 p., 3 pl., 18 figs. <a href="#">[ONLINE]</a>  | Out of print |
|     |   |              | 37. | Inventory of Washington minerals:<br><br>Part I. (2nd ed.) Nonmetallic minerals, by G. M. Valentine, revised by M. T. Huntting. 1960. 2 v. (v. 1, 175 p. text; v. 2, maps, 39 pl.). <a href="#">[TEXT]</a> <a href="#">[MAPS]</a>                 | In print     |
|     |   |              |     | Part II. Metallic minerals, by M. T. Huntting. 1956. 2 v. (v. 1, 428 p. text; v. 2, maps, 67 p. text, 27 pl.). <a href="#">[PART 1]</a> , <a href="#">[PART 2]</a> , <a href="#">[PART 3]</a> , <a href="#">[PART 4]</a> , <a href="#">[MAPS]</a> | Out of print |

■ BULLETINS ■

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| 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. [ <a href="#">ONLINE</a> ]       | Out of print | 57.  | Mines and mineral deposits of Whatcom County, Washington, by W. S. Moen. 1969. 134 p., 14 pl., 44 figs. [ <a href="#">PART 1</a> ] [ <a href="#">PART 2</a> ]   | Out of print |
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| 41. | An outline of mining laws of the State of Washington [includes 16 p. supplement], compiled and annotated by M. H. Van Nuys. 1953. 142 p. [ <a href="#">ONLINE</a> ]   | Out of print | 60.  | Cenozoic volcanism in the Cascade Mountains of southern Washington, by W. S. Wise. 1970. 45 p., 1 pl., 14 figs. [ <a href="#">ONLINE</a> ]  | Out of print |
| 42. | Gold in Washington, by M. T. Huntting. 1955. 158 p., 2 figs. [ <a href="#">ONLINE</a> ]   | Web only     | 61.  | Lead-zinc deposits in the Kootenay arc, northeastern Washington and adjacent British Columbia, edited by A. E. Weissenborn, F. C. Armstrong, and J. T. Fyles. 1970. 123 p. [ <a href="#">ONLINE</a> ]   | In print     |
| 43. | Eocene stratigraphy of the lower Cowlitz River–eastern Willapa Hills area, southwestern Washington, by D. A. Henriksen. 1956. 122 p. [ <a href="#">ONLINE</a> ]   | In print     | 62.  | Foraminifera, stratigraphy, and paleoecology of the Quinault Formation, Point Grenville–Raft River coastal area, Washington, by W. W. Rau. 1970. 41 p. [ <a href="#">ONLINE</a> ]   | In print     |
| 44. | Peat resources of Washington, by G. B. Rigg. 1958. 272 p., 1 pl., 263 figs. [ <a href="#">PART 1</a> ] [ <a href="#">PART 2</a> ] [ <a href="#">PART 3</a> ]  | Out of print | 63.  | Geology and mineral resources of King County, Washington, by V. E. Livingston Jr. 1971. 200 p., 6 pl., 103 figs. [ <a href="#">PART 1</a> , <a href="#">PART 2</a> ]  | Out of print |
| 45. | Washington’s channeled scabland, by J. H. Bretz. 1959. 57 p., 4 pl., 36 figs. [ <a href="#">ONLINE</a> ]  | Out of print | 64.  | Geology and mineral deposits of the Loomis [15-minute] quadrangle, Okanogan County, Washington, by C. D. Rinehart and K. F. Fox Jr. 1972. 124 p., 3 pl. (pl. 1: 27 x 33 in. color geologic map, scale 1:62,500), 32 figs. [ <a href="#">ONLINE</a> ]                      | Out of print |
| 46. | Bibliography and index of the geology and mineral resources of Washington, 1937–1956, by W. H. Reichert. 1960. 721 p.<br><i>Superseded by the <a href="#">online bibliography</a>.</i>                          | Out of print | 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. [ <a href="#">ONLINE</a> ] | In print     |
| 47. | Coal reserves of Washington, by H. M. Beikman, H. D. Gower, and T. A. M. Dana. 1961. 115 p. [Reprinted with 15-p. addendum by H. W. Schasse, T. J. Walsh, and W. M. Phillips. 1984.] [ <a href="#">ONLINE</a> ] | In print     | <b>Division of Geology and Earth Resources</b> |   |              |
| 48. | High-calcium limestones of eastern Washington, by J. W. Mills. 1962. 268 p., 7 pl., 64 figs. [ <a href="#">PART 1</a> ] [ <a href="#">PART 2</a> ] [ <a href="#">PART 3</a> ] [ <a href="#">PART 4</a> ]        | Out of print | 66.  | Geology of the Washington coast between Point Grenville and the Hoh River, by W. W. Rau. 1973. 58 p. [ <a href="#">ONLINE</a> ]   | In print     |
| 49. | Saline lake deposits in Washington, by W. A. G. Bennett. 1962. 129 p. [ <a href="#">ONLINE</a> ]  | In print     | 67.  | Mining laws of the State of Washington, by J. L. Neff and R. L. Magnuson. 1974. 109 p., 9 figs. [ <a href="#">ONLINE</a> ]  | Out of print |
| 50. | Geology and mineral deposits of the north half of the Van Zandt quadrangle, Whatcom County, Washington, by W. S. Moen. 1962. 129 p., 4 pl., 41 figs. [ <a href="#">ONLINE</a> ]                                 | Out of print | 68.  | Geology of the Methow Valley, Okanogan County, Washington, by J. D. Barksdale. 1975. 72 p., 1 pl., 17 figs. [ <a href="#">ONLINE</a> ]  | Out of print |
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| 54. | Geology and mineral resources of the Kelso–Cathlamet area, Cowlitz and Wahkiakum Counties, Washington, by V. E. Livingston Jr. 1966. 110 p., 23 figs. [ <a href="#">ONLINE</a> ]                                | Out of print | 72.  | Washington coastal geology between the Hoh and Quillayute Rivers, by W. W. Rau. 1980. 57 p. [ <a href="#">ONLINE</a> ]  | In print     |
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| 56. | Geology of the Wynoochee Valley [15-minute] quadrangle, Grays Harbor County, Washington, by W. W. Rau. 1967. 51 p., 1 pl., scale 1:62,500. [ <a href="#">ONLINE</a> ]   | In print     |  |   |              |



## ■ BULLETINS ■

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| <p>74. Reconnaissance geochemical survey of gully and stream sediments, and geologic summary, in part of the Okanogan Range, Okanogan County, Washington, by C. D. Rinehart. 1981. 24 p., 3 pl. [<a href="#">ONLINE</a>]</p> <p>75. Geology of the Wenatchee and Monitor quadrangles, Chelan and Douglas Counties, Washington, by R. L. Gresens. 1983. 75 p., 3 pl., scale 1:24,000. [<a href="#">ONLINE</a>]</p> <p>76. Bibliography and index of the geology and mineral resources of Washington, 1963–1980, compiled by C. J. Manson and Debbie Burnett. 1983. 398 p.<br/><i>Superseded by the <a href="#">online bibliography</a>.</i></p> <p>77. Selected papers on the geology of Washington, edited by J. E. Schuster. 1987. 406 p. [<a href="#">PART 1</a>] [<a href="#">PART 2</a>] [<a href="#">PART 3</a>]</p> <p>78. Engineering geology in Washington, edited by R. W. Galster, chairman. 1989. [2 v.], 1234 p. [<a href="#">VOL 1 PART 1</a>] [<a href="#">VOL 1 PART 2</a>] [<a href="#">VOL 1 PART 3</a>], [<a href="#">VOL 1 PART 4</a>] [<a href="#">VOL 1 PART 5</a>] [<a href="#">VOL 2 PART 1</a>] [<a href="#">VOL 2 PART 2</a>] [<a href="#">VOL 2 PART 3</a>] [<a href="#">VOL 2 PART 4</a>]</p> | <p>In print</p> <p>In print</p> <p>Out of print</p> <p>In print</p> <p>In print</p> | <p>79. Bibliography and index of the geology and mineral resources of Washington, 1981–1985, compiled by C. J. Manson. 1990. 484 p.<br/><i>Superseded by the <a href="#">online bibliography</a>.</i></p> <p>80. Regional Geology of Washington State, Raymond Lasmanis and E. S. Cheney, convenors. 1994. 227 p., 136 figs., 18 tables. [<a href="#">PART 1</a>, <a href="#">PART 2</a>]</p> <p>81. Bibliography and index of the geology and mineral resources of Washington, 1986–1990, by C. J. Manson. 1996. 476 p.<br/><i>Superseded by the <a href="#">online bibliography</a>.</i></p> <p style="text-align: center;"><b>Washington Geological Survey</b></p> <p>82. Protocol for landslide inventory mapping from lidar data in Washington State, S. L. Slaughter, W. J. Burns, K. A. Mickelson, K. E. Jacobacci, Alyssa Biel, and T. A. Contreras. 2017. 27 p., 2 ESRI geodatabases, and 1 Excel data supplement. [<a href="#">ONLINE</a>]</p> | <p>Out of print</p> <p>Out of print</p> <p>Out of print</p> <p></p> <p>Web only</p> |
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## ■ DIGITAL DATA SERIES ■

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## ■ DIGITAL REPORTS ■

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| <p>1. Digital bibliography of the geology and mineral resources of Washington State, 1798–2000, by C. J. Manson, editor and compiler. 2010.<br/><i>Superseded by the <a href="#">online bibliography</a>.</i></p>                 | <p>Lib.<br/>use<br/>only</p> | <p>3. Digital inventory of flood-plain mines in Washington State, by L. R. Baker, K. W. Wegmann, D. T. McKay Jr., D. K. Norman, and C. N. Johnson. 2003. Includes ArcView files plus 4 p. text as a PDF file. [<a href="#">ONLINE</a>]</p> | <p>Web<br/>only</p> |
| <p>2. Digital geologic maps of the 1:100,000 quadrangles of Washington, by Washington Division of Geology and Earth Resources staff. 2001 and 2003.<br/><i>Superseded by the <a href="#">Geologic Information Portal</a>.</i></p> | <p>Lib.<br/>use<br/>only</p> | <p>4. Pacific Northwest Tertiary foraminiferal collections of the U.S. Geological Survey and the state of Washington, by W. W. Rau. 2004. 1 Microsoft Excel spreadsheet with 9 p. text as a PDF file. [<a href="#">ONLINE</a>]</p>         | <p>Web<br/>only</p> |

## ■ FACT SHEETS ■

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| <p>The Washington Geology Library. 2015. 2 p. [<a href="#">ONLINE</a>]</p>        | <p>Web<br/>only</p> | <p>Washington State Geologic Information Portal. 2014. 2 p. [<a href="#">ONLINE</a>]</p> | <p>Web<br/>only</p> |
| <p>Landslide hazards in Washington state. 2015. 2 p. [<a href="#">ONLINE</a>]</p> | <p>Web<br/>only</p> |  |                     |

## ■ FIELD TRIP GUIDES ■

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| <p>Geology of the Yakima Valley wine country—A geologic field trip guide from Stevenson to Zillah, Washington, by D. K. Norman, A. J. Busacca, and Ron Teissere. 2004. Color, 13 p. [<a href="#">ONLINE</a>]</p> | <p>In<br/>print</p> | <p>Geologic Field Trip to the Aldercrest–Banyon Landslide and Mount St. Helens, Washington, Part I—Stevenson to Castle Rock, by K. W. Wegmann. 2004. 24 p. [<a href="#">ONLINE</a>]</p> | <p>Web<br/>only</p> |
| <p>Geologic guide to the Yakima Valley wine-growing region, Benton and Yakima Counties, Washington, by D. K. Norman and A. J. Busacca. 2008. 10 p. [<a href="#">ONLINE</a>]</p>                                  | <p>Web<br/>only</p> | <p>Waterfall loop tour on the historic Columbia River Highway [Oregon] [<a href="#">ONLINE</a>]</p>   | <p>Web<br/>only</p> |

## ■ GEOLOGIC MAPS ■

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*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. Huntting, 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](#)]

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| <p>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. [<a href="#">ONLINE</a>]</p>                      | <p>In<br/>print</p> |
| <p>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. [<a href="#">ONLINE</a>]</p>                   | <p>In<br/>print</p> |
| <p>GM-3. Geology of the Simcoe Mountains volcanic area, Washington, by R. A. Sheppard. 1967. 43 x 23 in. sheet, scale 1:125,000. [<a href="#">ONLINE</a>]</p>   | <p>In<br/>print</p> |
| <p>GM-4. Geology of the Grays River [15-minute] quadrangle, Wahkiakum and Pacific Counties, Washington, by E. W. Wolfe and E. H. McKee. 1968. 23 x 34 in. color sheet, scale 1:62,500, with 6 p. text. [<a href="#">ONLINE</a>]</p> | <p>In<br/>print</p> |

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GM-5.	Preliminary geologic map of the Chewelah Mountain [15-minute] quadrangle, Stevens County, Washington, by L. D. Clark and F. K. Miller. 1968. Two 25 x 32 in. color sheets, scale 1:62,500, with 6 p. text. <a href="#">[ONLINE]</a>	In print	GM-18.	Relative slope stability of Gig Harbor Peninsula, Pierce County, Washington, by Mackey Smith. 1976. 21 x 35 in. color sheet, scale 1:31,250. <a href="#">[ONLINE]</a>	In print
GM-6.	Preliminary geologic map of the Loon Lake [15-minute] quadrangle, Stevens and Spokane Counties, Washington, by F. K. Miller. 1969. 30 x 29 in. color sheet, scale 1:62,500, with 7 p. text. <a href="#">[ONLINE]</a>	In print	GM-19.	Geologic factors affecting waste disposal practices, Gig Harbor Peninsula, Pierce County, Washington, by Mackey Smith. 1976. 1 sheet (21 x 35 in.), scale 1:31,250. <a href="#">[ONLINE]</a>	In print
<b>Division of Geology and Earth Resources</b>			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. <a href="#">[ONLINE]</a>	In print
GM-7.	Preliminary geologic map of the Newport Number 1 [15-minute] quadrangle, Pend Oreille County, Washington, and Bonner County, Idaho, by F. K. Miller. 1974. 24 x 31 in. color sheet, scale 1:62,500, with 6 p. text. <a href="#">[ONLINE]</a>	Out of print	GM-21.	Mineral resources of the southern Hood Canal area, Washington, by Mackey Smith and R. J. Carson. 1976. 23 x 27 in. sheet, scale 1:62,500. <a href="#">[ONLINE]</a>	In print
GM-8.	Preliminary geologic map of the Newport Number 2 [15-minute] quadrangle, Pend Oreille and Stevens Counties, Washington, by F. K. Miller. 1974. 22 x 32 in. color sheet, scale 1:62,500, with 6 p. text. <a href="#">[ONLINE]</a>	Out of print	GM-22.	Mineral resource maps of Washington, by W. S. Moen. 1978. Four 28 x 19 in. color sheets, scale 1:1,000,000, with 4 p. text. [Reprinted 1986.] <a href="#">[ONLINE]</a>	In print
GM-9.	Preliminary geologic map of the Newport Number 3 [15-minute] quadrangle, Pend Oreille, Stevens, and Spokane Counties, Washington, by F. K. Miller. 1974. 23 x 32 in. color sheet, scale 1:62,500, with 7 p. text. <a href="#">[ONLINE]</a>	Out of print	GM-23.	Geologic map of the Marblemount [15-minute] quadrangle, Washington, by Peter Misch. 1979. 36 x 30 in. color sheet, scale 1:48,000. <a href="#">[ONLINE]</a>	In print
GM-10.	Preliminary geologic map of the Newport Number 4 [15-minute] quadrangle, Spokane and Pend Oreille Counties, Washington, and Bonner County, Idaho, by F. K. Miller. 1974. 24 x 30 in. color sheet, scale 1:62,500, 6 p. text. <a href="#">[ONLINE]</a>	Out of print	GM-24.	Geologic map in the vicinity of the lower Bogachiel and Hoh River valleys and the Washington coast, by W. W. Rau. 1979. 29 x 47 in. color sheet, scale 1:62,500. <a href="#">[ONLINE]</a>	In print
GM-11.	Complete Bouguer gravity anomaly map of Washington, by W. E. Bonini, D. W. Hughes, and Z. F. Daneš. 1974. 59 x 43 in. sheet, scale 1:500,000. <a href="#">[ONLINE]</a>	Out of print	GM-25.	Geothermal resources of Washington, compiled by M. A. Korosec, K. L. Kaler, J. E. Schuster, R. G. Bloomquist, S. J. Simpson, and D. D. Blackwell. 1981. 50 x 42 in. color sheet, scale 1:500,000. <a href="#">[ONLINE]</a>	In print
GM-12.	Thickness of unconsolidated sediments, Puget Lowland, Washington, by J. B. Hall and K. L. Othberg. 1974. 23 x 35 in. sheet, scale 1:250,000, with 3 p. text. <a href="#">[ONLINE]</a>	Out of print	GM-26.	Geology of the Pullman, Moscow West, Colton, and Uniontown 7½-minute quadrangles, Washington and Idaho, by P. R. Hooper and G. D. Webster. 1982. 33 x 22 in. two-color sheet, scale 1:62,500. <a href="#">[ONLINE]</a>	Out of print
GM-13.	Geologic map of the Destruction Island and Taholah [15-minute] quadrangles, Washington, by W. W. Rau. 1975. 36 x 47 color sheet, scale 1:62,500. <a href="#">[ONLINE]</a>	Out of print	GM-27.	Complete Bouguer gravity anomaly map, Cascade Mountains, Washington, by Z. F. Daneš and W. M. Phillips. 1983. Two 24 x 35 in. two-color sheets, scale 1:250,000. <a href="#">[ONLINE]</a>	In print
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. <a href="#">[ONLINE]</a>	Out of print	GM-28.	Geologic map of the Ellensburg [15-minute] quadrangle, Washington, by R. D. Bentley and N. P. Campbell. 1983. 34 x 23 in. two-color sheet, scale 1:62,500. <a href="#">[ONLINE]</a>	Out of print
GM-15.	Slope stability map of Thurston County, Washington, by E. R. Artim. 1976. 31 x 19 in. color sheet, scale 1:125,000. <a href="#">[ONLINE]</a>	In print	GM-29.	Geologic map of the Yakima quadrangle, Washington, by R. D. Bentley and N. P. Campbell. 1983. 34 x 23 in. two-color sheet, scale 1:62,500. <a href="#">[ONLINE]</a>	Out of print
GM-16.	Relative ground settlement hazards of Thurston County, Washington, by E. R. Artim. 1976. 31 x 19 in. color sheet, scale 1:125,000. <a href="#">[ONLINE]</a>	In print	GM-30.	Availability of Federal land for mineral exploration and development in the State of Washington, by D. P. Banister, D. J. Barnes, and W. D. Longwill. 1984. Four 50 x 37 in. color sheets, scale 1:500,000, with 17 p. text. <a href="#">[ONLINE]</a>	In print
GM-17.	Relative potential for differential settlement, Gig Harbor Peninsula, Pierce County, Washington, by Mackey Smith. 1976. 21 x 35 in. color sheet, scale 1:31,250. <a href="#">[ONLINE]</a>	In print	GM-31.	Geologic map of the Clarkston 15-minute quadrangle, Washington and Idaho, by P. R. Hooper, G. D. Webster, and V. E. Camp. 1985. 27 x 33 in. color sheet, scale 1:48,000, with 11 p. text. <a href="#">[ONLINE]</a>	Out of print
			GM-32.	Geologic maps of the Marcus and Kettle Falls [7.5-minute] quadrangles, Stevens and Ferry Counties, Washington, by J. W. Mills. 1985. Two 27 x 29 in. color sheets, scale 1:24,000, with 18 p. text. <a href="#">[ONLINE]</a>	In print

## ■ GEOLOGIC MAPS ■

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|---|-------------|---|-----------------|
| <p>GM-33. Geologic map of the Humptulips [15-minute] quadrangle and adjacent areas, Grays Harbor County, Washington, by W. W. Rau. 1986. 31 x 41 in. color sheet, scale 1:62,500. [<a href="#">ONLINE</a>]</p>  | In<br>print | <p>GM-45. Geologic map of Washington—Southeast quadrant, by J. E. Schuster, C. W. Gulick, S. P. Reidel, K. R. Fecht, and Stephanie Zurenko. 1997. 62 x 39 in. color sheet, scale 1:250,000, and accompanying explanatory sheet (38 x 31 in.) with bedrock geology and tectonic map at 1:625,000, with 20 p. text. [<a href="#">ONLINE</a>]</p>  | In<br>print     |
| <p>GM-34. Geologic map of Washington—Southwest quadrant, by T. J. Walsh, M. A. Korosec, W. M. Phillips, R. L. Logan, and H. W. Schasse. 1987. 54 x 39 in. color sheet, scale 1:250,000, and accompanying explanatory sheet (63 x 40 in.), with 28 p. text. [<a href="#">ONLINE</a>]</p>   | In<br>print | <p>GM-46. Geologic map and bedrock history of the Gilbert 7.5-minute quadrangle, Chelan and Okanogan Counties, Washington, by J. D. Dragovich, D. K. Norman, R. A. Haugerud, and R. B. Miller. 1997. 40 x 28 in. two-color sheet, scale 1:24,000, with 67 p. text. [<a href="#">ONLINE</a>]</p>   | In<br>print     |
| <p>GM-35. Geologic map of the Bluelight 15-minute quadrangle, Washington, by R. D. Bentley, N. P. Campbell, and J. E. Powell. 1988. 25 x 37 in. two-color sheet, scale 1:48,000. [<a href="#">ONLINE</a>]</p>   | In<br>print | <p>GM-47. Geologic folio of the Olympia–Lacey–Tumwater urban area, Washington—Liquefaction susceptibility map, by S. P. Palmer, T. J. Walsh, and W. G. Gerstel. 1999. 31 x 27 in. color sheet, scale 1:48,000, with 16 p. text. [<a href="#">ONLINE</a>]</p>  | Out of<br>print |
| <p>GM-36. Geologic map of the Poisel Butte 15-minute quadrangle, Washington, by R. D. Bentley, N. P. Campbell, and J. E. Powell. 1988. 25 x 37 in. two-color sheet, scale 1:48,000. [<a href="#">ONLINE</a>]</p>  | In<br>print | <p>GM-48. Liquefaction susceptibility of the greater Eastside area, King County, Washington, by S. P. Palmer, B. D. Evans, and H. W. Schasse. 2002. 29 x 36 in. color sheet, scale 1:36,000, with 14 p. text. [<a href="#">ONLINE</a>]</p>  | In<br>print     |
| <p>GM-37. Geologic map of the Logy Creek 15-minute quadrangle, Washington, by R. D. Bentley, N. P. Campbell, and J. E. Powell. 1988. 26 x 37 in. two-color sheet, scale 1:48,000. [<a href="#">ONLINE</a>]</p>  | In<br>print | <p>GM-49. Tsunami hazard map of the southern Washington coast—Modeled tsunami inundation from a Cascadia subduction zone earthquake, by T. J. Walsh, C. G. Caruthers, A. C. Heintz, E. P. Myers III, A. M. Baptista, G. B. Erdakos, and R. A. Kamphaus. 2000. 26 x 52 color sheet, scale 1:100,000, with 12 p. text. [<a href="#">ONLINE</a>]</p>   | In<br>print     |
| <p>GM-38. Geologic map of the Saddle Mountains, Washington, by S. P. Reidel. 1988. 28 p., 5 pl. (3 two-color)(pl. 1 &amp; 2, 25 x 16 in.; pl. 3, 18 x 27 in.; pl. 4, 27 x 19 in.; pl. 5, 25 x 21 in.), scale 1:48,000. [<a href="#">ONLINE</a>]</p>   | In<br>print | <p>GM-50. Geologic map of Washington—Northwest quadrant, by J. D. Dragovich, R. L. Logan, H. W. Schasse, T. J. Walsh, W. S. Lingley Jr., D. K. Norman, W. J. Gerstel, T. J. Lapen, J. E. Schuster, and K. D. Meyers. 2002. 62 x 45 in. color sheet, scale 1:250,000, and two accompanying explanatory sheets (52 x 36 in. and 40 x 33 in.), with 72 p. text. [<a href="#">ONLINE</a>]</p> | In<br>print     |
| <p>GM-39. Geologic map of Washington—Northeast quadrant, by K. L. Stoffel, N. L. Joseph, S. Z. Waggoner, C. W. Gulick, M. A. Korosec, and B. B. Bunning. 1991. 62 x 39 in. color sheet, scale 1:250,000, and two accompanying explanatory sheets (57 x 39 in. and 46 x 39 in.), including a bedrock geologic and tectonic map at 1:625,000 scale, with 36 p. text. [<a href="#">ONLINE</a>]</p> | In<br>print | <p>GM-51. Liquefaction susceptibility of the greater Tacoma urban area, Pierce and King Counties, Washington, by S. P. Palmer, W. J. Perkins, and W. P. Grant. 2003. 48 x 36 in. color pl., scale 1:30,000, with 11 p. text. [<a href="#">ONLINE</a>]</p>   | In<br>print     |
| <p>GM-40. Geologic map of southeast Asotin County, Washington, by S. P. Reidel, P. R. Hooper, G. D. Webster, and V. E. Camp. 1992. 27 x 38 in. two-color sheet, scale 1:48,000, with 22 p. text. [<a href="#">ONLINE</a>]</p>   | In<br>print | <p>GM-52. Tectonic elements and evolution of northwest Washington, by E. H. Brown and J. D. Dragovich. 2003. 38 x 36 in. color sheet, scale 1:625,000, with 12 p. text. [<a href="#">ONLINE</a>]</p>  | In<br>print     |
| <p>GM-41. Liquefaction susceptibility for the Des Moines and Renton 7.5-minute quadrangles, Washington, by S. P. Palmer, H. W. Schasse, and D. K. Norman. 1994. Two 28 x 27 in. color sheets, scale 1:24,000, with 15 p. text. [<a href="#">ONLINE</a>]</p>   | In<br>print | <p>GM-53. Geologic map of Washington State, by J. E. Schuster. 2005. 55.5 x 36 in. color sheet, scale 1:500,000, with 44 p. text. [<a href="#">ONLINE</a>]</p>  | In<br>print     |
| <p>GM-42. Relative earthquake hazard map for the Vancouver, Washington, urban region, by M. A. Mabey, I. P. Madin, and S. P. Palmer. 1994. Two color sheets (28 x 30 in. and 28 x 32 in.), scale 1:24,000, with 5 p. text. [<a href="#">ONLINE</a>]</p>   | In<br>print | <p>GM-54. Geologic map of the Deer Park 7.5-minute quadrangle, Spokane County, Washington, by R. E. Derkey, M. M. Hamilton, and D. F. Stradling. 2005. 36 x 42 in. color sheet, scale 1:24,000. [<a href="#">ONLINE</a>]</p>  | In<br>print     |
| <p>GM-43. Liquefaction susceptibility for the Auburn and Poverty Bay 7.5-minute quadrangles, Washington, by S. P. Palmer, T. J. Walsh, R. L. Logan, and W. G. Gerstel. 1995. Two 24 x 26 in. color sheets, scale 1:24,000, with 15 p. text. [<a href="#">ONLINE</a>]</p>  | In<br>print | <p>GM-55. Geologic map of the Chattaroy 7.5-minute quadrangle, Spokane County, Washington, by R. E. Derkey, M. M. Hamilton, and D. F. Stradling. 2005. 36 x 42 in. color sheet, scale 1:24,000. [<a href="#">ONLINE</a>]</p>  | In<br>print     |
| <p>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. [<a href="#">ONLINE</a>]</p>   | In<br>print | <p>GM-56. Geologic map of the East Olympia 7.5-minute quadrangle, Thurston County, Washington, by T. J. Walsh and R. L. Logan. 2005. 42 x 36 in. color sheet, scale 1:24,000. [<a href="#">ONLINE</a>]</p>  | In<br>print     |

## ■ GEOLOGIC MAPS ■

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GM-57. Geologic map of the Port Townsend South and part of the Port Townsend North 7.5-minute quadrangles, Jefferson County, Washington, by H. W. Schasse and S. L. Slaughter. 2005. 42 x 36 in. color sheet, scale 1:24,000. [ <a href="#">ONLINE</a> ]	In print	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. [ <a href="#">ONLINE</a> ]	In print
GM-58. Geologic map of the Coupeville and part of the Port Townsend North 7.5-minute quadrangles, Island County, Washington, by Michael Polenz, S. L. Slaughter, and G. W. Thorsen. 2005. 50 x 36 in. color sheet, scale 1:24,000. [ <a href="#">ONLINE</a> ]	In print	GM-68. Geologic map of the Camano 7.5-minute quadrangle, Island County, Washington, by Michael Polenz, H. W. Schasse, M. L. Kalk, and B. B. Petersen. 2009. 48 x 36 in. color sheet, scale 1:24,000. [ <a href="#">ONLINE</a> ]	In print
GM-59. Geologic map of the Oak Harbor, Crescent Harbor, and part of the Smith Island 7.5-minute quadrangles, Island County, Washington, by J. D. Dragovich, G. T. Petro, G. W. Thorsen, S. L. Larson, G. R. Foster, and D. K. Norman. 2005. Two 42 x 36 in. color sheets, scale 1:24,000. [ <a href="#">ONLINE</a> ]	In print	GM-69. Geologic map of the Langley and western part of the Tulalip 7.5-minute quadrangles, Island County, Washington, by H. W. Schasse, M. L. Kalk, B. B. Petersen, and Michael Polenz, 2009. 47 x 36 in. color sheet, scale 1:24,000. [ <a href="#">ONLINE</a> ]	In print
GM-60. Geologic map of the Timberwolf Mountain 7.5-minute quadrangle, Yakima County, Washington, by P. E. Hammond. 2005. 48 x 36 in. color sheet, scale 1:24,000. Additional information available as Open File Report 2005-5. [ <a href="#">ONLINE</a> ]	In print	GM-70. Geologic map of the Juniper Beach 7.5-minute quadrangle, Island County, Washington, by H. W. Schasse, M. L. Kalk, and Michael Polenz. 2009. 39 x 36 in. color sheet, scale 1:24,000. [ <a href="#">ONLINE</a> ]	In print
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 on the Darrington–Devils Mountain fault zone, by J. D. Dragovich and A. J. DeOme. 2006. 33 x 36 in. color sheet, scale 1:24,000, with 18 p. text. [ <a href="#">ONLINE</a> ]	In print	GM-71. Geologic map of the Olsen Canyon 7.5-minute quadrangle, Lincoln and Stevens Counties, Washington, by R. E. Derkey and M. M. Hamilton. 2009. 42 x 36 in. color sheet, scale 1:24,000. [ <a href="#">ONLINE</a> ]	In print
GM-62. Geologic map of the College Place and Walla Walla 7.5-minute quadrangles, Walla Walla County, Washington, and Umatilla County, Oregon, by R. E. Derkey, D. F. Stradling, K. A. Lindsey, and T. L. Tolan. 2006. 46 x 36 in. color sheet, scale 1:24,000. [ <a href="#">ONLINE</a> ]	In print	GM-72. Geologic map of the Maytown 7.5-minute quadrangle, Thurston County, Washington, by R. L. Logan, T. J. Walsh, B. W. Stanton, and I. Y. Sarikhan. 2009. 42 x 36 in. color sheet, scale 1:24,000. [ <a href="#">ONLINE</a> ]	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. [ <a href="#">ONLINE</a> ]	In print	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. [ <a href="#">ONLINE</a> ]	In print
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. [ <a href="#">ONLINE</a> ]	In print	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. [ <a href="#">ONLINE</a> ]	In print
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. [ <a href="#">ONLINE</a> ].	In print	GM-75. Geologic map of the Snoqualmie 7.5-minute quadrangle, King County, Washington, by J. D. Dragovich, H. A. Littke, M. L. Anderson, Renate Hartog, G. R. Wessel, S. A. DuFrane, T. J. Walsh, J. H. MacDonald Jr., J. F. Mangano, and Recep Cakir. 2009. Two 42 x 36 in. color sheets, scale 1:24,000. [ <a href="#">ONLINE</a> ]	In print
GM-66. Geologic map of the Four Mound Prairie 7.5-minute quadrangle, Spokane and Stevens Counties, Washington, by R. E. Derkey and M. M. Hamilton. 2007. 42 x 36 in. color sheet, scale 1:24,000. [ <a href="#">ONLINE</a> ]	In print	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. [ <a href="#">ONLINE</a> ]	In print
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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](#)] Out of print

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15. Wells drilled for oil or gas in Washington from 1945 to July 1953 inclusive; Supplement to Information Circular 15, by S. L. Glover. 1953. 9 p. (table). [[ONLINE](#)] Out of print
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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. <a href="#">[ONLINE]</a> <i>Partially superseded by <a href="#">Map Series 2022-01</a>.</i>	Web only	2021-02	Geologic map of the Tenalquot Prairie and northern two-thirds of the Vail 7.5-minute quadrangles, Thurston and Pierce Counties, Washington, by Michael Polenz, F. R. Hladky, M. L. Anderson, J. H. Tepper, A. E. Horst, D. P. Miggins, Gabriel Legoretta Paulin. 2021. 52 x 36 in. color plate, scale 1:24,000, with 47 p. text. <a href="#">[ONLINE]</a>	Web only
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2022-05	Geologic map of the Colockum Pass SE 7.5-minute quadrangle, Kittitas County, Washington, by A. J. Sadowski, T. R. Lau. 2022. 36 x 42 in. plate, scale 1:24,000, with 21 p. text. [ <a href="#">ONLINE</a> ]	Web only
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2023-01	Aggregate resource inventory of Kitsap County, Washington, by Amy Rudko, A. N. Steely. 2023. 20 x 28 in. sheet, scale 1:100,000, with 17 p. text. [ <a href="#">ONLINE</a> ]	Web only
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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. <a href="#">[ONLINE]</a>	Web only	2003-19. Inactive and abandoned mine lands—Red Mountain Mine, Chiwawa mining district, Chelan County, Washington, by D. T. McKay Jr., F. E. Wolff, and D. K. Norman. 2003. 11 p. <a href="#">[ONLINE]</a>	Web only
2003-7. Inactive and abandoned mine lands—Mystery and Justice mines, Monte Cristo mining district, Snohomish County, Washington, by F. E. Wolff, D. T. McKay Jr., and D. K. Norman. 2003. 13 p. <a href="#">[ONLINE]</a>	Web only	2003-20. Inactive and abandoned mine lands—Sierra Zinc Mine, Chewelah Mining District, Stevens County, Washington, by F. E. Wolff, D. T. McKay Jr., and D. K. Norman. 2003. 9 p. <a href="#">[ONLINE]</a>	Web only
2003-8. Geologic map of the Nine Mile Falls 7.5-minute quadrangle, Spokane and Stevens Counties, Washington, by R. E. Derkey, M. M. Hamilton, and D. F. Stradling. 2003. 38 x 36 in. color sheet, scale 1:24,000. <a href="#">[ONLINE]</a>	Web only	2003-21. Geologic map of the Longbranch 7.5-minute quadrangle, Thurston, Pierce, and Mason Counties, Washington, by R. L. Logan, T. J. Walsh, and Michael Polenz. 2003. 42 x 36 in. color sheet, scale 1:24,000. <a href="#">[ONLINE]</a>	Web only
2003-9. Geologic map of the Lacey 7.5-minute quadrangle, Thurston County, Washington, by R. L. Logan, T. J. Walsh, H. W. Schasse, and Michael Polenz. 2003. 36 x 32 in. color sheet, scale 1:24,000. <a href="#">[ONLINE]</a>	Web only	2003-22. Geologic map of the McNeil Island 7.5-minute quadrangle, Pierce and Thurston Counties, Washington, by T. J. Walsh, R. L. Logan, and Michael Polenz. 2003. 42 x 36 in. color sheet, scale 1:24,000. <a href="#">[ONLINE]</a>	Web only
2003-10. Geologic map of the Nisqually 7.5-minute quadrangle, Thurston and Pierce Counties, Washington, by T. J. Walsh, R. L. Logan, Michael Polenz, and H. W. Schasse. 2003. 42 x 36 in. color sheet, scale 1:24,000. <a href="#">[ONLINE]</a>	Web only	2003-23. Geologic map of the Squaxin Island 7.5-minute quadrangle, Mason and Thurston Counties, Washington, by R. L. Logan, Michael Polenz, T. J. Walsh, and H. W. Schasse. 2003. 34 x 36 in. color sheet, scale 1:24,000. <a href="#">[ONLINE]</a>	Web only
2003-11. Geologic map of the Oso 7.5-minute quadrangle, Skagit and Snohomish Counties, Washington, by J. D. Dragovich, B. W. Stanton, W. S. Lingley Jr., G. A. Griesel, and Michael Polenz. 2003. 45 x 36 in. color sheet, scale 1:24,000. <a href="#">[ONLINE]</a>	Web only	2003-24. Geologic map of the Shelton 7.5-minute quadrangle, Mason and Thurston Counties, Washington, by H. W. Schasse, R. L. Logan, Michael Polenz, and T. J. Walsh. 2003. 36 x 36 in. color sheet, scale 1:24,000. <a href="#">[ONLINE]</a>	Web only



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| <p>2004-1. Geologic map of the Airway Heights 7.5-minute quadrangle, Spokane County, Washington, by R. E. Derkey, M. M. Hamilton, and D. F. Stradling. 2004. 30 x 36 in. color sheet, scale 1:24,000. [<a href="#">ONLINE</a>]</p>   | Web only  | <p>2004-14. Geologic map of the Elwha and Angeles Point 7.5-minute quadrangles, Clallam County, Washington, by Michael Polenz, K. W. Wegmann, and H. W. Schasse. 2004. 48 x 36 in. color sheet, scale 1:24,000. [<a href="#">ONLINE</a>]</p>   | Web only      |
| <p>2004-2. Geologic map of the Four Lakes 7.5-minute quadrangle, Spokane County, Washington, by M. M. Hamilton, R. E. Derkey, and D. F. Stradling. 2004. 30 x 36 in. color sheet, scale 1:24,000. [<a href="#">ONLINE</a>]</p>   | Web only  | <p>2004-15. Tsunami hazard map of the Bellingham area, Washington—Modeled tsunami inundation from a Cascadia subduction zone earthquake, by T. J. Walsh, V. V. Titov, A. J. Venturato, H. O. Mofjeld, and F. I. González. 2004. 40 x 36 in. color sheet, scale 1:50,000. [<a href="#">ONLINE</a>]</p>                              | Web only      |
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| <p>2004-8. Yakima River floodplain mining impact study, by the Yakima River Floodplain Mining Impact Study Team. 2004. 270 p., 15 appendices. [<a href="#">MAIN TEXT</a>] [<a href="#">APPENDICES</a>]</p>   | CD \$1.00 | <p>2005-1. Tsunami hazard map of the Anacortes–Whidbey Island area, Washington—Modeled tsunami inundation from a Cascadia subduction zone earthquake, by T. J. Walsh, V. V. Titov, A. J. Venturato, H. O. Mofjeld, and F. I. González. 2005. 48 x 36 in. color sheet, scale 1:62,500. [<a href="#">ONLINE</a>]</p>                 | Web only      |
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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. <a href="#">[ONLINE]</a>	Web only	2009-1	Landslide field trip to Morton, Glenoma, and Randle, Lewis County, Washington, by I. Y. Sarikhan and T. A. Contreras. 2009. 13 p. <a href="#">[ONLINE]</a>	Web only
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, <sup>40</sup> Ar/ <sup>39</sup> Ar age dates, and <sup>40</sup> Ar/ <sup>39</sup> Ar age plateau and inverse isochron diagrams in Microsoft Excel and Adobe PDF formats. <a href="#">[ONLINE]</a>	Web only	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. <a href="#">[ONLINE]</a> <i>Supersedes Open File Report 94-1.</i>	Web only
2006-1.	Directory of Washington State surface mining reclamation sites—2006, compiled by T. C. Duerr, M. A. Shawver, and M. I. Brookshier. 2006. 271 p. <a href="#">[ONLINE]</a> <i>Superseded by Open File Report 2010-7.</i>	Web only	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. <a href="#">[ONLINE]</a>	Web only
2007-1.	Field data for a trench on the Canyon River fault, southeast Olympic Mountains, Washington, by T. J. Walsh and R. L. Logan. 2007. 60 x 36 in. color sheet. <a href="#">[ONLINE]</a>	Web only	2009-4	Geochemistry, geochronology, and sand point count data for the Snoqualmie 7.5-minute quadrangle, King County, Washington, by J. D. Dragovich, H. A. Littke, J. H. MacDonald, Jr., S. A. DuFrane, M. L. Anderson, G. R. Wessel, Renate Hartog. 2009. 3 Microsoft Excel files with 35 p. text. <a href="#">[ONLINE]</a>	Web only
2007-2.	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. <a href="#">[ONLINE]</a>	Web only	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. <a href="#">[ONLINE]</a>	Web only
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2008-2.	Shear-wave database for Quaternary and bedrock geologic units, Washington State, by E. L. Bilderback, S. P. Palmer, D. S. Folger, J. L. Poelstra, S. L. Magsino, and R. A. Niggemann. 2008. Contains a database in Microsoft Access and ASCII formats, and a 528 p. text. <a href="#">[ONLINE]</a>	Web only	2009-9	Tsunami hazard map of Tacoma, Washington—Model results for Seattle fault and Tacoma fault earthquake tsunamis, by T. J. Walsh, Diego Arcas, A. J. Venturato, V. V. Titov, H. O. Mofjeld, C. C. Chamberlin, and F. I. González. 2009. 55 x 36 in. color sheet, scales 1:36,000 and 1:62,500. <a href="#">[ONLINE]</a> <i>Partially superseded by Map Series 2022-03.</i>	Web only
2008-3.	Tuff of Stampede Pass and tuff of Green Canyon in the central Cascade Range, King and Kittitas Counties, Washington, by P. E. Hammond and J. D. Dragovich. 2008. 2 Microsoft Excel files with 8 p. text. <a href="#">[ONLINE]</a>	Web only	2010-1	Geologic map of the Carnation 7.5-minute quadrangle, King County, Washington, by J. D. Dragovich, H. A. Littke, M. L. Anderson, G. R. Wessel, C. J. Koger, J. H. Saltonstall, J. H. MacDonald Jr., S. A. Mahan, and S. A. DuFrane. 2010. 42 x 36 in. color sheet, scale 1:24,000, with 21 p. text. <a href="#">[ONLINE]</a>	Web only
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. <a href="#">[ONLINE]</a>	Web only			
2008-5	Landslide reconnaissance following the storm event of December 1–3, 2007, in western Washington, by I. Y. Sarikhan, K. D. Stanton, T. A. Contreras, Michael Polenz, Jack Powell, T. J. Walsh, and R. L. Logan. 2008. 16 p. <a href="#">[ONLINE]</a>	Web only			

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| <p>2010-2 Supplement to the geologic map of the Carnation 7.5-minute quadrangle, King County, Washington—Geochronologic, geochemical, point count, geophysical, earthquake, fault, and neotectonic data, by J. D. Dragovich, M. L. Anderson, J. H. MacDonald Jr., S. A. Mahan, S. A. DuFrane, H. A. Littke, G. R. Wessel, J. H. Saltonstall, C. J. Koger, and Recep Cakir. 2010. 42 p. with 8 digital appendices. [<a href="#">ONLINE</a>]</p>                   | <p>2011-3 Geologic map of the Hoodspport 7.5-minute quadrangle, Mason County, Washington, by Michael Polenz, B. A. Miller, Nigel Davies, B. B. Perry, K. P. Clark, T. J. Walsh, R. J. Carson, and J. F. Hughes. 2012. 33 x 36 in. color sheet, scale 1:24,000, with 18 p. text. [<a href="#">ONLINE</a>]</p>                                       |
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| <p>2010-5 Supplement to geologic maps of the Lilliwaup, Skokomish Valley, and Union 7.5-minute quadrangles, Mason County, Washington—Geologic setting and development around the Great Bend of Hood Canal, by Michael Polenz, T. A. Contreras, J. L. Czajkowski, Gabriel Legorreta Paulin, B. A. Miller, M. E. Martin, T. J. Walsh, R. L. Logan, R. J. Carson, C. N. Johnson, R. H. Skov, S. A. Mahan, and C. R. Cohan. 2010. 27 p. [<a href="#">ONLINE</a>]</p> | <p>2011-6 Analytical data from the Holly 7.5-minute quadrangle, Jefferson, Kitsap, and Mason Counties, Washington—Supplement to Open File Report 2011-5, by T. A. Contreras, S. A. Weeks, and B. B. Perry. 2012. 16 p. [<a href="#">ONLINE</a>]</p>  |
| <p>2010-6 Supplement to 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. 1 Microsoft Excel file. [<a href="#">ONLINE</a>]</p>   | <p>2011-7 Washington State School Seismic Safety Pilot Project—Providing safe schools for our students, by T. J. Walsh, J. D. Schelling, and the Washington State Seismic Safety Committee. 2011. 14 p. [<a href="#">ONLINE</a>]</p>   |
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| <p>2011-1 Geologic map of the Monroe 7.5-minute quadrangle, King and Snohomish Counties, Washington, by J. D. Dragovich, M. L. Anderson, S. A. Mahan, C. J. Koger, J. H. Saltonstall, J. H. MacDonald Jr., G. R. Wessel, B. A. Stoker, J. P. Bethel, J. E. Labadie, Recep Cakir, J. D. Bowman, and S. A. DuFrane. 2011. 42 x 36 in. color sheet, scale 1:24,000, with 24 p. text. [<a href="#">ONLINE</a>]</p>   | <p>2012-02 Oil and gas wells in Washington State, by J. L. Czajkowski, J. D. Bowman, J. E. Schuster, and C. M. Wheeler. 2012., rev. 2015, 1 Microsoft Excel file with 4 p. text. [<a href="#">ONLINE</a>]</p>  |
| <p>2011-2 Analytical data from the Monroe 7.5-minute quadrangle, King and Snohomish Counties, Washington—Supplement to Open File Report 2011-1, by J. D. Dragovich, S. A. Mahan, M. L. Anderson, J. H. MacDonald Jr., G. R. Wessel, S. A. DuFrane, Recep Cakir, J. D. Bowman, and H. A. Littke. 2011. 61 p., 2 plates, and 2 Microsoft Excel files. [<a href="#">ONLINE</a>]</p>   | <p>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. [<a href="#">ONLINE</a>]</p>  |
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- 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](#)] Web only
- 2019-01 Report on site class assessments for the Washington State School Seismic Safety Project, by L. T. West, Travis Neilson, and Corina Forson. 2019. 214 p. text. [[ONLINE](#)] Web only
- 2020-01 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](#)] Web only
- 2022-01 Surficial geologic map of the Sadie Creek fault, Clallam County, Washington, by W. C. Duckworth, Y. E. Perez, C. B. Amos, E. R. Schermer, and Michael Polenz. 2022. 60 x 30 in. color sheet, scale 1:10,000. [[ONLINE](#)] Web only
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| 3. Mineral resources of the Wenatchee–Ellensburg–Yakima region, by S. L. Glover. 1942. 13 p. [ <a href="#">ONLINE</a> ]  | Out<br>of<br>print | 12. Economic aspects of the Blewett–Cle Elum iron ore zone, Chelan and Kittitas Counties, Washington, by W. A. Broughton. 1944. 42 p., 7 pl., 14 figs. [ <a href="#">ONLINE</a> ] | Out<br>of<br>print |
| 4. Coal and coal mining in Washington, by S. H. Green. 1943. 41 p., 3 figs. [ <a href="#">ONLINE</a> ]   | Out<br>of<br>print | 13. Dolomite resources of Washington, by W. A. G. Bennett. 1944. 35 p., 12 pl., 2 figs. [ <a href="#">ONLINE</a> ]  | Out<br>of<br>print |
| 4R. Coal and coal mining in Washington, by S. H. Green. 1947. 41 p., 3 figs. [Revision of RI 4.] [ <a href="#">ONLINE</a> ]  | Out<br>of<br>print | 14. Some magnetite deposits of Stevens and Okanogan Counties, Washington, by W. A. Broughton. 1945. 24 p., 5 pl., 1 fig. [ <a href="#">ONLINE</a> ]                               | Out<br>of<br>print |
| 5. Memorandum report on iron ores of the Cle Elum district, Washington, by Carl Zappfe. 1944. 27 p., 2 pl., 5 figs. [ <a href="#">ONLINE</a> ]                               | Out<br>of<br>print | <b>Division of Mines and Geology</b>  |                    |
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| 7. Manganese deposits of the Olympic Peninsula, Washington, by S. H. Green. 1945. 45 p., 5 pl., 1 fig. [ <a href="#">ONLINE</a> ]  | Out<br>of<br>print | 16. Origin and occurrence of gem stones in Washington, by S. L. Glover. 1949. 32 p. [ <a href="#">ONLINE</a> ]  | Out<br>of<br>print |

### Division of Geology

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| 1. Abstract of the report [by Solon Shedd] on the geology and resources of the Pasco and Prosser quadrangles, by H. E. Culver. 1926. 7 p., 1 pl., 29 x 22 in., scale 1:125,000. [ <a href="#">ONLINE</a> ]                  | Out<br>of<br>print | 18. Molybdenum occurrences of Washington, by C. P. Purdy Jr. 1954. 118 p., 13 pl., 4 figs. [ <a href="#">ONLINE</a> ]  | Out<br>of<br>print |
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| 4. Preliminary report on petroleum and natural gas in Washington, by S. L. Glover. 1936. 24 p., 1 pl. [ <a href="#">ONLINE</a> ]  | Out<br>of<br>print | 21. Stratigraphy of Eocene rocks in a part of King County, Washington, by J. D. Vine. 1962. 20 p., 3 figs. [ <a href="#">ONLINE</a> ]  | Out<br>of<br>print |
| 5. Preliminary report on magnesite deposits of Stevens County, Washington, by W. A. G. Bennett. 1941. 25 p., 2 pl., 1 fig. [ <a href="#">ONLINE</a> ]   | Out<br>of<br>print | 22. Tertiary geologic history of western Oregon and Washington, by P. D. Snavely Jr. and H. C. Wagner. 1963. 25 p., 23 figs. [ <a href="#">ONLINE</a> ]  | Out<br>of<br>print |
| 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.] [ <a href="#">ONLINE</a> ] | Out<br>of<br>print | 23. Mineralogy of black sands at Grays Harbor, Washington, by G. W. Thorsen. 1964. 29 p., 6 figs. [ <a href="#">ONLINE</a> ]   | Out<br>of<br>print |
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|   |                    | 26. Coastal wells of Washington, by W. W. Rau and C. R. McFarland. 1982. 4 sheets. [ <a href="#">ONLINE</a> ]  | In<br>print        |

## ■ REPORTS OF INVESTIGATIONS ■

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| <p>27. Geology of the Grande Ronde lignite field, Asotin County, Washington, by K. L. Stoffel. 1984. 79 p., 1 pl., scale 1:48,000, 71 figs. <a href="#">[ONLINE]</a></p>  | In<br>print        | <p>37. 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. 2013. Three color sheets: 44.5 x 36 in., scale 1:18,000, plus 27 p. text. <a href="#">[ONLINE]</a></p> | In<br>print |
| <p>28. Tin, tungsten, and molybdenum geochemistry of parts of Stevens and Spokane Counties, Washington, by B. B. Bunning. 1985. 57 p., 30 figs. <a href="#">[ONLINE]</a></p>  | In<br>print        | <p>38. 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. 2014. Three color sheets: 39 x 36 in., scale 1:18,000, plus 26 p. text. <a href="#">[ONLINE]</a></p>                 | In<br>print |
| <p>29. Mima Mounds—An evaluation of proposed origins with special reference to the Puget Lowland, by A. L. Washburn. 1988. 53 p., 13 figs. <a href="#">[ONLINE]</a></p>   | In<br>print        | <b>Washington Geological Survey</b>   |             |
| <p>30. 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. 1990. 37 p., 29 figs. <a href="#">[ONLINE]</a></p>   | In<br>print        | <p>39. 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. 2017. 26 p. text, 2 ESRI geodatabases, and 1 Microsoft Excel file. <a href="#">[ONLINE]</a></p>   | Web<br>only |
| <p>31. Paleontology and stratigraphy of Eocene rocks at Pulali Point, Jefferson County, eastern Olympic Peninsula, Washington, by R. L. Squires, J. L. Goedert, and K. L. Kaler. 1992. 27 p., 3 pl., 7 figs. <a href="#">[ONLINE]</a></p>   | In<br>print        | <p>40. Landslide inventory and susceptibility of the Columbia Gorge in Clark, Skamania, and Klickitat Counties, Washington, by K. A. Mickelson, K. E. Jacobacci, T. A. Contreras, W. Gallin, and S. L. Slaughter. 2018. 11 p. text and 2 ESRI geodatabases. <a href="#">[ONLINE]</a></p>  | Web<br>only |
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| <p>33. Late Pleistocene stratigraphy in the south-central Puget Lowland, Pierce County, Washington, by R. K. Borden and K. G. Troost. 2001. 33 p., 29 figs., 3 tables. <a href="#">[ONLINE]</a></p>   | In<br>print        | <p>42. Landslide inventory of western Whatcom County, by K. A. Mickelson, T. A. Contreras, W. N. Gallin, K. E. Jacobacci, and S. L. Slaughter. 2020. 7 p. text and 1 ESRI geodatabase. <a href="#">[ONLINE]</a></p>   | Web<br>only |
| <p>34. Digital landslide inventory for the Cowlitz County urban corridor—Kelso to Woodland (Coweeman River to Lewis River), Cowlitz County, Washington, by K. W. Wegmann. 2003. Consists of a GIS inventory of landslides as ArcView shapefiles, a Microsoft Access database, a Microsoft Excel spreadsheet version of the database, digital photographs of individual landslides, associated metadata, 1:24,000-scale landslide inventory maps for 7.5-minute quadrangles in the inventory area, and 20 p. text. 1 CD-ROM.<br/><i>Superseded by Report of Investigations 35.</i></p> | Out<br>of<br>print | <p>43. Landslide inventory of portions of Snohomish County, Washington by K. A. Mickelson, T. A. Contreras, M. D. Allen, K. E. Jacobacci, E. M. Richard, W. N. Gallin, Kara Fisher, and Gabriel Legoretta Paulin. 2022. 7 p. text. <a href="#">[ONLINE]</a></p>   | Web<br>only |
| <p>35. Digital landslide inventory for the Cowlitz County urban corridor, Washington, by K. W. Wegmann. 2006. 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. 1 CD-ROM. <a href="#">[ONLINE]</a><br/><i>Supersedes Report of Investigations 34.</i></p>  | In<br>print        | <p>44. Alluvial fan inventory of Klickitat County, Washington, by K. A. Mickelson, Trent Adams, and Crystal Lambert. 2023. 5 p. text. <a href="#">[ONLINE]</a></p>  | Web<br>only |
| <p>36. 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. 2013. Two color sheets: 36 x 43 in. and 36 x 28 in., scale 1:18,000, plus 39 p. text. <a href="#">[ONLINE]</a></p>   | In<br>print        | <p>45. Landslide inventory update of the Columbia River Gorge in Clark, Skamania, and Klickitat Counties, Washington, by M. D. Allen, E. M. Richard, Kara Fisher, Josh Hardesty, K. A. Mickelson, Trent Adams, and Crystal Lambert. 2023. 7 p. text. <a href="#">[ONLINE]</a></p>   | Web<br>only |

## ■ REPRINTS ■

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| <p>1. Ringold Formation of Pleistocene age in type locality, the White Bluffs, Washington, by R. C. Newcomb. 1958. 14 p. [<a href="#">ONLINE</a>]</p> <p>2. Pleistocene sequence in southeastern part of the Puget Sound lowland, Washington, by D. R. Crandell, D. R. Mullineaux, and H. H. Waldron. 1958. 15 p. [<a href="#">ONLINE</a>]</p> <p>3. Tertiary stratigraphic papers, southwestern Washington: McIntosh formation, Centralia-Chehalis coal district, Washington, by P. D. Snavely, Jr., W. W. Rau, Linn Hoover, Jr., and A. E. Roberts; Lyre formation (redefinition), northern Olympic Peninsula, Washington, by R. D. Brown, Jr., P. D. Snavely, Jr., and H. D. Gower; Twin River formation (redefinition), northern Olympic Peninsula, Washington, by R. D. Brown, Jr., and H. D. Gower. 1959. 50 p. [<a href="#">ONLINE</a>]</p> <p>4. Nickel-gold ore of the Mackinaw mine, Snohomish County, Washington, by Charles Milton and D. J. Milton. 1959. 22 p. [<a href="#">ONLINE</a>]</p> <p>5. What are the prospects in Washington State?, by F. H. Wurdien; and Puget Sound area has several prospective oil and gas basins, by J. Q. Anderson. 1959. 10 p. [<a href="#">ONLINE</a>]</p> | <p>Web only</p> <p>Web only</p> <p>Web only</p> <p>Web only</p> <p>Web only</p> | <p>6. Geology of the Jumbo Mountain nickel deposit, Snohomish County, Washington, by J. W. Mills. 1960. 4 p. [<a href="#">ONLINE</a>]</p> <p>7. Mineralogy and geochemistry of the Read magnetite deposit, southwestern Stevens County, Washington, by W. A. G. Bennett; and Ludwigite from the Read magnetite deposit, Stevens County, Washington, by W. T. Schaller and A. C. Vlisidis. 1962. 13 p. [<a href="#">ONLINE</a>]</p> <p>8. Emplacement of the Twin Sisters Dunite, Washington, by D. M. Ragan. 1963. 16 p. [<a href="#">ONLINE</a>]</p> <p>9. Mineral and water resources of Washington, by the U.S. Geological Survey and others. 1966. 436 p. [<a href="#">ONLINE</a>]</p> <p>10. Washington mineral deposits, by M. T. Huntting. 1966. 7 p. [<a href="#">ONLINE</a>]</p> <p>11. The search for hot rocks—Geothermal exploration, Northwest, by J. E. Schuster. 1973. 3 p. [<a href="#">ONLINE</a>]</p> <p>12. Geology of Washington, by the U.S. Geological Survey. 1978. 51 p., 1 pl. [<a href="#">ONLINE</a>]</p> <p>13. An assessment of the oil and gas potential of the Washington outer continental shelf, by S. P. Palmer and W. S. Lingley, Jr. 1989. 83 p., 12 pl. [<a href="#">ONLINE</a>]</p> | <p>Web only</p> <p>Web only</p> <p>Web only</p> <p>Web only</p> <p>Web only</p> <p>Web only</p> <p>Web only</p> <p>Web only</p> |
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## ■ RESOURCE MAPS ■

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| <p>1. Rock aggregate resource lands inventory map for Clark County, Washington, by C. N. Johnson, S. P. Palmer, and J. L. Poelstra. 2005. 36 x 36 in. color sheet, scale 1:100,000. [<a href="#">ONLINE</a>]</p> <p>2. Rock aggregate resource lands inventory map for Yakima County, Washington, by S. P. Palmer, J. L. Poelstra, and C. N. Johnson. 2005. 38 x 36 in. color sheet, scale 1:200,000. [<a href="#">ONLINE</a>]</p> | <p>In print</p> <p>In print</p> | <p>3. Potential growing areas for wine grapes in the Yakima Valley, Washington, by D. K. Norman, A. J. Busacca, and Wade Wolfe. 2009. 48 x 36 in. color sheet, scale 1:110,000. [<a href="#">ONLINE</a>]</p> | <p>In print</p> |
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## ■ TOPOGRAPHIC MAPS ■

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| <p>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).] [<a href="#">ONLINE</a>]</p> <p>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).] [<a href="#">ONLINE</a>]</p> <p>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).] [<a href="#">ONLINE</a>]</p> | <p>Web only</p> <p>Web only</p> <p>Web only</p> |
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## ■ MISCELLANEOUS REPORTS ■

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Quick report for the Ledgewood–Bonair landslide, Whidbey Island, Island County, Washington, by Stephen Slaughter, Isabelle Sarikhan, Michael Polenz, and Tim Walsh. 2013. [7 p.] <a href="#">[ONLINE]</a>	Web only	Mount St. Helens—A bibliography of geoscience literature, 1882–1986, by C. J. Manson, C. H. Messick, and G. M. Sinnott. 1987. 205 p. <a href="#">[AUTHOR]</a> <a href="#">[SUBJECT]</a>	Web only
Strategies for establishing a Washington State post-earthquake information clearinghouse: A report to the Washington Emergency Management Division, by T. J. Walsh and Recep Cakir. 2013. [20 p.] <a href="#">[ONLINE]</a>	Web only	Notes on division history, by J. E. Schuster. 1986. 9 p. <a href="#">[ONLINE]</a>	Web only
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. <a href="#">[ONLINE]</a>	Web only	Gems and minerals of Washington, by Bob Pattie. 1985. 1 sheet, scale 1:443,520. <a href="#">[ONLINE]</a>	Web only
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. <a href="#">[ONLINE]</a>	Web only	Washington's coal—History and future development potential, by Raymond Lasmanis and H. W. Schasse. 1982. 24 p. <a href="#">[ONLINE]</a>	Web only
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. <a href="#">[ONLINE]</a>	Web only	Forest Slope Stability Project, Phase II, by A. J. Fiksdal and M. J. Brunengo. 1981. 2 v. <a href="#">[ONLINE]</a>	Web only
Liquefaction susceptibility mapping for selected urban areas in the central Puget Sound region, Washington—Final technical report, by S. P. Palmer, W. J. Perkins, and W. P. Grant. 2004. 1 v. <a href="#">[ONLINE]</a>	Web only	Forest Slope Stability Project, Phase I, by A. J. Fiksdal and M. J. Brunengo. 1980. 18 p., 7 pl. <a href="#">[ONLINE]</a>	Web only
Holocene geologic history and sedimentology of the Duwamish and Puyallup valleys, Washington, by S. P. Palmer. 1997. 32 p. <a href="#">[ONLINE]</a>	Web only	A pre-1980 eruption description of Mount St. Helens, by the Washington Division of Geology and Earth Resources. 1980. 10 p. <a href="#">[ONLINE]</a>	Web only
Reconnaissance geology of the Matheny Ridge–Higley Peak areas, Olympic Peninsula, Washington, by W. S. Lingley, Jr., R. L. Logan, T. J. Walsh, W. J. Gerstel, H. W. Schasse. 1996. 31 p., 1 pl., scale 1:62,500. <a href="#">[ONLINE]</a>	Web only	Bibliography of Snohomish County geology, with an index to geologic mapping, by S. J. Simpson. 1979. 81 p., 6 pl. <a href="#">[ONLINE]</a>	Web only
Capitol campus greenhouse soil stability investigation status report, by S. P. Palmer and W. J. Gerstel. 1995. 1 v. <a href="#">[ONLINE]</a>	Web only	Photographic guide keyed to 15-minute quadrangles [supplement to OFR 79-2. An assessment of the uranium potential in the Ellensburg Formation, south-central Washington], by P. C. Milne. 1979. [47 p.] <a href="#">[ONLINE]</a>	Web only
Petroleum potential and probability of renewed mineral-rights leasing in the Columbia Basin, Washington, by W. S. Lingley, Jr. 1995. 43 p. <a href="#">[ONLINE]</a>	Web only	A learning guide on the geology of the Cispus Environmental Center area, Lewis County, Washington, by J. E. Schuster. 1973. 53 p. <a href="#">[ONLINE]</a>	Web only
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Thunder Creek basin, Skagit County—Report of DNR Study Team, by Jerry Thorsen. 1989. 33 p. <a href="#">[ONLINE]</a>	Web only	Ghost town references, by the State of Washington Board of Natural Resources. 1968? 3 p. <a href="#">[ONLINE]</a>	Web only
The Culver System in Washington State, by J. E. Schuster. 1988. <a href="#">[ONLINE]</a>	Web only	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. <a href="#">[ONLINE]</a>	Web only
Guide to production of 1:100,000-series open file reports, by Bill Phillips. 1988. 17 p. <a href="#">[ONLINE]</a>	Web only	State mineral production near record level in 1966, by M. T. Huntting. 1967? 9 p. <a href="#">[ONLINE]</a>	Web only
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. <a href="#">[ONLINE]</a>	Web only	Mine production record set in 1965, by M. T. Huntting. 1966? 3 p. <a href="#">[ONLINE]</a>	Web only
		Mining developments and future needs of Washington, by M. T. Huntting. 1965. 6 p. <a href="#">[ONLINE]</a>	Web only
		State mineral production at all time high in 1964, by M. T. Huntting. 1965? 4 p. <a href="#">[ONLINE]</a>	Web only
		“Firsts,” 1957–1964—Division of Mines and Geology, by M. T. Huntting? 1964? 2 p. <a href="#">[ONLINE]</a>	Web only



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A set of Washington rocks and minerals for schools, by Washington Division of Mines and Geology; Washington State Superintendent of Public Instruction. 1963. 13 p. <a href="#">[ONLINE]</a>	Web only	An outline of mining laws of the State of Washington, compiled and annotated, by M. H. Van Nuys. 1940. 55 p. <a href="#">[ONLINE]</a>	Web only
State Department of Conservation has record year [1962], by M. T. Huntting. 1963. 7 p. <a href="#">[ONLINE]</a>	Web only	<i>Superseded by Bulletin 41.</i>	
Preliminary report on mineral resources of the Cougar Lake limited area [Yakima County], by W. S. Moen. 1962. 9 p. <a href="#">[ONLINE]</a>	Web only	Oil and gas studies by the Division of Geology, by S. L. Glover. 1936. 8 p. <a href="#">[ONLINE]</a>	Web only
Mineral exploration in Washington—1960, by M. T. Huntting. 1961? 2 p. <a href="#">[ONLINE]</a>	Web only	Report of natural resources survey from October 1, 1933, to March 1, 1935, by T. B. Hill. 1935. 30 p. <a href="#">[ONLINE]</a>	Web only
Washington mineral industry—1960, by M. T. Huntting. 1961? 5 p. <a href="#">[ONLINE]</a>	Web only	Colloidal fuel, by M. C. Butler. 1934. 9 p. <a href="#">[ONLINE]</a>	Web only
		Mining in the Pacific Northwest, by L. K. Hodges. 1897. 183 p. <a href="#">[ONLINE]</a>	Web only

## ■ 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

Information on fossil and mineral collecting in Washington, includes [Fossils in Washington](#), [Gems and Minerals of Washington](#), and [Mineral Checklist](#).

### 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 insights and records of mineral resources across Washington State. [\[ONLINE\]](#)

## ■ OTHER PUBLICATIONS ■

*Other publications are available online only.*

### **TSUNAMI EVACUATION WALK TIME MAPS**

Washington Geological Survey, 2019, Aberdeen, Hoquiam, and Cosmopolis Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2019, Anacortes Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2019, Bellingham Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2019, Ilwaco and Cape Disappointment Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2019, Long Beach and Seaview Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2019, Port Angeles Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2019, Port Townsend Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2019, Westport Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2022, Cranberry Road to Ocean Park Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2022, Leadbetter Point Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2022, North Cove to Shoalwater Bay Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2022, Ocean Park to Leadbetter State Park Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2022, Tokeland Peninsula Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2022, North Ocean Shores Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2022, Grayland Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2023, La Push Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2023, Copalis Beach to Pacific Beach Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2023, Ocean City to Copalis Beach Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2023, Hoh Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2023, Queets Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2023, Taholah Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

Washington Geological Survey, 2023, Moclips Tsunami Evacuation Walk Times: Washington Department of Natural Resources, Washington Geological Survey, 1 sheet. [[ONLINE](#)]

## ■ OTHER PUBLICATIONS ■

*Other publications are available online only.*

### **WILDFIRE-ASSOCIATED LANDSLIDE EMERGENCY RESPONSE TEAM (WALERT) REPORTS**

Burned Area Emergency Response (BAER) Norse Peak and American Fires, Geology: Landslides, by Stephen Slaughter and Trevor Contreras. 2017. 18 p. text. [[ONLINE](#)]

Burned Area Emergency Response (BAER) Jolly Mountain Fire, Geology: Landslides, by Stephen Slaughter and Trevor Contreras. 2017. 11 p. text. [[ONLINE](#)]

Crescent Mountain Fire Twisp River Debris Flow Evaluation, by Trevor Contreras. 2018. 16 p. text. [[ONLINE](#)]

Burned Area Emergency Response (BAER) Cougar Creek Fire, Geology: Entiat River Road Debris Flow Evaluation, by Stephen Slaughter and Trevor Contreras. 2018. 19 p. text. [[ONLINE](#)]

Wildfire-associated Landslide Emergency Response Team (WaLERT) Report for the Left Hand Fire, by Trevor Contreras and William Gallin. 2019. 15 p. text. [[ONLINE](#)]

Evans Canyon Fire, Wenas and Untanum Creeks, Yakima and Kittitas Counties, Washington, by Trevor Contreras and Emilie Richard. 2020. 1 sheet, with 5 p. text. [[ONLINE](#)]

Twentyfive Mile Fire, Chelan County, Washington, by Trevor Contreras and Katherine Mickelson. 2021. 6 p. text. [[ONLINE](#)]

Muckamuck Fire, Okanogan County, Washington, by Trevor Contreras and Katherine Mickelson. 2021. 1 sheet, with 7 p. text. [[ONLINE](#)]

Schneider Springs Fire, Yakima County, Washington, by Trevor Contreras, William Gallin, Katherine Mickelson, and Kara Jacobacci. 2021. 7 p. text. [[ONLINE](#)]

Ford Corkscrew Fire, Stevens County, Washington, by Trevor Contreras and Mitchell Allen. 2021. 1 sheet, with 6 p. text. [[ONLINE](#)]

Cedar Creek and Cub Creek 2 Fires, Okanogan County, Washington, by Trevor Contreras and Kate Mickelson. 2021. 2 sheets, with 14 p. text. [[ONLINE](#)]

Lick Creek and Silcott Fires, Asotin and Garfield Counties, Washington, by Trevor Contreras and Kara Jacobacci. 2021. 3 sheets, with 8 p. text. [[ONLINE](#)]

Red Apple Fire, Burch Mountain, Chelan County, Washington, by Trevor Contreras and Emilie Richard. 2021. 1 sheet with 10 p. text. [[ONLINE](#)]

Chuweah Creek Fire, Nespelem Water Tanks, Okanogan County, Washington, by Trevor Contreras. 2021. 8 p. text. [[ONLINE](#)]

Bolt Creek, Suiattle River, Boulder Lake, and Lake Toketie Fires, King and Snohomish Counties, Washington, by Kate Mickelson and Mitchell Allen. 2022. 10 p. text. [[ONLINE](#)]

Newell Road Fire, Klickitat County, Washington, by Kate Mickelson and Emilie Richard. 2023. 1 sheet, with 6 p. text. [[ONLINE](#)]

Eagle Bluff Fire, Okanogan County, Washington, by Mitchell Allen and Josh Hardesty. 2023. 1 sheet, with 6 p. text. [[ONLINE](#)]

Sourdough and Blue Lake Fires, Whatcom and Chelan Counties, Washington, by Josh Hardesty and Kara Fisher. 2023. 2 sheets, with 10 p. text. [[ONLINE](#)]

### **SCHOOL SEISMIC SAFETY PROGRAM**

#### **Legislative Reports**

School Seismic Safety Project Phase 1 (2017–2019) Progress Report, by D. K. Norman and Joanna Eide, 2018. 187 p. text. [[ONLINE](#)]

School Seismic Safety Project Phase 1 (2017–2019) Final Legislative Report, by Washington Geological Survey. 2019. 88 p. text. [[ONLINE](#)]

School Seismic Safety Project Phase 2 (2019–2021) Final Legislative Report, by Washington Geological Survey. 2021. 147 p. text. [[ONLINE](#)]