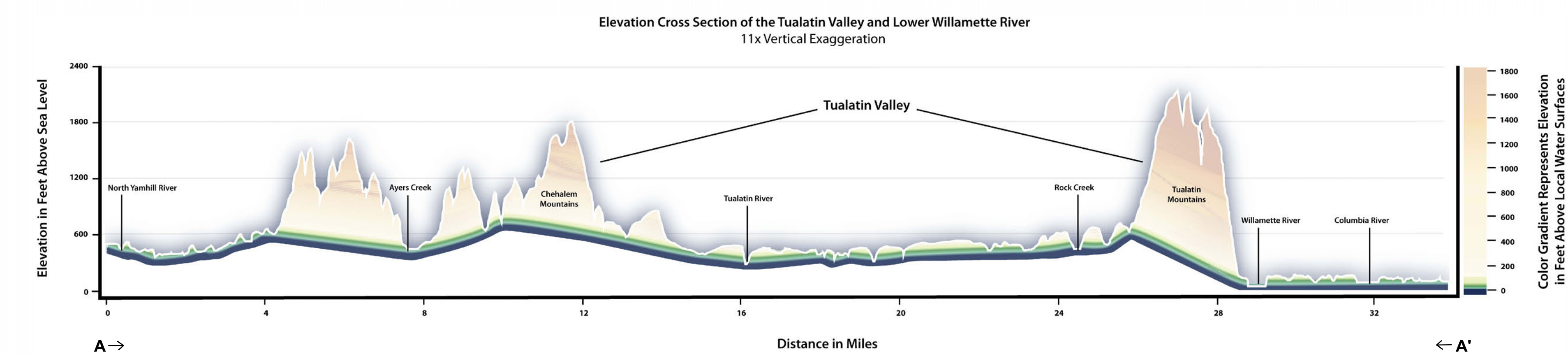
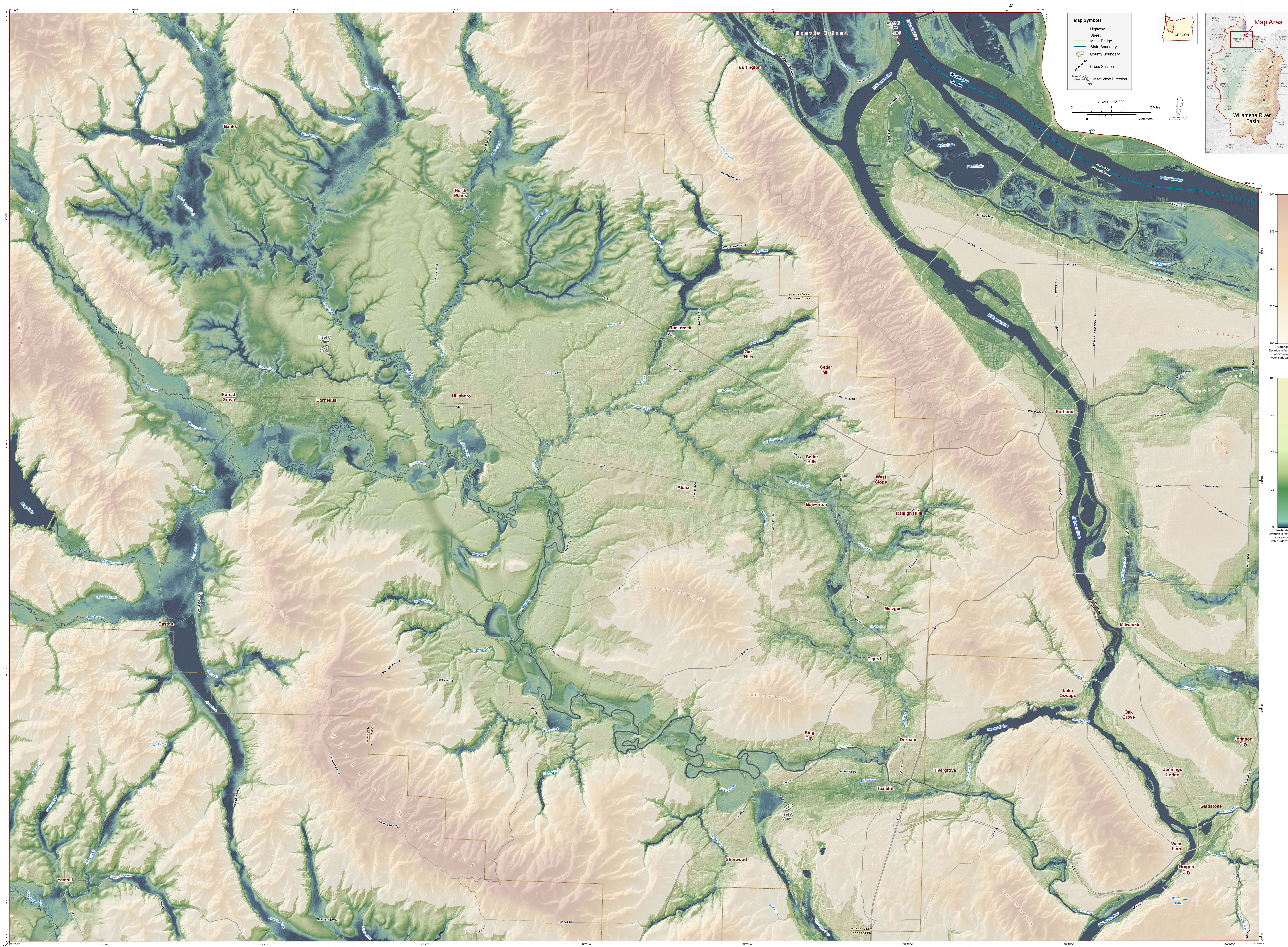




## 2011

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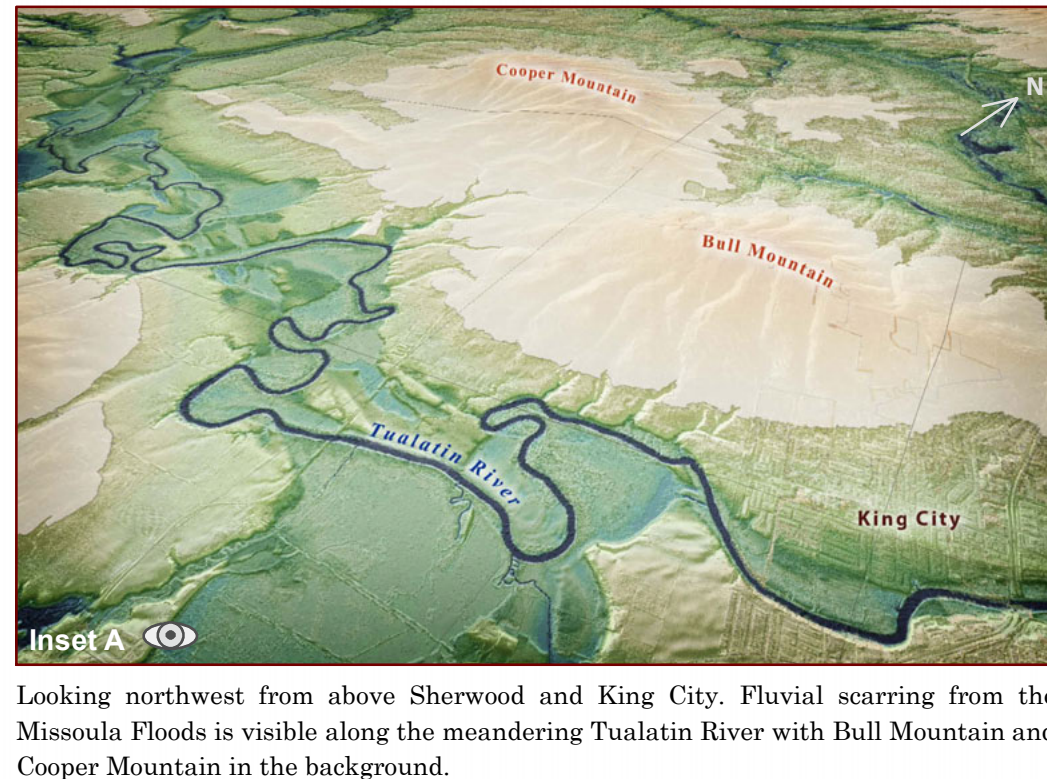


This map depicts streams of the Tualatin Valley and the *Lower* Willamette River watershed in northwestern Oregon. The Tualatin Valley is bound to the south by the Chehalier Mountains, to the north and east by the Tualatin Mountains, and to the west by the Coast Range. Cities in this region include Portland, Beaverton, Tualatin, Hillsboro, Tigard, Forest Grove, and Lake Oswego. The eastern part of the valley is heavily populated; the western portion maintains a more rural character. All stream flow in the valley drains to the Tualatin River, which flows eastward from the Coast Range to the Willamette River near Oregon City.

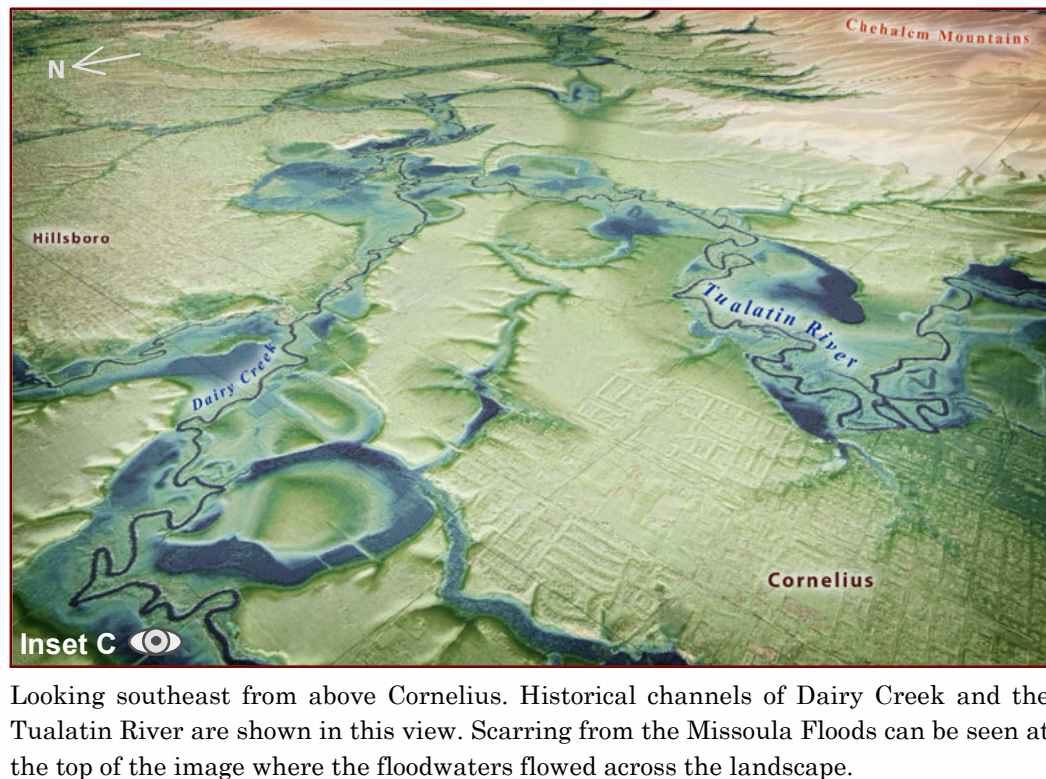
Much of the valley is covered by sediments left behind by Pleistocene age floods known as the Missoula Floods. Flooding occurred between 15,000 and 12,700 years before present (O'Connor and others, 2001). Evidence of the Missoula floods is seen in many places on the map and includes features like Sullivan's Gulch in Portland, Oregon Lake, and low-lying former channels adjacent to the Willamette River and 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 flowed into, and subsequently out of, the valley.

water and land areas. The color gradient was applied to digital elevation models (DEMs) that were created using 3-foot resolution bare-earth lidar data. Transparent shaded relief and shaded slope layers derived from lidar were also draped on top of the DEMs. First-return lidar data, also known as highest-bit lidar data, were used to create a DEM that was applied to the cities of the region. This technique allows viewers to see man-made structures in the areas closest in elevation to the streams within city limits. Land that is more than 100 feet above adjacent water surfaces was partially masked in order to emphasize the areas closer to streams. An elevation

cross section represented by letters and arrows on the map is located below the main map. This cross section represents both actual and relative elevations and has been vertically exaggerated to better visually represent physical features of the landscape.



Looking southeast from above the confluence of the Willamette River and Columbia River. Industrial development in the floodplain on the North Portland peninsula is shown. The Tualatin Mountains (i.e., the Portland Hills) are in the background.

[illegible]