

# Publications of the Washington Geological Survey

January 2019

*Some of our publications are sold through the  
Washington State Department of Enterprise Services  
(see p. 3)*



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 .....	10
Fact Sheets.....	10
Field Trip Guides.....	10
Geologic Maps.....	10
Information Circulars.....	14
Map Series.....	18
Open File Reports .....	20
Reports Of Investigations.....	34
Reprints .....	36
Resource Maps .....	36
Topographic Maps.....	36
Tsunami Evacuation And Inundation Maps ....	37
Miscellaneous Reports.....	38
3D PDFs—7.5-Minute Quadrangles .....	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. Publications that are in print may be purchased from the Washington State Department of Enterprise Services (see below for details). 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.

### IN-PRINT PUBLICATIONS

Publications marked 'In print' may be ordered from the Washington State Department of Enterprise Services. To order, note the publication series,

number, and title of the desired publication(s) before using the online store (<http://www.des.wa.gov>). If you use the online store, select 'SERVICES', then 'Print Online Ordering' under 'Printing & Mail', then myFULFILLMENT' in the middle of the screen. In the left panel, select 'Fulfillment (By Agency)', then 'Natural Resources (Geology Division)'. Publications in the General Store are organized by series, and listed prices include shipping and handling. Follow the website instructions to complete your purchase.

### OUT-OF-PRINT PUBLICATIONS

Many of our publications are out of print and no longer for sale, 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>. Out-of-print 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. The parking fee is \$1.50/hr.

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.*

<b>Washington State Geologist</b>			
Mines and minerals of Washington—Annual report of George A. Bethune, first State Geologist, 1890, by G. A. Bethune. 1891. 122 p. <a href="#">[ONLINE]</a>	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. <a href="#">[ONLINE]</a>	Out of print
Mines and minerals of Washington—Second annual report of George A. Bethune, State Geologist, by G. A. Bethune. 1892. 186 p. <a href="#">[ONLINE]</a>	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. <a href="#">[ONLINE]</a>	Out of print
<b>Washington Mining Bureau</b>		<b>Department of Conservation and Development*</b>	
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. <a href="#">[ONLINE]</a>	Out of print	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. <a href="#">[ONLINE]</a>	Out of print
<b>Washington Geological Survey</b>		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. <a href="#">[ONLINE]</a>	Out of print
Annual Report for 1901; Volume I. 1902. 344 p. <a href="#">[PARTS I-II]</a> <a href="#">[PARTS III-VI]</a>	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. <a href="#">[ONLINE]</a>	Out of print
<i>The chapters are also available separately:</i>		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. <a href="#">[ONLINE]</a>	Out of print
Part I. Creation of a state geological survey, and, An outline of the geology of Washington, by Henry Landes. 1902. 35 p., 5 pl. <a href="#">[ONLINE]</a>	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. <a href="#">[ONLINE]</a>	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. <a href="#">[ONLINE]</a>	Out of print	Biennial report of Division of Geology—April 1, 1933, to November 30, 1934, by H. E. Culver. 1935. 14 p. <a href="#">[ONLINE]</a>	Out of print
Part III. The non-metalliferous resources of Washington, by Henry Landes. 1902. 55 p., 11 pl. <a href="#">[ONLINE]</a>	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. <a href="#">[ONLINE]</a>	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. <a href="#">[ONLINE]</a>	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. <a href="#">[ONLINE]</a>	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. <a href="#">[ONLINE]</a>	Out of print	Summary report of major activities, Division of Geology, for the biennium 1935-37, by H. E. Culver. 1936. 7 p. <a href="#">[ONLINE]</a>	Out of print
Part VI. Bibliography of the literature referring to the geology of Washington, by Ralph Arnold. 1902. 16 p. <a href="#">[ONLINE]</a>	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. <a href="#">[ONLINE]</a>	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 <a href="#">[ONLINE]</a> ; Part II. Coal deposits of Washington, by Henry Landes and C. A. Ruddy <a href="#">[ONLINE]</a> )	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. <a href="#">[ONLINE]</a>	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. <a href="#">[ONLINE]</a>	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. <a href="#">[ONLINE]</a>	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. <a href="#">[ONLINE]</a>	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. <a href="#">[ONLINE]</a>	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. <a href="#">[ONLINE]</a>	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. <a href="#">[ONLINE]</a>	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. <a href="#">[ONLINE]</a>	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. <a href="#">[ONLINE]</a>	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 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 ■

*In-print Bulletins are sold through the Washington State Department of Printing General Store (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>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 ■

*In-print Bulletins are sold through the Washington State Department of Printing General Store (see p. 3)*

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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 |
| 39. | Antimony occurrences of Washington, by C. P. Purdy Jr. 1951. 186 p., 14 figs. [ <a href="#">ONLINE</a> ]  | Out of print | 58.  | Chemical and physical controls for base metal deposition in the Cascade Range of Washington, by A. R. Grant. 1969. 107 p., 33 figs. [ <a href="#">ONLINE</a> ]  | Out of print |
| 40. | Geology of the Bead Lake district, Pend Oreille County, Washington, by M. C. Schroeder. 1952. 57 p., 1 pl., 6 figs. [ <a href="#">ONLINE</a> ]  | Out of print | 59.  | Bibliography and index of the geology and mineral resources of Washington, 1957–1962, by W. H. Reichert. 1969. 375 p.<br><i>Superseded by the <a href="#">online bibliography</a>.</i>  | Out of print |
| 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 |
| 51. | Barite in Washington, by W. S. Moen. 1964. 112 p., 2 pl. [ <a href="#">ONLINE</a> ]   | In print     | 69.  | Silver occurrences of Washington, by W. S. Moen. 1976. 188 p. [Reprinted 1982.] [ <a href="#">ONLINE</a> ]  | In print     |
| 52. | Limestone resources of western Washington, by W. R. Danner. 1966. 474 p. [ <a href="#">PART 1</a> ] [ <a href="#">PART 2</a> ] [ <a href="#">PART 3</a> ]   | In print     | 70.  | Zinc and lead ore deposits in carbonate rocks, Stevens County, Washington, by J. W. Mills. 1977. 171 p. [ <a href="#">ONLINE</a> ]  | In print     |
| 53. | Stratigraphy and foraminifera of the Satsop River area, southern Olympic Peninsula, Washington, by W. W. Rau. 1966. 66 p. [ <a href="#">ONLINE</a> ]  | In print     | 71.  | Geology of parts of Grant, Adams, and Franklin Counties, east-central Washington, by M. J. Grolier and J. W. Bingham. 1978. 91 p., 33 figs. [ <a href="#">ONLINE</a> ]  | Out of print |
| 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     |
| 55. | Building stone of Washington, by W. S. Moen. 1967. 85 p. [ <a href="#">ONLINE</a> ]   | In print     | 73.  | Myers Creek and Wauconda mining districts of northeastern Okanogan County, Washington, by W. S. Moen. 1980. 96 p., 6 pl., 36 figs. [ <a href="#">ONLINE</a> ]   | Out of print |
| 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 ■

*In-print Bulletins are sold through the Washington State Department of Printing General Store (see p. 3)*

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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 ■

*Digital Data Series are available online only.*

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| <p>1. Washington State seismogenic features database—GIS data, by J. D. Bowman and J. L. Czajkowski. 2016. [<a href="#">ONLINE</a>]</p> <p>2. Washington State aeromagnetic and gravity anomaly data—GIS data, by J. D. Bowman. 2013. [<a href="#">ONLINE</a>]</p> <p>3. Volcanic vents database for Washington State—GIS data, by J. L. Czajkowski and J. D. Bowman. 2013. [<a href="#">ONLINE</a>]</p> <p>4. Geothermal direct-use database in Washington State—GIS data, by J. D. Bowman. 2014. [<a href="#">ONLINE</a>]</p> <p>5. Washington State rock geochemistry database—GIS data, by J. D. Bowman, J. L. Czajkowski, S. P. Reidel, D. E. Boschmann, and L. A. Fusso. 2014. [<a href="#">ONLINE</a>]</p> <p>6. Washington State geochronology database—GIS data, by J. L. Czajkowski. 2016. [<a href="#">ONLINE</a>]</p> <p>7. Thermal and mineral springs database for Washington State—GIS data, by J. L. Czajkowski, J. D. Bowman, L.A. Fusso, and D. E. Boschmann. 2014. [<a href="#">ONLINE</a>]</p> <p>8. Washington State geothermal well database—GIS data, by J. L. Czajkowski, J. D. Bowman, L. A. Fusso, and D. E. Boschmann. 2014. [<a href="#">ONLINE</a>]</p> <p>9. Washington State geothermal favorability model database—GIS data, by D. E. Boshmann, J. L. Czajkowski, and J. D. Bowman. 2014. [<a href="#">ONLINE</a>]</p> <p>10. Surface geology, 1:24,000—GIS data, by Washington Division of Geology and Earth Resources. 2017. [<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> <p>Web only</p> <p>Web only</p> | <p>11. Subsurface database of Washington State—GIS data, by D. A. Jeschke, D. W. Eungard, K. G. Troost, and A. P. Wisher. 2017. [<a href="#">ONLINE</a>]</p> <p>13. Metallic minerals database—GIS data, by Washington Division of Geology and Earth Resources. 2015. [<a href="#">ONLINE</a>]</p> <p>14. Nonmetallic (industrial) minerals database—GIS data, by Washington Division of Geology and Earth Resources. 2015. [<a href="#">ONLINE</a>]</p> <p>15. Hazardous minerals database—GIS data, by Washington Division of Geology and Earth Resources. 2015. [<a href="#">ONLINE</a>]</p> <p>16. Coal database—GIS data, by Washington Division of Geology and Earth Resources. 2015. [<a href="#">ONLINE</a>]</p> <p>17. Shear wave database—GIS data, by Washington Division of Geology and Earth Resources. 2016. [<a href="#">ONLINE</a>]</p> <p>18. Surface geology, 1:100,000—GIS data, by Washington Division of Geology and Earth Resources. 2016. [<a href="#">ONLINE</a>]</p> <p style="text-align: center;"><b>Washington Geological Survey</b></p> <p>12. Landslides compilation of Washington State—GIS data, by Washington Geological Survey, 2019. [<a href="#">ONLINE</a>]</p> <p>19. Landslide inventory protocol mapping—GIS data, by Washington Geological Survey, 2019. [<a href="#">ONLINE</a>]</p> <p>20. Coal mine maps—GIS data, by Washington Geological Survey, 2017. [<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> <p>Web only</p> <p>Web only</p> <p>Web only</p> |
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## ■ DIGITAL REPORTS ■

*Digital Reports are available online only.*

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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>Geology in the public interest. 2015. 4 p. [<a href="#">ONLINE</a>]</p>        | <p>Web<br/>only</p> | <p>What are landslides and how do they occur? 2015. 2 p. [<a href="#">ONLINE</a>]</p>    | <p>Web<br/>only</p> |
| <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 ■

*In-print Field Trip Guides are sold through the Washington State Department of Printing General Store (see p. 3)*

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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 ■

*In-print Geologic Maps are sold through the Washington State Department of Printing General Store (see p. 3)*

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

### Division of Geology

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

Out of  
print

### Division of Mines and Geology

Geologic map of Washington, by M. T. 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](#)]

Out of  
print

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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> |

## ■ GEOLOGIC MAPS ■

*In-print Geologic Maps are sold through the Washington State Department of Printing General Store (see p. 3)*

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-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-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-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-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-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-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-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-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-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-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-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-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-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-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-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-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-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-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-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-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-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-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-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 ■

*In-print Geologic Maps are sold through the Washington State Department of Printing General Store (see p. 3)*

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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. Heinitz, 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 ■

*In-print Geologic Maps are sold through the Washington State Department of Printing General Store (see p. 3)*

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
		<i>Note:</i> STATEMAP 7.5-minute quadrangles from 2012 through the present have been published under the new <a href="#">Map Series</a> .	



## ■ INFORMATION CIRCULARS ■

*In-print Information Circulars are sold through the Washington State Department of Printing General Store (see p. 3)*

### Division of Geology

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|---|--------------|--|--------------|
| <p>1. Present status of topographic mapping in Washington, by S. L. Glover. 1935. 10 p. [<a href="#">ONLINE</a>]</p>  | Out of print | <p>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). [<a href="#">ONLINE</a>]</p> | Out of print |
| <p>2. Summary report on Washington minerals, production and resources, by S. L. Glover. 1935. 10 p. [<a href="#">ONLINE</a>]</p>  | Out of print | <p>16. 1948 directory of Washington mining operations, by S. H. Green. 1948. 51 p. [<a href="#">ONLINE</a>]</p>  | Out of print |
| <p>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. [<a href="#">ONLINE</a>]</p> | Out of print | <p>17. 1949 directory of Washington mining operations, by M. T. Huntting. 1949. 62 p. [<a href="#">ONLINE</a>]</p>   | Out of print |

### Division of Mines and Mining

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|---|--------------|--|--------------|
| <p>1. Directory of Washington mines 1938, compiled by the Division of Mines and Mining. 1938. 15 p. [<a href="#">ONLINE</a>]</p>  | Out of print | <p>20. 1952 directory of Washington mining operations, by C. P. Purdy Jr. 1952. 75 p., 2 figs. [<a href="#">ONLINE</a>]</p>                                      | Out of print |
| <p>1. Summary of state and federal mining laws relating to federal lands and mining laws relating to state lands, compiled by the Washington State Library. 1935. 8 p. [Reprinted 1938.] [<a href="#">ONLINE</a>]</p> | Out of print | <p>21. 1953 directory of Washington mining operations, by C. P. Purdy Jr. 1953. 81 p., 2 figs. [<a href="#">ONLINE</a>]</p>                                      | Out of print |
| <p>2. Directory of Washington mines, 1939, compiled by the Division of Mines and Mining. 1939. 21 p. [<a href="#">ONLINE</a>]</p>   | Out of print | <p>22. Introduction to Washington geology and resources, by C. D. Campbell. 1953. 42 p., 5 figs. [<a href="#">ONLINE</a>]</p>                                    | Out of print |
| <p>3. January, 1940, supplement to directory of Washington mines, 1939, compiled by the Division of Mines and Mining. 1940. 3 p. [<a href="#">ONLINE</a>]</p>   | Out of print | <p>22R. Introduction to Washington geology and resources, revised by C. D. Campbell. 44 p., 5 figs. [Revised 1962.] [<a href="#">ONLINE</a>]</p>                 | In print     |
| <p>4. Preliminary report on strategic metals in Washington, by the Division of Mines and Mining. 1940. 7 p. [<a href="#">ONLINE</a>]</p>  | Out of print | <p>23. 1954 directory of Washington mining operations, by C. P. Purdy Jr. 1954. 73 p., 2 figs. [<a href="#">ONLINE</a>]</p>                                      | Out of print |
| <p>5. Directory of Washington metallic mining properties, by the Division of Mines and Mining. 1940. 72 p. [<a href="#">ONLINE</a>]</p>   | Out of print | <p>24. 1955 directory of Washington mining operations, by M. T. Huntting. 1955. 80 p., 2 figs. [<a href="#">ONLINE</a>]</p>                                      | Out of print |
| <p>6. Summary of information on iron ore deposits of Washington, by the Division of Mines and Mining. 1940. 11 p. [<a href="#">ONLINE</a>]</p>  | Out of print | <p>25. 1956 directory of Washington mining operations, by H. D. Banta. 1956. 88 p., 2 fig. [<a href="#">ONLINE</a>]</p>  | Out of print |
| <p>7. Directory of Washington metallic mining properties, by Division of Mines and Mining. 1941. 74 p. [<a href="#">ONLINE</a>]</p>   | Out of print | <p>26. Uranium in Washington (an extract from Bulletin 37, Part II), by M. T. Huntting. 1957. 10 p., 1 pl. [<a href="#">ONLINE</a>]</p>                          | Out of print |
| <p>8. Directory of Washington mining operations, by Ward Carithers. 1943. 36 p. [<a href="#">ONLINE</a>]</p>  | Out of print | <p>27. 1957 directory of Washington mining operations, by V. E. Livingston Jr. 1957. 96 p., 2 figs. [<a href="#">ONLINE</a>]</p>                                 | Out of print |
| <p>9. 1944 directory of Washington mining operations, by S. H. Green. 1944. 36 p. [<a href="#">ONLINE</a>]</p>  | Out of print | <p>28. 1958 directory of Washington mining operations, by W. S. Moen, V. E. Livingston Jr., and G. W. Thorsen. 1958. 76 p., 2 figs. [<a href="#">ONLINE</a>]</p> | Out of print |
| <p>10. Geologic factors of quarrying, by S. L. Glover and W. A. G. Bennett. 1944. 18 p., 5 figs. [<a href="#">ONLINE</a>]</p>   | Out of print | <p>29. Oil and gas exploration in Washington, 1900–1957, by V. E. Livingston Jr. 1958. 61 p., 1 pl. [<a href="#">ONLINE</a>]</p>                                 | Out of print |

### Division of Mines and Geology

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|---|--------------|---|--------------|
| <p>11. 1945 directory of Washington mining operations, by S. H. Green and Ward Carithers. 1945. 48 p. [<a href="#">ONLINE</a>]</p>  | Out of print | <p>31. Prospecting in Washington, by D. L. Anderson. 1959. 26 p., 9 figs. [<a href="#">ONLINE</a>]</p>                            | Out of print |
| <p>12. 1946 directory of Washington mining operations, by S. H. Green. 1946. 57 p. [<a href="#">ONLINE</a>]</p>   | Out of print | <p>32. Early man in Washington, by R. D. Daugherty. 1959. 66 p., 28 figs. [<a href="#">ONLINE</a>]</p>                            | Out of print |
| <p>13. 1947 directory of Washington mining operations, by S. H. Green. 1947. 59 p. [<a href="#">ONLINE</a>]</p>   | Out of print | <p>33. Fossils in Washington, by V. E. Livingston Jr. 1959. 34 p., 1 pl., 17 figs. [Reprinted 1983.] [<a href="#">ONLINE</a>]</p> | Out of print |
| <p>14. Excerpts from “Washington fuel requirements and supplies”, Battelle Memorial Institute survey report to Washington State Department of Conservation and Development, compiled by R. J. Lund and J. D. Sullivan. 1947. 19 p. [<a href="#">ONLINE</a>]</p> | Out of print | <p>34. 1959 directory of Washington mining operations, by G. W. Thorsen. 1960. 78 p., 2 figs. [<a href="#">ONLINE</a>]</p>        | Out of print |
| <p>15. Oil and gas exploration in Washington, by S. L. Glover. 1947. 49 p., 3 figs. [<a href="#">ONLINE</a>]</p>  | Out of print | <p>35. 1960 directory of Washington mining operations, by G. W. Thorsen. 1961. 84 p., 2 figs. [<a href="#">ONLINE</a>]</p>        | Out of print |
|   |              | <p>36. Mineral rights and land ownership in Washington, by W. S. Moen. 1962. 23 p., 1 pl., 2 figs. [<a href="#">ONLINE</a>]</p>   | Out of print |
|   |              | <p>37. 1962 directory of Washington mining operations, by G. W. Thorsen. 1963. 81 p., 2 figs. [<a href="#">ONLINE</a>]</p>        | Out of print |

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| <p>2018-01    Tsunami hazard maps of southwest Washington—Model results from a ~2,500-year Cascadia subduction zone earthquake scenario, by D. W. Eungard, Corina Forson, T. J. Walsh, Edison Gica, and Diego Arcas. 2018. Six 36 x 42 in. map sheets, scale 1:48,000, with 11 p. text. [Revised 2018] <a href="#">[ONLINE]</a></p>  | Web<br>only | <p>2018-04    Geologic map of the Violet Prairie 7.5-minute quadrangle, Thurston and Lewis Counties, Washington, by Michael Polenz, B. A. Ostrom, T. R. Lau, A. J. Sadowski, A. L. Blanks-Bennett, Recep Cakir, J. H. Tepper, Gabriel Legorreta Paulin, Elizabeth Nesbitt, S. A. DuFrane. 2018. 42 x 36 in. color plate, scale 1:24,000, with 41 p. text. <a href="#">[ONLINE]</a></p> | Web<br>only |
| <p>2018-02    Tsunami hazard maps of the Anacortes–Bellingham area, Washington—Model results from a ~2,500-year Cascadia subduction zone earthquake scenario, by D. W. Eungard, Corina Forson, T. J. Walsh, Edison Gica, and Diego Arcas. 2018. Six 36 x 36 in. map sheets, scale 1:30,000, with 10 p. text. <a href="#">[ONLINE]</a></p>                                  | Web<br>only | <p>2018-05    Geologic map of the Centralia 7.5-minute quadrangle, Lewis County, Washington, by A. J. Sadowski, W. E. Keller, Michael Polenz, T. R. Lau, Recep Cakir, Elizabeth Nesbitt, J. H. Tepper, S. A. DuFrane, Gabriel Legorreta Paulin. 2018. 42 x 36 in. color plate, scale 1:24,000, with 43 p. text. <a href="#">[ONLINE]</a></p>   | Web<br>only |
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| <p>2004-10. Geologic map of the Summit Lake 7.5-minute quadrangle, Thurston and Mason Counties, Washington, by R. L. Logan and T. J. Walsh. 2004. 42 x 36 in. color sheet, scale 1:24,000. [<a href="#">ONLINE</a>]</p>  | Web only  | <p>2005-3. Digital 1:100,000-scale geology of Washington State, version 1.0, by Washington Division of Geology and Earth Resources staff. 2005. Contains 11 ESRI shapefiles of geologic data, 3 shapefiles of nongeologic auxiliary data, and 7 documentation files in Microsoft Word, Microsoft Excel, and Adobe PDF formats.</p> | Lib. use only |
| <p>2004-11. Geologic map of the Greenacres 7.5-minute quadrangle, Spokane County, Washington, by R. E. Derkey, M. M. Hamilton, and D. F. Stradling. 2004. 36 x 39 in. color sheet, scale 1:24,000. [<a href="#">ONLINE</a>]</p>  | Web only  | <p><i>Superseded by online GIS data.</i></p>   |               |
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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> ]	Web only	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> ]	In print
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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 of<br>print |  |  | Out of<br>print |

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| 11. | Stratigraphic aspects of the Blewett–Cle Elum iron ore zone, Chelan and Kittitas Counties, Washington, by R. L. Lupper. 1944. 63 p., 2 pl. [ <a href="#">ONLINE</a> ]         | Out of<br>print |  |  |                 |
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| 19. | A stratigraphic section in the Yakima Basalt and the Ellensburg Formation in south-central Washington, by J. H. Mackin. 1961. 5 p., 9 pl., 4 figs. [ <a href="#">ONLINE</a> ]  | Out of<br>print |  |  | Out of<br>print |
| 20. | Geological interpretation of airborne magnetometer and scintillometer survey—Mt. Bonaparte, Bodie Mountain, Curlew, Aeneas, and Republic quadrangles, Okanogan and Ferry Counties, Washington, by Hunting Geophysical Services, Inc. 1960. 34 p., 25 pl., 2 figs. [ <a href="#">ONLINE</a> ] | Out of<br>print |  |  | Out 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 of<br>print |  |  | Out 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 of<br>print |  |  | Out 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 of<br>print |  |  | Out of<br>print |

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| 24. | Mount St. Helens ash—Properties and possible uses, by W. S. Moen and G. B. McLucas. 1981. 60 p., 28 figs. [ <a href="#">ONLINE</a> ]                                | In<br>print     |  |  |                 |
| 25. | A cross section of a Nevada-style thrust in northeast Washington, by J. R. Snook, H. E. Lucas, and M. J. Abrams. 1981. 9 p., 2 figs. [ <a href="#">ONLINE</a> ]     | Out of<br>print |  |  | Out of<br>print |
| 26. | Coastal wells of Washington, by W. W. Rau and C. R. McFarland. 1982. 4 sheets. [ <a href="#">ONLINE</a> ]   | In<br>print     |  |  | In<br>print     |
| 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> ]     | In<br>print     |  |  | In<br>print     |
| 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> ] | In<br>print     |  |  | In<br>print     |

## ■ REPORTS OF INVESTIGATIONS ■

*In-print Reports of Investigations are sold through the Washington State Department of Printing General Store (see p. 3)*

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|---|-----------------|---|-------------|
| <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     | <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>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>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>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>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>32. Liquefaction features from a subduction zone earthquake—Preserved examples from the 1964 Alaska earthquake, by T. J. Walsh, R. A. Combellick, and G. L. Black. 1995. 80 p., 75 figs., 3 tables. [<a href="#">ONLINE</a>]</p>   | In<br>print     | <p><b>Washington Geological Survey</b></p>  |             |
| <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>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>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 of<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 |
| <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>41. Landslide inventory of western King County, by K. A. Mickelson, K. E. Jacobacci, T. A. Contreras, W. N. Gallin, and S. L. Slaughter. 2019. 7 p. text and 1 ESRI geodatabase. [<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. Wurden; 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>In print</p> <p>In print</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>In print</p> |
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## ■ TSUNAMI EVACUATION BROCHURES AND INUNDATION MAPS ■

*Tsunami inundation maps and evacuation brochures are available for many areas on Washington's outer coast, the Strait of Juan de Fuca, and Puget Sound. The most complete listing of these maps is on the [Geologic Hazard Maps](#) page at our website. The *Tsunami Evacuation* theme on the *Geologic Information Portal* allows you to search for evacuation routes by address. See also the [Washington Emergency Management Division](#) website.*

### EVACUATION BROCHURES

Tsunami! Evacuation map for Port Townsend and vicinity. 2003. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Bay Center and vicinity. 2007. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Bellingham. 2007. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Cosmopolis and South Aberdeen. 2007. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Long Beach and Ilwaco. 2007. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Lummi Reservation. 2007. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for North Cove and Tokeland. 2007. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Ocean City, Copalis Beach, Pacific Beach, and Moclips. 2007. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Ocean Park and vicinity. 2007. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Ocean Shores and vicinity. 2007. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Point Roberts. 2007. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Raymond and South Bend. 2007. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Sandy Point. 2007. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for the Hoh Reservation. 2007. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Westport, Grayland, and Ocosta. 2007. <a href="#">[ONLINE]</a>	Web only
General Evacuation map for Taholah Ocean Tracts and Point Grenville. 2011. <a href="#">[ONLINE]</a>	Web only
General Evacuation map for Taholah Village. 2011. <a href="#">[ONLINE]</a>	Web only
General Evacuation map for Amanda Park Village. 2011. <a href="#">[ONLINE]</a>	Web only
General Evacuation map for Tsa'alal Village. 2011. <a href="#">[ONLINE]</a>	Web only
General Evacuation map for Queets. 2011. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Queets. 2011. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Tahola Village. 2011. <a href="#">[ONLINE]</a>	Web only

Tsunami! Evacuation map for Tahola Ocean Tracts and Point Grenville. 2011. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Aberdeen and Hoquiam. 2012. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Clallam Bay and vicinity. 2012. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for La Push and Vicinity. 2012. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Lummi Island. 2012. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Neah Bay and Vicinity. 2012. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Port Angeles and vicinity. 2012. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Birch Bay and Blaine. 2014. <a href="#">[ONLINE]</a>	Web only
Tsunami! Evacuation map for Chinook and vicinity. 2014. <a href="#">[ONLINE]</a>	Web only

### INUNDATION MAPS

GM-49 Tsunami hazard map of the southern Washington coast--Modeled tsunami inundation from a Cascadia subduction zone earthquake. 2000. <a href="#">[ONLINE]</a>	Web only
OFR 2002-1 Tsunami inundation map of the Port Angeles, Washington, area. 2002. <a href="#">[ONLINE]</a>	Web only
OFR 2002-2 Tsunami inundation map of the Port Townsend, Washington, area. 2002. <a href="#">[ONLINE]</a>	Web only
OFR 2003-1 Tsunami inundation map of the Quileute, Washington, area. 2003. <a href="#">[ONLINE]</a>	Web only
OFR 2003-2 Tsunami inundation map of the Neah Bay, Washington, area. 2003. <a href="#">[ONLINE]</a>	Web only
OFR 2003-14 Tsunami hazard map of the Elliott Bay area, Seattle, Washington Modeled tsunami inundation from a Seattle fault earthquake. 2003. <a href="#">[ONLINE]</a>	Web only
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OFR 2005-1 Tsunami hazard map of the Anacortes-Whidbey Island area, Washington--Modeled tsunami inundation from a Cascadia subduction zone earthquake. 2005. <a href="#">[ONLINE]</a>	Web only
OFR 2009-9 Tsunami hazard map of Tacoma, Washington--Model results for Seattle Fault and Tacoma Fault earthquake tsunami. 2009. <a href="#">[ONLINE]</a>	Web only
OFR 2014-3 Tsunami hazard map of Everett, Washington: Model results for magnitude 7.3 and 6.7 Seattle fault earthquakes. 2014. <a href="#">[ONLINE]</a>	Web only

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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
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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






















## ■ 3D PDFS—7.5-MINUTE QUADRANGLES ■

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

<b>Airway Heights</b> WGS Open File Report 2004-1—Derkey and others, 2004	↓	<b>Freeland and Hansville</b> WGS Geologic Map 64—Polenz and others, 2006	↓
<b>Auburn</b> USGS GQ 406—Mullineaux and others, 1961	↓	<b>Greenacres</b> WGS Open File Report 2004-11—Derkey and others, 2004	↓
<b>Belfair</b> WGS Open File Report 2009-7—Polenz and others, 2009	↓	<b>Holly</b> WGS Open File Report 2011-6—Contreras and others, 2012	↓
<b>Black Diamond</b> USGS GQ 407—Mullineaux and others, 1965	↓	<b>Hoodspport</b> WGS Open File Report 2011-3—Polenz and others, 2012	↓
<b>Brinnon</b> WGS Map Series 2012-02—Polenz and others, 2012	↓	<b>Juniper Beach</b> WGS Geologic Map 70—Schasse and others, 2009	↓
<b>Buckley</b> USGS PP 388A—Crandell and others, 1959	↓	<b>Lacey</b> WGS Open File Report 2003-9—Logan and others, 2003	↓
<b>Burley</b> WGS Open File Report 2009-8—Polenz and others, 2009	↓	<b>Lake Chaplain</b> WGS Map Series 2014-01—Dragovich and others, 2014	↓
<b>Camano</b> WGS Geologic Map 68—Polenz and others, 2009	↓	<b>Lake Joy</b> WGS Map Series 2012-01—Dragovich and others, 2012	↓
<b>Carnation</b> WGS Open File Report 2010-02—Dragovich and others, 2010	↓	<b>Lake Wooten</b> WGS Open File Report 2009-5—O'Neal and others, 2005	↓
<b>Center</b> WGS Map Series 2014-02—Hanson and others, 1976	↓	<b>Langley</b> WGS Geologic Map 69—Schasse and others, 2009	↓
<b>Chattaroy</b> WGS Geologic Map 55—Hamilton and others, 2005	↓	<b>Liberty Lake and Newman Lake</b> WGS Open File Report 2004-12—Derkey and others, 2004	↓
<b>Cliffdell and Manastash Lake</b> WGS Geologic Map 76—Hammond and others, 2010	↓	<b>Lilliwaup</b> WGS Open File Report 2010-4—O'Neal and others, 2005	↓
<b>College Place and Walla Walla</b> WGS Geologic Map 62—Derkey and others, 2006	↓	<b>Lofall</b> WGS Map Series 2013-03—Contreras and others, 2013	↓
<b>Coupeville</b> WGS Geologic Map 58—Polenz and others, 2005	↓	<b>Longbranch</b> WGS Open File Report 2003-21—Logan and others, 2003	↓
<b>Crescent Harbor</b> WGS Geologic Map 59—Dragovich and others, 2005	↓	<b>Mason Lake</b> WGS Open File Report 2009-6—Derkey and others, 2009	↓
<b>Darrington</b> WGS Open File Report 2002-7—Dragovich and others, 2002	↓	<b>Maytown</b> WGS Geologic Map 72—Logan and others, 2009	↓
<b>Deer Island</b> WGS Geologic Map 54—Evarts and others, 2002	↓	<b>McMurray</b> WGS Geologic Map 61—Dragovich and others, 2006	↓
<b>East Olympia</b> WGS Geologic Map 56—Walsh and others, 2005	↓	<b>McNeil Island</b> WGS Open File Report 2003-22—Walsh and others, 2003	↓
<b>Eldon</b> WGS Map Series 2012-03—Contreras and others, 2012	↓	<b>Meeks Table and Nile</b> WGS Geologic Map 74—Hammond and others, 2009	↓
<b>Elwha and Angeles Point</b> WGS Open File Report 2004-14—Polenz and others, 2004	↓	<b>Monroe</b> WGS Open File Report 2011-1—Capps and others, 1973	↓
<b>Fall City</b> WGS Geologic Map 67—Dragovich and others, 2007	↓	<b>Morse Creek</b> WGS Open File Report 2002-8—Schasse and others, 2002	↓
<b>Fortson</b> WGS Open File Report 2002-6—Dragovich and others, 2002	↓	<b>Mt Higgins</b> WGS Open File Report 2003-12—Dragovich and others, 2003	↓
<b>Four Lakes</b> WGS Open File Report 2004-2—Hamilton and others, 2004	↓	<b>Nine Mile Falls</b> WGS Open File Report 2003-8—Derkey and others, 2003	↓
<b>Four Mound Prairie</b> WGS Geologic Map 66—Derkey and others, 2007	↓	<b>Nisqually</b> WGS Open File Report 2003-10—Walsh and others, 2003	↓
<b>Fox Island</b> WGS Geologic Map 63—Logan and others, 2006	↓	<b>North Bend</b> WGS Geologic Map 73—Dragovich and others, 2009	↓

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<b>Oak Harbor</b> WGS Geologic Map 59—Dragovich and others, 2005		<b>Spokane SW</b> WGS Open File Report 2004-4—Hamilton and others, 2004	
<b>Olsen Canyon</b> WGS Geologic Map 71—Derkey and others, 2009		<b>Squaxin Island</b> WGS Open File Report 2003-23—Logan and others, 2003	
<b>Orting</b> USGS PP 388A—Crandell and others, 1959		<b>Stimson Hill</b> WGS Open File Report 2004-9—Dethier and others, 1980	
<b>Port Angeles and Ediz Hook</b> WGS Open File Report 2004-13—Schasse and others, 2004		<b>Sultan</b> WGS Map Series 2013-01—Dragovich and others, 2013	
<b>Port Townsend South</b> WGS Geologic Map 57—Schasse and others, 2005		<b>Summit Lake</b> WGS Open File Report 2004-10—Logan and others, 2004	
<b>Quilcene</b> WGS Map Series 2014-03—Hanson and others, 1976		<b>Timberwolf Mtn</b> WGS Geologic Map 60—Hammond and others, 2005	
<b>Seabeck and Poulsbo</b> WGS Map Series 2013-02—Polenz and others, 2013		<b>Tumwater</b> WGS Open File Report 2003-25—Walsh and others, 2003	
<b>Shelton</b> WGS Open File Report 2003-24—Schasse and others, 2003		<b>Utslady and Conway</b> WGS Open File Report 2002-5—Dragovich and others, 2002	
<b>Skokomish Valley and Union</b> WGS Open File Report 2010-03—Polenz and others, 2011		<b>Vaughn</b> WGS Geologic Map 65—Logan and others, 2007	
<b>Snoqualmie</b> WGS Geologic Map 75—Dragovich and others, 2009		<b>Wilkeson</b> USGS PP 388A—Crandell and others, 1959	
<b>Spokane NW</b> WGS Open File Report 2004-3—Derkey and others, 2004			

## ■ 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 2013. *Available through the Washington State Department of Printing (see p. 3).* [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].