







heavily populated; the western portion maintains a more rural character. All stream viewers to see man-made structures in the areas closest in elevation to the streams flow in the valley drains to the Tualatin River, which flows eastward from the Coast within city limits. Land that is more than 100 feet above adjacent water surfaces was Range to the Willamette River near Oregon City. Much of the valley is covered by sediments left behind by Pleistocene age floods known as the Missoula Floods. Flooding occurred between 15,000 and 12,700 years before present (O'Connor and others, 2001). Evidence of the Missoula floods is seen in many places on the map and includes features like Sullivan's Gulch in Portland, Oswego Lake, and low-lying former channels adjacent to the Willamette River and References: Tualatin River (Allison, 1978). In addition, northwest of Sherwood and King City along the Tualatin River corridor there is distinct fluvial scarring where the floods Allison, I. S., 1978, Late Pleistocene sediments and floods in the Willamette Valley: flowed into, and subsequently out of, the valley. To emphasize stream morphology in the Tualatin Valley, a gradient fading from cool blues and greens to warm tans and oranges was applied to the map to represent the O'Connor, J. E., Sarna-Wojcicki, A., Wozniak, K. C., Polette, D. J., and Fleck, R. J., relative elevation of land in feet above adjacent water surfaces. Dark blue areas of 2001, Origin, extent, and thickness of Quaternary geologic units in the Willamette the map indicate elevations at or near water surface elevation and thus include both Valley, Oregon: U.S. Geological Survey Professional Paper 1620, 51 p.



Portland, Oreg.: Oregon Department of Geology and Mineral Industries, Ore Bin, v. 40, no. 12, p. 193-202.

Stream Channels of the Tualatin Valley and Lower Willamette River, Clackamas, Multnomah, Washington, and Yamhill Counties, Oregon 2011







Missoula Floods is visible along the meandering Tualatin River with Bull Mountain and

Cooper Mountain in the background.



shown. The Tualatin Mountains (i.e., the Portland Hills) are in the background. the top of the image where the floodwaters flowed across the landscape.

**Open-File Report O-11-06** Stream Channels of the Tualatin Valley and Lower Willamette River, Clackamas, Multnomah, Washington, and Yamhill Counties, Oregon

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Source data: Lidar data from DOGAMI Lidar Data Quadrangles LDQ-2009-45122C5-Oregon City, LDQ-2009-45122C6-Canby, LDQ-2009-45122C7-Sherwood, LDQ-2009-45122C8-Newberg, LDQ-2009-45122D5-Gladstone, LDQ-2009-45122D6-Lake Oswego, LDQ-2009-45122D7-Beaverton, LDQ-2009-45122D8-Scholls, LDQ-2009-45122E5-Mount Tabor, LDQ-2009-45122E6-Portland, LDQ-2009-45122E7-Linnton, LDQ-2009-45122E8-Hillsboro, LDQ-2009-45122F6-Vancouver, LDQ-2009-45122F7-Sauvie Island, LDQ-2009-45122F8-Dixie Mountain, LDQ-2009-45123C1-Dundee, LDQ-2009-45123C2-Carlton, LDQ-2009-45123D1-Laurelwood, LDQ-2009-45123D2-Gaston, LDQ-2009-45123E1-Forest Grove, LDQ-2009-45123E2-Gales Creek, LDQ-2009-45123F1-Meacham Corner, and LDQ-2009-45123F1-Suvton Highway(2008), road(2008), and city limit(2007) vector data from Oregon Donartment of Transportation. from Oregon Department of Transportation. County vector data from Oregon Geospatial Information Clearinghouse. Stream data from Environmental Systems Research Institute (Esri). This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or survey purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information. The lidar data used to create this map were collected from a light aircraft carrying a highly accurate laser scanner. The scanner makes over 100,000 measurements each second to build up a three-dimensional "point cloud" model of the surface of the earth and the vegetation and structures on it. A computer sorts the points, separating those that measure the ground from those that measure other objects such as trees or buildings. Images derived from these sets of points are then merged with other forms of digital data to create this map. The Oregon Department of Geology and Mineral Industries (DOGAMI) has been collecting lidar data in Oregon since 2006. The goal is to cover the entire state as funding for the data collection becomes available. You can learn more about lidar and view lidar images of other parts of Oregon at: www.OregonGeology.org

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