OPEN-FILE REPORT 83-3

LANDSLIDES OF WASHINGTON — AN ANNOTATED BIBLIOGRAPHY THROUGH 1982

By
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In cooperation with the U.S. Geological Survey
1983
Aadland, R. K.; Bennett, E. H.; Mitchell, V. E.; Hustedde, G. S.; Ailee, R. Y.  
1979, Geologic map of the Sandpoint quadrangle, Idaho and Washington:  
Idaho Bureau of Mines and Geology Geologic Map Series, 1 plate, scale  
1:250,000.  
Location: Pend Oreille, Stevens, and Spokane Counties.  
Includes map units: Qt Talus; Qls Landslide debris.

Abbott, Agatin Townsend, 1953, The geology of the northwest portion of the Mount  
Aix quadrangle, Washington: University of Washington Doctor of Philosophy  
Location: Yakima, Pierce, and Lewis Counties.  
Mentions two “recent” landslides, p. 157 and 197.  

Allen, John Eliot, 1932, Contributions to the structure, stratigraphy, and  
petrology of the Lower Columbia River Gorge: University of Oregon Master  
Location: Lower Columbia River Gorge.  
Description of Cascade landslide area at Bonneville and nearby areas (p.  
15-16, 34, 70, 80, 91.)

Allen, John Eliot, 1958, Columbia River Gorge—Portland to The Dalles. in  
Geological Society of America Cordilleran Section, 1958, Guidebook for  
field trip excursions: University of Oregon, p. 4-23.  
Location: Lower Columbia River Gorge.  
Landslides noted along the Columbia River (p. 11, 17, 18.)

Alpha, Tau Rho; Moore, James G., 1981, Physiographic diagrams of the May 18,  
Survey Miscellaneous Field Studies Map MF-1289, 1 sheet.  
Location: Skamania County.  
Detailed diagrams showing the progression of the landslides and eruption of  
Mount St. Helens, May 18, 1980.

Anderson, Arthur Leonard, 1939, The Nickelodeon claims, Kittitas County;  
University of Washington Bachelor of Science thesis, 29 p.  
Location: Kittitas County.  
Brief mention of landslides on Boulder Creek.

Anderson, Henry W., Jr., 1969, Water supplies for Coulee Dam National Recreation  
Location: Lincoln County.  
Brief description of landslide debris on shores of Lake Roosevelt.

Anderson, Roy A., Jr., 1968, Seattle Freeway. in McKee, Bates; Coombs, Howard,  
1968, Guidebook to field trips; Association of Engineering Geologists 1968  
National Meeting, Seattle, Washington, October 22-26, 1968: Association of  
Engineering Geologists, p. 77-78.  
Location: King County.  
Brief description of highway engineering in landslide areas during  
construction of the Seattle freeway.
Location: Klickitat County.
Thorough study of the slope stability of two shale interbeds occurring between upper flows of Columbia Plateau basalts. Includes engineering and geologic details of natural and construction-related landslides along John Day Dam reservoir.

Location: Klickitat County.
Study of the slope stability of two soil interbeds of the Columbia Plateau basalts. (Note: For full study, see Anderson's 1971 M.S. thesis.)

Location: Klickitat County.
An investigation of the stability of excavated slopes within two large interbeds of clay shale occurring between flows of Columbia River basalt. (Note: For full study, see Anderson's 1971 M.S. thesis.)

Location: Puget Lowland.
Overview of landslide processes in the Puget Lowland. Engineering properties of "Landslide deposits" and "Mudflows" are shown on Plate 2.

Location: Puget Lowland.
Overview of landslide processes in the Puget Lowland.

Location: Chelan and Douglas Counties.

Location: Yakima County.
Description of current (1975) slide.
Location: Thurston County
Relative stability of natural slopes.

Location: Skagit County
Geologic map includes map unit for Mass-wasting deposits: slumps, slides, rockfalls, and mud and debris flows.

Location: Columbia Plateau.
Mentions landslides along Highway 10.

Location: Clark County.
Brief description of a large Pleistocene (?) landslide cause by undercutting of the Columbia river.

Location: Lewis County
Photos and description of a "piston" slide near Napavine.

Location: Statewide.
Report of a study to classify landslides in the U.S. by physiographic province. Includes Washington on map showing "Landslide severity of the United States", p. 10; Table 3, "List of most troublesome landslide types", p. 7; Table 6, "Rating of landslide severity"; Table 9, "Landslide susceptible formations", p. 13. Other brief mentions throughout.

Location: Columbia River Gorge, Skamania County.
Mentions a few slides near Bonneville Dam.


Location: Lincoln and Stevens Counties.
Gives location of two slides on the Spokane River (p. 60). (Landslides not shown on Geologic Map.)

Location: Lincoln and Stevens Counties.
Includes discussion of three landslides caused by the elevation of the water table in the formation of Roosevelt Lake. (Landslides not shown on geologic map.)

Beget, J. E., 1979, Late Pleistocene and Holocene pyroclastic flows and lahars at Glacier Peak, Washington [abstract]: Geological Society of America Abstracts with Programs, v. 11, no. 3, p. 68.
Location: Snohomish County.
Brief description of pyroclastic flows and lahars.

Location: Ferry, Stevens, Douglas, Lincoln, Grant, and Adams Counties.
Geologic map includes map unit: Qls Landslide deposits.

Location: Yakima County.
Description of landslide deposits, p. 36-37. Geologic map includes map unit: Qls Landslide deposits.

Location: Columbia Basin.
Description of slump blocks along Saddle Mountains fault, p. 35-38; of block gliding, p. 46-48. Geologic maps include map unit: Landslide debris.

Location: Skamania County (Columbia River Gorge)
Through discussion of Collins (Wind River) slide with emphasis on causes and rates of movement.


Brown, Randall E., 1970, Interrelationships of geologic formations and processes affecting ecology as exposed at Rattlesnake Springs, Hanford Project: Battelle Pacific Northwest Laboratory BNWL-B-29, Arid Land Ecology Program Reprint Series 3, 42 p. Location: Benton County. Brief mentions of landslides, p. 22, 30 in discussion of local deformation. Figure 2, "Time and Geologic Events" includes geologic unit "Landslides".


Location: Jefferson, Mason and Kitsap Counties.
Geologic map includes map unit: Landslide deposits.

Location: Clallam and Jefferson Counties.
Geologic map includes map unit: Landslide deposits.

Location: Cascade Range

Location: Stevens County.
Mentions landslide northeast of Keystone quarry, caused by glacial action p. 35.

Campbell, Newell P., 1976, Preliminary geologic map of Yakima area: Washington Division of Geology and Earth Resources Open-File Report 76-11, 1 sheet, map scale 1:24,000.
Location: Yakima County.
Geologic map includes map unit: Landslide debris.

Location: Yakima County.
Includes map sheet, "Relative slope stability of the Selah area, Yakima County, Washington."

Campbell, Newell P., 1977, Geology of the Snipes Mountain area, Yakima County, Washington: Washington Division of Geology and Earth Resources Open-File Report 77-8, 3 sheets, map scale 1:24,000.
Location: Yakima County.
Includes map sheet, "Relative slope stability of the Snipes Mountain area, Yakima County, Washington."

Location: Klickitat County.
Geologic map includes map units: Qc Colluvium; Qls Landslide deposits.
Location: Klickitat and Benton Counties
Geologic map includes map units: Qc Colluvium; Qls Landslide deposits.

Location: Yakima and Klickitat Counties.
Geologic map includes map units: Qc Colluvium; Qls Landslide deposits.

Location: Yakima County.
Detailed slope stability map.

Location: Grant, Adams, Yakima, Benton, Franklin, Whitman, Columbia, and Walla Walla Counties.
Geologic map includes map units: Qc Colluvium; Qls Landslide deposits.

Carey, Allen S., 1944, Coulee reservoir slides: (Seattle), U.S. Army Corps of Engineers.
Location: Ferry and Stevens Counties.
Photographs and text locating numerous slides in the 80-mile area down the reservoir from Gifford to Sanpoil Bay.

Location: Wahkiakum County.
Includes map unit: Landslide debris.

Location: Mason and Grays Harbor Counties.
Mentions landslides, p. 52 (Not shown on geologic map.)
Location: Mason County.
Mentions landslides and slope stability as environmental considerations.

Location: Mason County.
Detailed slope stability map. (Note: Former title was, "Slope stability of the southern Hood Canal area, Mason County").

Location: Mason County.
Geologic map includes map units for: Young landslides; Old landslides.

Location: Jefferson County.
Detailed slope stability map.

Location: Mason County.
Discussion and description of current (1974) landslide.

Location: Northeastern Washington.
Geologic maps include map units: Qt Talus; Q1s Landslide debris.

Location: King County
Discussion and description of landslide.

Location: Chelan County.
Discussion and description of landslide, p. 4. (Not shown on geologic map.)


Coad, Tom, 1954, BPA's traveling towers: Journal Northwest Living Magazine, Jan 3, 1954. Location: Skamania County (Columbia River Gorge) Discussion of Collins landslide and power line maintenance problems.


Location: Pierce County.
Includes map units: Qms Mass wasting--Slumps; Qmf Mass wasting--Earth-flow deposits; Qem Electron mudflow; Qom Osceola mudflow.

Location: Pierce County.
Includes map units: Qms Mass wasting--Slumps; Qmf Mass wasting--Earth-flow deposits; Qem Electron mudflow; Qom Osceola mudflow.

Location: Pierce County.
Includes map units: Qms Mass wasting--Slumps; Qmf Mass wasting--Earth-flow deposits; Qem Electron mudflow; Qom Osceola mudflow.

Location: Pierce County.
Description of Paradise debris flow and Osceola mud flow.

Location: Pierce and King Counties.
Description and discussion of Osceola mudflow (p. 46-50, 67), Electron mudflow (p. 50-51, 68), and colluvium (p. 52-53). Geologic map includes map units for: Deposits of mass-wasting processes; Electron and Osceola mudflows.

Location: Pierce County.

Location: Pierce County.
Thorough discussion and description of landslides and mudflows, p. 35-42.


Location: Pierce County.

Location: Pierce and King Counties.
Includes map unit for Osceola mudflow.

Location: Pierce and Lewis Counties.
Description of the Kautz Creek debris flows and the Paradise debris flows at Mount Rainier, p. 18-20.

Location: Pierce County.
Description of Paradise Debris flow at Mount Rainier, p. 22-24.

Location: Pierce and Lewis Counties.
Geologic map includes map unit: Landslide deposits (Holocene)

Location: Pierce County.
Includes discussion of landslides, mudflows and debris flows of Mount Rainier.

Location: Skamania County.
Describes deposits of flows and lahars during postglacial eruptions, p. 23.

Location: Cascade Range
Includes mudflow hazards of Mt. Rainier and Mt. St. Helens.

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(Reprinted from Earthquake Information Bulletin)

Location: Cascade Range.
Includes discussion of potential mudflows and debris flows from Mt. Rainier and Mount St. Helens.

(Published as U.S. Geological Survey Bulletin 1383-C.)

Location: Skamania and Cowlitz Counties.
Pre-eruption (1978) predictions of potential mudflows, pyroclastic flows, etc. Maps include area of pre-1980 mudflow deposits, and hazardous areas of potential mudflows.

Location: Skamania County.
Discussion of mudflow hazards.

Location: Skamania County.
(Reprinted from Science, v. 187, no. 4175, 1975)

Location: Skamania County.
Largely a comparison of Mount St. Helens eruptions with those of other volcanoes.

Location: Cascade Range.
(Not available for examination 9/82)

-16-
(Not available for examination 9/82)

Location: Discussion of the potential (1975) eruptions of Mt. St. Helens and the consequent pyroclastic flows and mudflows.

Location: King County.
Description of the Osceola mudflow, and mention of landslide area along Dearborn Street in Seattle, p. 54, p. 56-59.

Location: Pierce County.
Thorough description and discussion of the Osceola mudflow.

Location: Cascade Range.
Discusses potential hazards from Cascade volcanoes. Includes description of Osceola and Electron mudflows.

(Note: Reprinted from "Geologic hazards and public problems, conference proceedings", 1969.)

Location: Snohomish and Chelan Counties.
Geologic map includes map unit: Qt Talus.
Location: Pierce County.
Thorough discussion of existing (p. 13) and potential (p. 53-64) mudflows from an eruption of Mt. Rainier.


(reprint of her Master's thesis.)


(abstract of her Master's thesis.)

Location: Pierce County.
Potential mudflow hazards.

Location: Cowlitz and Skamania Counties.
Thorough description, discussion, and chronology of the debris avalanches and mudflows of the Lewis River, and the South and North Forks of the Toutle River, caused by the eruption of Mount St. Helens, May 18, 1980.

Location: Cowlitz and Skamania Counties.
Brief description of May 18, 1980 mudflows.

Location: Snohomish County.
Brief mention of slide near King Lake, Snohomish County, p. 374; photograph p. 377. (Not shown on geologic map)
Location: San Juan County; Whatcom County.
Brief mentions of landslides, p. 177 and 190.

Deeter, Jerald D., 1979, Quaternary geology and stratigraphy of Kitsap County Washington: Western Washington University Master of Science thesis, 175p., 2 plates, map scale 1:24,000.
Location: Kitsap County.
Thorough discussion and description of Kitsap County slope stability, p. 149-158. Includes map entitled, "Slope stability map of Kitsap County", scale 1:24,000.

Location: Benton County; Yakima County.
Discussion of landslide near Prosser.

Location: Lewis County.
Geologic map includes map unit: ls Landslide deposits.

Location: Skagit and Snohomish Counties.
Geologic map includes map unit: Qls Landslide.

Location: Skagit County.
Geologic map includes map units: Qls Landslide; Qvrl Lahars.

Location: Grand Coulee Dam area.
Discussion of the engineering geology, rock mechanics and slope stability in the Grand Coulee Dam area.

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Location: Skagit County.
Brief description of rock-creep near the Straight Creek fault.

Location: Lewis and Thurston Counties.
(Not available for examination 9/82)

Location: Lewis County.
(Not available for examination 9/82)

Location: Yakima County.
Mentions "rockslides" near mine, p. 5.

Location: Whatcom County.
Discussion of landslides, p. 148; photograph, p. 149. (No geologic map)

Location: Island County.
Figure 5, Geologic cross section, and Figure 6, Photograph, show Landslide at Possession Point, Whidbey Island, p. 11.

Easterbrook, Donald J.; Rahm, David A. 1970, Landforms of Washington; the geologic environment: Western Washington State College, 156 p.
Location: Columbia Basin
Brief descriptions of landslides and mass movement p. 145, photos, p. 143-144.

Location: Whatcom County.
Include "Slope stability" as a factor in determining the engineering characteristics of various geologic materials.
   Location: Whatcom County.
   Detailed slope stability map.

   Location: Grays Harbor County.
   Geologic map includes map unit: Q1 Landslide.

   Location: Columbia Basin
   Thorough examination of the soil mechanics of the Palouse clay.

   Location: Lewis County.
   Description of landslide at Shut-In dam site.

   Location: Pierce County.
   Discussion and description of Mt. Rainier mudflow deposits, p. A20-A22.
   (Also submitted to Cornell University as a Doctor of Philosophy thesis.)

   Location: Pierce County.
   Data and discussion of 1963 rockfall. (For full study, see Crandell and Fahnestock, 1965, USGS Bulletin 1221-A.)

   Location: Pierce County.
   Description of three mudflows which blocked the White River, 1958 - June 1961.
Location: Benton County.
Description of slides and talus slopes, p. 50-51. Geomorphic map shows margins of channels, bars and landslides.

Location: Cowlitz County.
Detailed slope stability map.

Location: Jefferson County.
Thorough report of area landslides.

Location: Clark County.
Detailed slope stability map.

Location: Skamania County.
Includes map units: Qls Landslides; Qtl Talus cones.

Location: Lewis County.
Detailed slope stability map.

Location: Pierce County.
Thorough discussion and description of slope stability, including landslides, debris flows, slumps, p. 26-36; of mudflow landforms, p. 72-73 and p. 83-84. Plate 3 is Slope stability map, scale 1:24,000.
Location: Western Washington.
Phase I focuses on a regional evaluation of slope stability in the non-federal forest lands. Mass wasting features were identified from air photos and plotted on 1:250,000 scale maps.

Location: Nooksack River basin (Whatcom County); Green River basin (King County); Toutle River basin (Cowlitz County); Grays River basin (Pacific and Wahkiakum Counties); Clearwater River basin (Jefferson County).
Landforms keyed to mass wasting features and potential were mapped in five representative river basins in western Washington. The landforms relate to the geology and erosional processes and are rated for slope instability potential.

Findley, Rowe, 1981, Mount St. Helens; the mountain that was--And will be: National Geographic, v. 160, no. 6, p. 710-733.
Location: Skamania and Cowlitz County.
Popular description of the May 18, 1980 eruption of Mount St. Helens, and the consequent mudflows. Excellent photos.

Location: Skamania County.

Location: Skamania County.
Brief description of yield strengths, plastic viscosities, mean flow velocities and volumetric flow rates of Mount St. Helens mudflows of May 1980 and post-May 1980.

Location: Skamania County.
Thorough description and discussion of mudflows caused by the May 18, 1980 eruption of Mount St. Helens.

Thorough lithologic description of laharic breccias, p. 75-83.

Description and discussion of mudflows, p. 9; photo of mudflow debris, p. 25-26, p. 46-47. (Note: See his U. S. Geological Survey Professional Paper 444 and Miscellaneous Investigations Series Map I-432 for geologic maps.)

Description and discussion of rockfalls, mudflows, and slurry floods. Geologic map includes map units: Qs Surficial deposits, including mudflows; Qls Landslides.

Geologic map includes map unit: Qls Landslides.


Location: Kittitas County.
Geologic map includes map unit: Ql Landslides.

Location: Okanogan County.
Includes map unit: Qt Talus.

Location: Okanogan County.
Includes map unit: Qt Talus.

Location: Stevens County.
Includes map unit: Qt Talus.

Location: Okanogan County.
Includes map unit: Qt Talus.

Location: Okanogan County.
Geologic map includes unit: Qt Talus deposits.

Location: Whatcom County.
Brief comparison of the post-glacial lahars and the current snow avalanches of Mount Baker, as shown by ERTS photography.
Discussion of Mount Baker debris flows.

Discusses "rock slides vs. end moraines" in the Hamma Hamma Valley, Duckabush Valley, and Dosewallips Valley, p. 62-65. Geologic maps include map units: Sliderock; Undifferentiated end-moraine-like deposits.

Description and discussion on effects of May 18, 1980 mudflows.

Fuller, Richard Eugene, 1925, The geology of the northeastern part of the Cedar Lake quadrangle with special reference to the de-roofed Snoqualmie batholith: University of Washington Master of Science thesis, 96 p., 4 plates. Location: King County.
Description and discussion of graodiorite slides, p. 11, photos, p. 10 and 12. (Not shown on geologic map.)

Discussion of the causes of earthflow in the Palouse region.

Detailed slope stability map.

Thorough discussion of areal slope stability, p. 74-85, with photos. (Detailed slope stability map only available as DGER OF 76-22.)


Location: King County.
Includes map unit: Q1 Landslide debris.

Location: Pierce County.
Popular description of the 1947 Kautz Creek mudflow.

Gresens, Randall L., 1975, Geologic mapping of the Wenatchee area: Washington Division of Geology and Earth Resources Open-File Report 75-6, 2 sheets, map scale 1:1,000.
Location: Chelan County.
Includes map unit: Qrs Quaternary-Recent landslides.

Location: Chelan, Douglas and Kittitas Counties.
Includes map units: Qc Colluvium; Qls Landslide deposits.

Location: Spokane, Stevens, and Lincoln Counties.
Includes map unit: Qls Landslide debris.

Location: Spokane, Stevens, and Lincoln Counties.
Includes map unit: Qls Landslide deposits.

Location: Adams, Franklin, and Grant Counties.
Description and discussion of colluvium, p. 158-160; talus and landslide debris, p. 183-184; landforms produced by weathering and mass-wasting, p. 243-246. (Geologic map is published as USGS map I-589.)

Location: Adams, Franklin, and Grant Counties.
Includes map units: Qc Colluvium; Qld Landslide debris.
Location: Adams, Franklin, and Grant Counties.
Description of landslides, p. 60.

Location: Mason County.
Thorough study of Hood Canal landslide processes. Plate 2 is "Slope stability map, western shore of Hood Canal".

Location: Skamania County.
Thorough description of the impact of the 1980 mudflows on caves in the Mount St. Helens area.

Location: Whitman and Garfield Counties.
Description of talus slopes, p. 42. (Geologic map is published as Geological Society of America Map MC-18, but does not show landslides.)

Location: King and Kittitas Counties.
Description of landslides, p. 184-185. Geologic map includes map unit: Qls Landslide.

Hammond, Paul E., 1975, Preliminary geologic map and cross sections with emphasis on Quaternary volcanic rocks, southern Cascade Mountains, Washington: Washington Division of Geology and Earth Resources Open-File Report 75-13, 1 sheet, map scale 1:125,000.
Location: Lewis, Skamania, Yakima, and Klickitat Counties.
Includes map unit: Qls Landslide.

Hammond, Paul E., 1980, Reconnaissance geologic map and cross sections of southern Washington Cascade Range, latitude 45°30' - 47°15' N., longitude 120°45' - 122°22.5' W.: Portland State University Department of Earth Sciences, 31 p., 2 sheets, map scale 1:125,000.
Location: The South Cascades of Washington.
Geologic map includes map units: Qls Landslide; Qta Talus; Qel Electron mudflow; Qlsb Bonneville landslide; Qt1 Trout Lake mudflow; Qlo Osceola mudflow; Qql Greenwater lahar; Qpp Paradise lahar; Qhm Debris flow (mud flows) of Mount Hood.


Section on landslides includes photo of irrigation-caused landslide along the Columbia River (p. B54), and mention of landslide losses along the shore of Roosevelt Lake ($20 million 1934-1952) (p. B56). Back cover shows sequence of photos of May 18, 1980 Mt. St. Helens landslide.

Location: Franklin County.
Brief discussion and description of irrigation-caused landslides in the White Bluffs area.

Location: Skagit County.
Describes type and distribution of slope failures (debris slide, debris flow, and slump/flow) in unconsolidated glacial sediments. (Geologic map published as USGS OF 79-964; Slope stability map published as USGS OF 79-963.)

Location: Skagit County.
Describes type and distribution of slope failures (debris slide, debris flow, and slump/flow) in unconsolidated Quaternary deposits.

Location: Skagit County.
Includes map unit: Qls Landslide deposit.

Location: Skagit County.
Location: Skagit County.
Thorough discussion and description of landslides and slope stability in the lower Skagit River drainage.

Location: southern Washington.
Geologic maps include map units: Qls Landslide debris; Qfc Fanglomerate, talus and colluvium.

Location: Yakima and Klickitat Counties.
Geologic map includes map units: Qls Landslide; Qta Talus.

Location: Skamania and Yakima Counties.
Description and discussion of Trout Lake mudflow, p. 128-134. (Not shown on geologic map.)

Location: Pierce County.
Discusses Kautz Creek "Flood" (debris flow).

Location: Columbia River Gorge.
Discussion of the Bonneville and Wind River slide areas, p. 4, 5.

Location: Yakima County.
Mentions Divide Ridge and Bethel Ridge slide areas.
Location: Puget Lowland.
Includes Table 1: available County engineers' lists of landslide occurrence; summaries of newspaper accounts for slides in the Seattle area, 1956-1963.

Location: Mason County.
Brief mention of rock slides in the Hamma Hamma River area.

Location: Thurston and Lewis Counties.
Brief mention of landslides, located just north of Bucoda, p. 3.

Location: Thurston, Grays Harbor, and Lewis Counties.
Brief mention of landslide, located just north of Bucoda, p. 5.

Location: Washington State.
Includes map unit: Qs Landslide and mudflow deposits.

Location: Skamania County.

Location: Whitman, Columbia, Garfield and Asotin Counties.
Includes map units: Qc Colluvium; Qls Landslide deposits.


Jones, Fred O., 1954, Landslide conditions along the Ferry County highway paralleling Lake Roosevelt from Kettle Falls to the mouth of the Spokane River, Washington: U.S. Geological Survey Open-File Report 54-136, 35 p., 5 plates. Location: Ferry County. Early study (1954) of reservoir landslides. Area chosen for study because of the magnitude of the landslides and the (then) unknown but significant influence of a rising and fluctuating water table. (Note: Published as part of his USGS Professional Paper 367.)
Location: Columbia River Basin.
Discusses current (1954) studies of slope stability along the Columbia Valley.

Jones, Fred O., 1959, Preliminary geologic report, Trout Lake dam site and general basin area; White Salmon River Project: Klickitat County Public Utility District no. 1, 55 p.
Location: Klickitat County.
Discussion of Trout Lake mudflow, p. 7; photos, p. 12 and 13; brief mentions of Trout Lake mudflow throughout.

Location: Klickitat County.
Description and discussion of Trout Lake mudflow, p. 9-10; photos, p. 14 and 15; discussion of mudflow materials for construction, p. 29-30.

Location: Pasco Basin area.
Focuses on the Hanford Reservation in the Pasco Basin, with state-wide overviews. Discussion of landslides, p. 3. Structural geologic map (Plate 4) notes old landslides.

Location: Upper Columbia River valley, northeastern Washington.
Thorough description and interpretation of landslide areas, with statistical analysis. Geologic maps show details of landslide areas. Includes a section on seismic surveys, by Robert M. Hazelwood.

Location: Palouse region.
Description and discussion of the causes of small landslides on the steep north-facing slopes of the Palouse Topography.

Location: Klickitat County.
Discussion of methods used to contain landslides on roadways along the Columbia River.


King County Department of Community and Environmental Development, 1975, Vashon-Maury Island physical characteristics and shoreline inventory: King County Department of Community and Environmental Development, 63 p. Location: King County. Discussion of landslides, p. 22-23. "Geologic hazards" map, p. 27, shows landslide potential. Geologic map, p. 21, includes map unit: Qm Mass wasting-landslide.


Knoll, Kenneth M., 1967, Surficial geology of Tolt River area, Washington: University of Washington Master of Science thesis, 91 p., 1 plate. Location: King County. Discussion of colluvium, talus, and landslides, p. 57-59. Figure 3 includes map unit: Landslides.


Location: Chelan County.
Mentions landslides, p. 93. Geologic map includes map unit: Talus.

Location: Kittitas County.
Brief mention of talus deposits, p. 40. Geologic map includes map unit: Qt Talus.

Location: Chelan County.
Discussion of landslide hazard, p. 46. Geologic maps include map unit: Q1s Landslide deposits.

Location: Skamania County.
Discussion of the Indian legends regarding the submerged forest of the Bonneville slide area.

Location: Skamania County.
Discussion of the Indian legends regarding the submerged forest of the Bonneville slide area.

Location: Skamania County.
Discussion of the Indian legends regarding the submerged forest of the Bonneville slide area.

Location: Grand Coulee Dam area; Cedar River area; Bonneville area.
Discussion and description of engineering aspects of landslides at Grand Coulee Dam (p. 232-234); Cedar River (p. 358-359); Bonneville Dam (p. 362-363).

Location: Skamania County.
Brief description of deposition of avalanche deposits, mudflow deposits, and pyroclastic deposits from the 1980 eruptions of Mount St. Helens, and their landslide potential.

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Location: Kittitas County.
Stereophotos of slides along Cle Elum River (S.E. of Cle Elum) p. 88.

Location: Grant, Benton, Franklin, and Yakima Counties.
Describes map units included on geologic maps (p. 10-12): Qco Colluvium; Qt Talus; Qld Landslides.

Location: Snohomish County.
Mention of landslide debris and talus obscuring outcrop, p. 4.

Location: Mount St. Helens impact areas in Skamania and Cowlitz Counties.

Location: Cowlitz and Wahkiakum Counties.
Description and location of landslides, p. 47-48. Geologic maps include map unit: Qls Landslide.

Location: King County.
Brief discussion of landslides and of the Osceola mudflow, p. 33. Geologic maps include map units: Qls Landslide deposits; Qm Osceola mudflow.

Location: Yakima County.
Mentions Bethel Ridge landslide.
Location: Jefferson County.
Lena Lake is formed by a landslide dam. Radiocarbon and other studies suggest this slide was possibly caused by an earthquake relating to the Saddle Mt. faults.

Location: Skagit County.
Geologic map (p. 19-20) includes map unit: Q1 Landslide deposits.

Location: Asotin, Whitman and Walla Walla Counties.
Description of landslides in the Lewiston Basin and Touchet area p. 1458, 1459.

Location: Chelan and Kittitas Counties.
Description and discussion of landslides and slumps, p. 32-33. (Not shown on geologic map.)

Location: Olympic Peninsula.
Brief mentions of landslides, p. 30, 45, 46, 52, 59-60, 72.

Location: Pierce County.
Brief mention of Mount Rainier mudflows, p. 4, 6.

Location: King County.
Brief mention of mass-wasting debris, p. 36; brief description of Osceola mudflow, p. 39. Geologic map includes map units: Qo Osceola mudflow; Qm Mass-wasting debris.

Location: Lewis County.
Brief mention of landslides, p. 37, 43.


McCleary, Jeff; Dohrenwend, John; Cluff, Lloyd; Hanson, Kathryn L., 1978, 1872 earthquake studies, Washington Public Power Supply System nuclear project nos. 1 and 4—Straight Creek fault zone study: Woodward-Clyde Consultants, 1 vol.
Location: Skagit County.
Discussion of Quaternary geomorphology, including emplacement of colluvium, p. 56-58. Geologic maps include map units: Qls Landslide; Qly Younger Landslide; Qlo Older Landslide; Qt Talus.

Location: Chelan County.

Location: Pierce County.
Description of mass-wasting on Mount Rainier.

Location: Pacific Northwest.
Thorough overview of the geology of Washington, Oregon and Idaho. Includes brief discussion (and one photo) of slope stability problems associated with glacial sediments in the Seattle area, p. 299, 297.

Location: King County.
Discussion and description of landslides as the cause of the submerged forests, p. 57-59, and description of current (1923) sliding.

Location: Benton County.
Discussion and description of landslides, p. 13-14.

Location: Stevens County.
Discussion of a possible slide, p. 22-23; of talus deposits, p. 24.
Geologic maps include map units: Qtal Talus; Qls? Landslide deposit.

Location: Grand Coulee dam area.
Mentions landslide abatement by freezing, p. 29.


Milliken, Mark D., 1981, Geology of the Peter Dan Creek area, Okanogan County, Washington with a gravity survey across the Koontzville lineament: Eastern Washington University Master of Science thesis, 76 p., 2 plates. Location: Okanogan County. Thorough discussion and description of landslide deposits, p. 38-40; of debris flow deposits, p. 40-44; of colluvium, p. 46; of talus, p. 46. Geologic map includes map units: Qt Talus; Qc Colluvium; Qdf Debris flow deposits; Qls Landslide deposits.


Misch, Peter, 1979, Geologic map of the Marblemount quadrangle, Washington: Washington Division of Geology and Earth Resources Geologic Map GM-23, 1 sheet, map scale 1:48,000. Location: Whatcom and Skagit Counties. Includes map units: Qt Talus; Qls Landslides.
Location: Benton County.
Geologic map includes map unit: Qld Landslide.

Location: Whatcom County.
Geologic map includes map unit: Qs Landslides.

Location: Whatcom County.
Geologic map includes map unit: Qs Landslide and mudflow deposits.

Location: Okanogan County.
Brief mention of talus and landslide debris, p. 15.

Location: Grays Harbor County.
Mention of landslide, p. 8, with photo, p. 9.

Location: Ferry County.
Brief description of landslides, p. 78.

Location: southwestern Washington.
Discusses criteria for recognition of debris flows, with information on Osceola mudflow, Mount St. Helens mudflows, Toutle River mudflows, and Kalama River mudflows.

Location: King County.
Thorough description and discussion of Osceola mudflow, p. 131-135.
Geologic map unit: Qom Osceola mudflow.
Location: King and Pierce Counties.
Includes map units: Qmc Colluvium; Qms Similar to colluvium, but also includes relatively large block slides; Qom Osceola mudflow.

Location: King County.
Includes map units: Qmc Colluvium; Qms Similar to colluvium, but also includes relatively large block slides; Qom Osceola mudflow.

Location: King County.
Geologic map includes map unit: Qmc Deposits of mass-wasting processes.

Location: King and Pierce Counties.
Thorough discussions of Colluvium, p. 53-54; Osceola mudflow, p. 54-56.

Location: Conterminous United States.
Shows potential hazards from volcanic mudflows. The national context provides comparison with other areas.

Location: Skamania and Cowlitz Counties.
Lahars of Mount St. Helens.

Location: Puget Lowland.
Description of mudflow deposits in the Puget Lowland.

Location: Thurston and Pierce Counties.
Brief mention of "ancient" landslide located south of Yelm, resulting from glacial erosion of Mulqueen Gap.

-46-
Location: Thurston and Pierce Counties.
Mentions Mulqueen Gap slide south of Yelm, p. 12.

Munoz, Andy, Jr., 1974, Use of reinforced earth to correct the Heart O' The Hills slide: Engineering Geology and Soils Engineering Symposium, 12th Annual, Idaho Department of Transportation, p. 163-175.
Location: Clallam County.
Description of engineering procedures to abate a landslide.

Murphy, Leonard M.; Ulrich, Franklin P., 1951.
United States earthquakes 1949: U.S. Coast and Geodetic Survey Serial 748, 64 p.
Location: Puget Lowland.
Includes brief description of landslides caused by the April 13, 1949 earthquake, p. 22.

Location: Columbia Basin.

Location: Columbia Plateau.
Discussion of landslides, colluvium, and talus, p. II-70 to II-71; and p. III-69. Various geologic maps include landslide deposits.

Location: Cowlitz County.
Brief description of landslide debris, p. 11. Geologic map includes map unit: Qls Landslide debris.
GWT: "Pleistocene and recent landslides of Tertiary and Quaternary rock are common throughout the county. Many appear to be stable and support homes".

Location: Pierce County.
Thorough account of 1947 Kautz Creek mudflow, p. 1, 3-9, 13, 29.
Location: Yakima County.
Mention of landslides, p. 4. Geologic map includes map unit: Mudflow and landslide.

Brief description of the landslide-caused dam of the Columbia, at "the Cascades".
Location: Columbia River Gorge.

Location: Snohomish County.
Mentions landslide area 3 miles north of Picnic Point, p. 34.

Location: Klickitat County.
Geologic map includes map units: Qco Colluvium; QTls Landslump deposits.

Location: Benton and Klickitat Counties.
Geologic map includes map units: Qc Colluvium; Qts Landslide materials.

Location: Benton, Franklin and Grant Counties.
Description of colluvium, p. 7; of declivities and landslides, p. 24-25.
Geologic map includes map units: Q1s Landslide deposits; Qcl Colluvium.

Location: Cowlitz County.
Brief mention of landslide deposits, p. 5.
Location: King County.
Brief mention of slides in the Black Diamond-Durham area.

Location: Proposed pipeline routes around and across Puget Sound, across the Cascade Mountains, and across eastern Washington.
Geologic hazard maps include map units: Landslide potential; Mudflows.

Location: Skagit County.
Detailed description and discussion of 1965 landslide at the Lower Baker River power-house, with maps.

Location: Whitman County.
Thorough description and discussion of engineering aspects of Colfax landslide.

Location: Whitman County.
Brief description of the Colfax landslide.

Location: Spokane County.
Description of landslide debris, p. 19. (Not shown on geologic map.)

Location: Spokane County.
Description and discussion of landslide debris, p. 17. (Not shown on geologic map.)

Othberg, Kurt L., 1975, Geologic interpretive map showing areas of unstable slopes, Kitsap County, Washington: Washington Division of Geology and Earth Resources Open-File Report 75-7, 1 sheet, map scale 1:24,000.
Location: Kitsap County.
Detailed slope stability map.
Location: Kittitas County.
Discussion of mass-wasting; soil flowage; slumping potential of basalt flows; current slumping of talus debris flows.

Location: Clallam County.
Includes map unit: Qls Landslide.

Location: Clallam County.
Includes map unit: Qls Landslide deposits.

Location: Clallam County.
Includes map unit: Qls Landslide.

Location: Clallam County.
Includes map unit: Qls Landslide.

Location: Wahkiakum County.
Discusses mass-wasting as a function of landform and bedrock lithology.

Location: Chelan County.
Brief mention of possible landslides, p. 83-84, 114.

Location: King County.
Description and analysis of 8 slope failures associated with construction of the Seattle freeway in 1963.
Location: King County.

(Not available for examination 9/82.)

Location: Pierce County.
Thorough description and discussion of recent volcanic mudflows of the Puyallup Valley, with photos, p. 50-59, 61-62. Geologic map includes map unit: Volcanic mudflows. Block diagrams include volcanic mudflows.

Location: Columbia River Gorge.
Brief description of landslides.

Location: Skamania County.
Thorough discussion and description of Columbia River Gorge landslides.

Location: Pierce County.
Discussion of landslide in proposed damsite area, p. 4-5.

Location: Chelan County.
Description of landslides in Stemilt Creek vicinity, with photo and map, p. 8, 11.

Location: Lewis and Thurston Counties.

Location: Ferry and Okanogan Counties.
Geologic map includes map unit: Q1 Landslide deposits.
Location: Grays Harbor, Pacific, and Lewis Counties.
Includes map unit: Qls Landslide deposits.

Location: Skagit County.

Location: Chelan County.
General discussion of landslide area.

Location: Klickitat County.
Description and discussion of landslides, p. 138-139. (Not shown on geologic map.)

Location: Cowlitz County.
Information on slides in the vicinity of Camp Cowlitz on the Toutle River.

Location: Kittitas County.
Mentions Lookout Mountain landslide area, p. 37-40.

Location: Kittitas and Chelan Counties.
Mentions landslide along Old Blewett Highway and on Lookout Mountain, p. 28, 37-38.

Location: Chelan, King, and Kittitas Counties.
Brief mention of possible landslide deposits, p. 40, illustration, p. 42.

Puget Sound Governmental Conference, 1972, A land use suitability analysis for the Cedar River and Green River basins; a summary report: Puget Sound Governmental Conference, 52 p. Location: King County.
Discussion of landslide hazards, p. 14.

Landslide areas in the U.S. The national context provides comparison with other areas.

Discusses and illustrates theories of terracette origin, including slumping vs. animal paths.

Tabulation of approximately 850 with notes on location, intensity and effects. Includes brief mention of 1902 earthquake-caused landslide in western Jefferson County.

Rasmussen, Norman H.; Mulcahey, Michael, 1973, A pilot study of soil stability and landslide potential of the Redmond, Kirkland, Mercer Island and Issaquah quadrangles, King County, Washington: Puget Sound Governmental Conference, 6 p. Location: King County.

Discussion of landslides, p. 21. Geologic map includes map unit: Landslide.
Location: Grays Harbor County.
Discussion of landslide, p. 39. Geologic map includes map unit: Landslide debris.

Location: Kittitas County.
Description and discussion of mass-wasting processes, p. 51-53. (Not shown on geologic map.)

Reid, Leslie M., 1981, Sediment production from gravel-surfaced forest roads, Clearwater Basin, Washington: University of Washington Fisheries Research Institute FRI-UW-8108, 247 p. (Note: Also accepted as a Master of Science thesis, Geology Department, University of Washington.)
Location: Jefferson County.
Thorough examination of landsliding as a factor in logging: Introduction and literature review, p. 5-7; full study of landslide and debris flows, p. 114-138.

Location: Grant and Kittitas Counties.
Discussion of area landsliding. (Not shown on geologic maps.)

Location: Grand Coulee Dam, Lake Roosevelt area.
Discussion of ancient area landslides, and the slides caused by the fluctuation in the water level of Lake Roosevelt after Grand Coulee Dam was built.

Richardson, Donald; Bingham, J. W.; Madison, R. J., 1968, Water resources of King County, Washington, with a section on Sediment in streams, by R. C. Williams: U.S. Geological Survey Water-Supply Paper 1852, 74 p.
Location: King County.
Geologic map includes map unit: Q0 Osceola mudflow.
Location: Columbia Basin; Yakima County.
Note: Text is an overall discussion of the Columbia Basin. Maps are of a specific area in Yakima County.
Text: Discussion of landslide deposits, p. 44; of colluvium, p. 46.
Maps: Include map unit: Landslide deposits.

Rinehart, C. Dean; Fox, Kenneth F., Jr., 1972, Geology and mineral deposits of the Loomis quadrangle, Okanogan County, Washington: Washington Division of Geology and Earth Resources Bulletin 64, 124 p., 3 plates.
Location: Okanogan County.
Geologic map includes map unit: Qt Talus deposits.

Location: Okanogan County.
Brief mention of talus and landslide deposits, p. 44. Geologic map includes map units: Qt Talus deposits; Qls Landslide west of Booher Lake.

Location: Cowlitz County.
Thorough discussion and description of the methods used to stabilize a 1977 landslide.

Location: King and Clallam Counties.
Photos of Snoqualmie Pass slide and slide west of Twin, Washington.

Location: Northeast Washington.
Discusses landslides along Lake Roosevelt, p. 1148-1149.

Location: Cowlitz and Lewis Counties.
Discussion and description of landslides, p. 40-61. Geologic map includes map unit: Qls Landslide debris.

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Location: Skagit County.
Brief description of landslides, p. 6. Geologic map includes map unit: Qls Landslide deposits.

Location: King County.

Location: Kittitas County.
Description and discussion of landslides, p. 36-37. Geologic map includes map unit: Landslide, basalt scree.

Location: central Washington.
Description of Simco and Toppenish landslides, and others (p. 40, 43, 46, 47-48, 74, 79-79, 85; Plates 3, 4, 5, 6.)

Location: Cascade Range; Columbia Basin.
General discussion of regional landslides, with specific discussion of landsliding around Lookout Mountain.

Location: Northern Washington; Columbia Basin.
Thorough discussion of causes and evidence of landslides and slide blocks.

Location: Asotin County.
General discussion of landslides along the Grande Ronde River and Asotin Creek, p. 75-79.

Location: Whatcom, Skagit, Snohomish, Okanogan, and Chelan Counties.
Includes map unit: Ql Landslide debris and mudflow deposits.
Department of Energy, 1 sheet, map scale 1:250,000.
Location: Snohomish, King, Chelan, Douglas, and Kittitas Counties.
Includes map unit: Qls Landslide and mudflow deposits.

Salisbury and Dietz, Inc., 1980, Geology of the Yakima quadrangle: U.S.
Department of Energy, 1 sheet, map scale 1:250,000.
Location: Pierce, Kittitas, Yakima, Lewis, and Skamania Counties.
Includes map units: Qls Landslide and mudflow deposits; Qta Colluvium.

Location: Kittitas County.
Brief description of landslides, p. 35. (Not shown on geologic map.)

Schminke, Hans-Ulrich, 1964, Petrology, paleocurrents, and stratigraphy of the
Ellensburg Formation and interbedded Yakima Basalt flows, south-central
Location: Columbia Basin.
Description and discussion of lahars, p. 308-319.

Environmental Center area, Lewis County, Washington: Washington Division
Location: Lewis County.
Geologic map includes map unit: Qt Talus.

Society of America Abstracts with Programs, v. 12, no. 6. p. 303.
Location: Grand Coulee Dam area.
Brief discussion of the landslides of Roosevelt Lake.

Schuster, Robert L.; Krizek, Raymond J., eds., 1978, Landslides; analysis and
control: National Academy of Sciences Transportation Research Board
Special Report 176, 234 p., 1 plate.
Location: (Various Washington locations)
This important work on landslides includes numerous references to
Washington landslides: p. 19-21, brief mentions and photos of the Lake
Roosevelt slides; p. 21, Mount Rainier slides; p. 45, portion of the Tyler
Peak quad map showing landslides; p. 50, infrared photo of a portion of
Skamania County; p. 67, aerial photo of portion of Yakima County; p. 118,
graph showing microwave measurements of a slide along the Columbia River;
p. 220, photo of rock-fall control near Kelso.

Schuster, R. L.; Wolters, R., eds., 1979, Reservoir-induced landslides. in
Engineering geological problems in hydrotechnical construction-Problèmes de
géologie del'ingénieur dans la construction hydrotechnique; symposium:
International Association of Engineering Geologists Bulletin, no. 20,
p. 8-15.
Location: Grand Coulee Dam area.
Landslides of Roosevelt Lake.

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Location: King County.
Description of submarine slumping just north of old floating bridge on Lake Washington.

Location: Adams County.
Brief description of Saddle Mountain (Corfu) landslide, p. 227.
Shown on location maps, p. 144-226.

Shannon and Wilson, 1968, Summary report; soil conditions and earth movements, vicinity of Tukwila interchange: Washington State Highway Commission (unpublished report?).
Location: King County.
Hillside adjacent to interchange has a long history of instability.

Location: Chelan County.
Investigation of old slide debris to discern a connection with the 1872 earthquake.

Location: Columbia Basin.
Geologic maps include map units: 1s landslide; Qc Colluvium.

Location: Snohomish County.
Discussion of slide and stabilization options (with detailed map and cross section.)

Location: Cascade Range, Columbia Plateau, and Grand Coulee dam areas.
Discussion of slumping in the Cascades and Columbia Plateau, p. 68-69; of Grand Coulee landslides of 1934, p. 80-81.
Location: Adams-Grant Counties.
Brief description and discussion of a Corfu landslide west of Othello, p. 124, photo p. 125.

Location: Washington State.
Brief overview of slope stability on forest land in Washington, Oregon and Idaho.

Location: Yakima County.
Geologic map includes map unit: Mf Mudflows.

Location: Yakima and Lewis Counties.
Includes brief mention of talus deposits. Geologic map includes map unit: Qt Talus.

Location: Snohomish County.
Discussion of slope stability.

Simmons, John D., 1973, Supplement to Preliminary report on the geology of southern Snohomish County: Washington Division of Geology and Earth Resources Open-File Report 73-1, supplement, 4 sheets, map scale 1:24,000.
Location: Snohomish County.
Hand-colored overlays showing slope stability.

Location: Kittitas and Chelan Counties.
Brief mention of occurrence of many landslides in the Mount Stuart quadrangle, during discussion of Colorado landslides.

Location: Yakima and Kittitas Counties.
Brief description of the SW Cleman Mountain slide on the Naches River, p. 5.
Location: Yakima and Kittitas Counties. Brief description of landslides, p. 23; shown on map, plate 5.

Location: Kittitas and Chelan Counties. Description of Table Mountain and Lookout Mountain slide areas, and slide area near Throp Mountain, p. 3.

Location: Cascade Range. Brief description of Table Mountain slide area, p. 32.

Location: King, Pierce, Yakima and Kittitas Counties. Description of large landslide at the head of Quartz Creek, p. 7.

Location: Pierce County. Mentions landslides, p. 9-10; discusses interbedded mudflow of the Salmon Springs drift, p. 13; discusses lahars, p. 17-21. (Not shown on geologic map.)

Location: Puget Lowland. Brief discussion.


Smith, Mackey, 1975, Preliminary surficial geologic map of the Edmonds East and Edmonds West quadrangles, Snohomish and King Counties, Washington: Washington Division of Geology and Earth Resources Geologic Map GM-14, 1 sheet, map scale 1:24,000. 
Location: Snohomish and King Counties. Geologic map includes map unit: Qols Old landslides.

-60-
Smith, Mackey, 1976, Preliminary surficial geologic map of the Mukilteo and Everett quadrangles, Snohomish County, Washington: Washington Division of Geology and Earth Resources Geologic Map GM-20, 1 sheet, map scale 1:24,000.
Location: Snohomish County.
Includes map units: Qls Landslides; Qols Old Landslides.

Location: Pierce County.
Detailed slope stability map.

Smith, Mackey, 1976, Surficial geology of northeast Tacoma, Pierce County, Washington: Washington Division of Geology and Earth Resources Open-File Report 76-9, 1 sheet, map scale 1:24,000.
Location: Pierce County.
Table "Engineering properties of map units" includes discussion of slope stability.

Smith, Mackey, 1977, Geologic map of City of Tacoma, Pierce county, Washington: Washington Division of Geology and Earth Resources Open-File Report 77-9, 1 sheet, map scale 1:24,000.
Location: Pierce County.
Includes map unit: Qls Landslide.

Location: Mason County.
Map shows relative stability of natural slopes.

Location: King County.
Discussion of landslides in Seattle, p. 9, 16, 17.

Location: Lewis County.
Mentions landslide materials along roadway.

Location: Lewis and Thurston Counties.
Discussion and description of landslides, p. 78-79. Geologic map includes map unit: Qls Landslide debris.
Location: Lewis and Thurston Counties.
Includes map unit: Qls Landslide debris.

Location: Whatcom County.
Brief description of engineering geology study of large landslide near head of Swift Creek.

Location: Kittitas, King, and Yakima Counties.
Discussion and description of mudflows, p. 170-172. Geologic map includes map unit: Qm Mudflow remnants.

Location: Kittitas County.
Geologic map includes map unit: Qm Mudflow. (No discussion in text.)

Location: Benton and Yakima Counties.
Brief description.

Location: Columbia Plateau.
Brief description.

Location: Statewide.
Includes references to hundreds of books, maps, journal articles, newspaper accounts, etc. on landslides in Washington. Arranged by county.

Location: Columbia Gorge (Skamania County)
Discusses the Cascade landslides on the Columbia River at Bonneville.
Location: Yakima County.
Discussion of landslides, p. 318. Geologic map includes map unit: Qls Landslide and talus colluvium.

Location: Yakima County.
Mentions landslide colluvium, p. 1299.

Location: Yakima County.
Includes map unit: Ql Landslide debris.

Location: Columbia Basin.
Test consists of map legend and bibliography only. Maps include map unit: Qls Landslide deposits.

Location: Chelan County.
Includes photos of a debris avalanche-debris flow in the Entiat River Valley.

Location: Cascade and Olympic Mountains.
Brief description of study of creep and earthflow rates in a variety of materials.

Location: Olympic Mountains.
Discusses landsliding and creep in the Olympic Mountains. Specific description of a slide area east of Mt. Olympus.
Location: Olympic Peninsula.
Includes map unit: Ql Landslide deposits.

Location: Chelan and Douglas Counties.
Geologic map includes map units: Qls Landslide deposits; Qlsi Insipient blockslide.

Location: Kittitas, Chelan, and Douglas Counties.
Geologic map includes map unit: Qls Landslide deposits. Map unit described p. 8.

Location: Clallam and Jefferson Counties.
Includes map units: Ql Landslide; Qt Talus.

Location: Grant County.
Geologic maps include map unit: T Talus.

Location: Whatcom County.
Brief mention of landslides, p. 4. (Not shown on geologic map.)

Location: Washington State, focusing on Puget Lowland.
Description of the landslide file at the Division of Mines and Geology.
Location: Thurston and Lewis Counties.
A pilot project for continuing forest slope stability projects, showing geomorphology (including landslides) of the Upper Deschutes River basin. (See also citations by Fiksdal and Brunengo, this bibliography.)

Location: Clark and Skamania Counties (also adjacent areas of Oregon)
Discussion and description of landslide deposits, p. 72-73; of landslides, p. 79-81. Geologic map includes map unit: Q1a Landslide deposits.

Location: King County.
Discussion of location of landslides; climatic factors; human factors causing slides; types of slides.

Tubbs, Donald W., 1974, Landslides in Seattle: Washington Division of Geology and Earth Resources information Circular 52, 15 p., 1 plate.
Location: King County.

Location: King County.
Description and analysis of 200 dated slides occurring in Seattle over a 40-year period.

Location: King County.
Brief description.
Location: King County.
Includes description of landslide hazards.

Tubbs, Donald W.; Frederick, J. E., 1974, Two techniques for identifying areas of landslide hazard in Seattle: Northwest Science, 47th Annual Meeting Program and Abstracts, p. 34.
Location: King County.
Brief description.

Location: Chelan County.
Brief mention of landslides, plate 2.

U.S. Army Corps of Engineers, 1971, Bonneville Dam design memorandum no. 1, modification for peaking, supplement no. 7, Collins Point, Wn., slide study: (Portland, Ore.) U.S. Army Corps of Engineers, 1 vol.
Location: Skamania County.
Thorough and extensive engineering geology "... study conducted to determine the probable effect of peaking operations of Bonneville Lake on slide areas along the Washington shoreline and to definitely establish if danger of catastrophic slides exists". Extensive maps, photos, engineering diagrams, graphs, etc.

Location: Yakima County.
Description of colluvial deposits, p. 12. Geologic maps include map units: C Colluvial; ls Landslide.

Location: Ferry County.
Geologic map includes map unit: Qls Landslide.

Location: Lincoln, Ferry, and Stevens Counties (banks of Lake Roosevelt).
Application of Jone's slope analysis technique to 54 sites along Lake Roosevelt. Additional detail on Jackson Springs slide.
U.S. Environmental Protection Agency, 1975, Logging roads and protection of water quality: (Seattle) U.S. Environmental Protection Agency EPA 910/9-75-007, 312 p.
Location: statewide.
Discussion of logging impacts on slope stability: p. 21 (photos); 21-38; of mass wasting p. 192-195.

Location: Lewis County.
Discussion of potential bank sloughing along the new reservoir shoreline, p. 4-1 - 4-2.

Location: Whatcom County.

Location: Pierce County.
Brief description of 1961 mudflow below Emmons Glacier, Mt. Rainier.

Location: King County.
Brief description of ancient landslides in Seattle.

Location: Thurston and Pierce Counties.
Discussion of mudflows, debris flows, lahars, avalanches, and submarine slumps in Nisqually River drainage.

Location: Chelan, King, and Kittitas Counties.
Mentions landslide dammed lake, p. 32.

Location: Cascade Range.
Brief mentions of landslides along the Snoqualmie Pass Highway, p. 15, 20-21.
Brief information on potential landslide areas along Puget Sound shoreline.

Location: Northeast Washington.
Description of slides near Kettle Falls, Belvedere, and Lake Roosevelt. Photos.

Location: Pierce Co.
Photos and description of debris flow deposits from glacial outburst floods (jokulhlaups) p. 44-49.

Location: Skamania County.
Description and discussion of mudflows, p. 274; of pyroclastic deposits, p. 274-277. Geologic map includes map units: Talus from central plug; Mudflows and other pyroclastic deposits (figures 2 and 4). (Also submitted to Stanford University as a Doctor of Philosophy thesis.)

Location: Grand Coulee Dam area.
Discussion of landslide areas encountered during construction of Grand Coulee dam.

Vine, J. D., 1962, Preliminary geologic map of the Hobart and Maple Valley quadrangles, King County, Washington: Washington Division of Mines and Geology Geologic Map GM-1, 1 sheet, map scale 1:24,000.
Location: King County.
Includes map unit: Q1 Landslide debris.
Location: King County.
Brief discussion and description of landslide debris, p. 31. Geologic map includes map unit: Q1 Landslide debris.

Location: Skamania County.
Brief description of the rockslide-avalanche released as part of the 08:32 May 18, 1980 eruption of Mount St. Helens.

Location: Whatcom County.
Discussion and description of seacliff recession by slumping, p. 23-28.

Location: Pacific County.
Includes map unit: Q1 Landslide debris.

Location: Okanogan County.
Brief description.

Location: Kittitas County.
Geologic map includes map unit: Q1 Landslide deposits.

Location: Okanogan County.
Discussion and description of rockslide avalanche.

Location: King County.
Includes map unit: Qm Deposits of mass-wasting processes.
Location: King County.
Includes map unit: Qm Deposits of mass-wasting processes.

Location: King and Kitsap Counties.
Includes map units: Qms Landslide deposits; Qmc Colluvial deposits.

Location: King County.
Includes map unit: Ql Landslide deposits. Table "Generalized description of engineering properties of map units" includes "slope stability".

Location: Columbia Plateau.
Thorough discussion of landslides and engineering geology problems with the "Nespelem clays" of the northern Columbia Plateau.

Location: Benton and Klickitat Counties.
Includes map units: Qls Landslide debris; Qfc Franglomerate, talus and colluvium.

Location: Pierce County.
Discussion and description of the Osceola and Electron mudflows, p. 36. Geologic map includes map units: Qem Electron mudflow; Qom Osceola mudflow.

Location: King County.
Discusses "huge rock mass that slide into valley" (in late Plesitocene) at the damsite.

Location: Yakima County.
 Mentions the Simcoe and Toppenish landslides named by Russell, p. 23.


Washington Department of Ecology, 1977, Coastal zone atlas of Washington; volume 1, Whatcom County: Washington Department of Ecology, 1 vol., map scale 1:24,000. Location: Whatcom County. Landslides are shown on geologic and on slope stability maps of 2,000-ft. wide coastal strip.

Washington Department of Ecology, 1978, Coastal zone atlas of Washington; volume 2, Skagit County: Washington Department of Ecology, 1 vol., maps scale 1:24,000. Location: Skagit County. Landslides are shown on geologic and on slope stability maps of 2,000-ft. wide coastal strip.

Washington Department of Ecology, 1978, Coastal zone atlas of Washington; volume 3, San Juan County: Washington Department of Ecology, 1 vol., map scale 1:24,000. Location: San Juan County. Landslides are shown on geologic and on slope stability maps of 2,000-ft. wide coastal strip.

Location: Clallam County.
Landslides are shown on geologic and on slope stability maps of 2,000-ft. wide coastal strip.

Washington Department of Ecology, 1979, Coastal zone atlas of Washington; volume 4, Island County: Washington Department of Ecology, 1 vol., map scale 1:24,000.
Location: Island County.
Landslides are shown on geologic and on slope stability maps of 2,000-ft. wide coastal strip.

Location: Snohomish County.
Landslides are shown on geologic and on slope stability maps of 2,000-ft. wide coastal strip.

Washington Department of Ecology, 1979, Coastal zone atlas of Washington; volume 6, King County: Washington Department of Ecology, 1 vol., map scale 1:24,000.
Location: King County.
Landslides are shown on geologic and on slope stability maps of 2,000-ft. wide coastal strip.

Washington Department of Ecology, 1979, Coastal zone atlas of Washington; volume 7, Pierce County: Washington Department of Ecology, 1 vol., map scale 1:24,000.
Location: Kitsap County.
Landslides are shown on geologic and on slope stability maps of 2,000-ft. wide coastal strip.

Location: Thurston County.
Landslides are shown on geologic and on slope stability maps of 2,000-ft. wide coastal strip.

Location: Mason County.
Landslides are shown on geologic and on slope stability maps of 2,000-ft. wide coastal strip.

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Washington Department of Ecology Task LSD Subcommittee, 1979, Section 208
Forest Practice Demonstration Project; logging slash and debris task LSD:
Location: Statewide.
An examination of logging clean-up practices as related to forest slope
stability and subsequent stream turbidity.

Washington Division of Water Resources, 1960, Water resources of the Nooksack
River basin and certain adjacent streams: Washington Division of Water
Location: Whatcom and Skagit Counties.
Geologic map includes map unit: Qls Recent landslides.

Waters, Aaron C., 1930, Geology of the southern half of the Chelan quadrangle,
plates.
Location: Chelan and Douglas Counties.
Description and discussion of landslides and mudflows, p. 254-256, with
photos. (Not shown on geologic map.)

Waters, Aaron C., 1955, Geomorphology of south-central Washington, illustrated
by the Yakima East quadrangle: Geological Society of America Bulletin,
vol. 66, no. 6, p. 663-684.
Location: Yakima and Kittitas Counties.
Geologic map includes map unit: Qla Landslides.

Waters, Aaron C., 1973, The Columbia River Gorge; basalt stratigraphy, ancient
lava dams, and landslide dams. in Oregon Department of Geology and Mineral
Industries, 1973, Geologic field trips in northern Oregon and southern
Washington: Oregon Department of Geology and Mineral Industries Bulletin
77, p. 133-162.
Location: Skamania County.
Detailed description and discussion of active landslides, debris flows and
talus of the Columbia River Gorge. Geologic map includes map unit: Ql
Landslides.

Weaver, Charles E., 1912, Geology and ore deposits of the Index mining district:
Location: King and Snohomish Counties.
Description of talus deposits, p. 49. (Not shown on geologic map.)

Webster, Gary D., 1979, Surficial geologic map of the Pullman quadrangle,
Washington: Washington Division of Geology and Earth Resources Open-File
Report 79-9, 1 sheet, map scale 1:250,000.
Location: Whitman, Garfield, Columbia and Asotin Counties.
Includes map units: Qc Colluvium; Qls Landslide deposits.

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Location: Pacific Northwest.
Exhaustive compilation of earthquake intensity reports, including newspapers. Includes accounts of seismically triggered landslides especially the Ribbon Cliffs slide.

Location: Chelan County.
Mentions the Narrows slide area and its effects on the depth of Lake Chelan.

Location: Chelan County.
Includes map units: Qls Landslide deposits; Qcv Colluvium of volcanic clasts.

Location: Chelan County.
Includes map unit: Qls Landslide deposits.

Location: Chelan County.
Includes map unit: Qls Landslide deposits.

Location: Skagit County.
Includes map units: Qt Talus; Qls Landslide.

Location: Skagit County.

Location: Chelan County.
Includes map unit: Qls Landslide deposit.
Location: Chelan County.
Includes map units: Qt Talus; Qls Landslide deposit; Qc Colluvium; Qcp Colluvium of porphyry clasts; Qms Mass-wastage deposits.

Location: Columbia River Gorge.
Brief mention of Wind River-Wind Mountain slide area, and Cascade-Bonneville slide areas.

Location: Skamania County.
Thorough discussion of the Cascade-Bonneville slide area, p. 86-91.

Location: Chelan County.
Description of "Red slide", west side of Lake Chelan, p. 59.

Location: Mason County.
Description and discussion of mass-wasting, including landslides, rockfalls, and colluvium, p. 32-33. Geologic map includes map unit: Hc Colluvium.

Location: Ferry and Stevens Counties.
Thorough description and discussion of colluvium and landslides, p. 155-156.

Location: Kitsap and King Counties.
Description of Bainbridge Island slide, and north Seattle residential slide.


Location: Whatcom County.
Mentions some sloughing around Point Roberts area, p. 2-3, 11-12.

Location: Yakima County.
Description of Toppenish landslide, p. 75-76.

Location: Pacific and Wahiakum Counties.
Brief mention of two slide areas near Rocky Point on the Columbia River, p. 42-43, 54.

Yuretich, R. F.; Fritz, William J., 1981, Comment and reply on "Reinterpretation of the depositional environment of the Yellowstone 'fossil forest'", and, "Stumps transported and deposited upright by Mount St. Helens mud flows": Geology, v. 9, no. 4, p. 146-147.
Location: Skamania and Cowlitz Counties.
Comparison between the Yellowstone "fossil forest" and the Mount St. Helens mudflow-transported stumps.

Location: Skamania County; Cascade Range; Grand Coulee Dam.
Includes information on the Bonneville landslide, Cascade Range landslides, and the Grand Coulee Dam-area landslides.