Channel Complexity ca. 2010

Technical Details

Channel complexity is reported for ca. 2010 conditions using two metrics: channel length and channel area. In the GIS attribute table, channel length is reported in field *CHLEN10* and channel area is reported in field *CHAREA10*. In the Excel spreadsheet channel length is reported in column *2010 Channel Length* and channel area is reported in column *2010 Channel Area*.

Channel complexity measures for ca. 2010 conditions

The spatial analytic process that produces these measures first creates maps that depict the two phenomena of interest, channel length and channel area, overlays those maps individually with the 100m slices map, extracts the attribute table from this overlay for summation in a spreadsheet program, and finally attaches the area and length values to the 100m slice polygons as the new attributes identified above.

Ca. 2010 channel length

For determining channel length, the source dataset is the THAL2000 line coverage produced by the Oregon State University Dept. of Fisheries and Wildlife containing lines indicating the position of the Thalweg, position of deepest channel, for streams, alcoves, and other features created by moving water. The center lines of features other than the Willamette River mainstem and principal tributaries were revised based on the Summer 2009 NAIP air photo imagery. The revisions included changing the positions of secondary stream features, connecting these features to the mainstem where the imagery showed that this is the case, and changing the type classification of these features as needed. The net effect is to increase the amount of channel length ca. 2010 relative to ca. 2000.

Ca. 2010 channel area

The source data set is the polygonal coverage AC2KV3 produced by the Oregon State University Dept. of Fisheries and Wildlife which depicts the active channel of the Willamette River ca. 2000. For the present work, the AC2KV3 map was clipped to the 100m slices outer boundary (i.e. the pragmatic floodplain), and relying largely on the 2009 NAIP digital aerial photographs, revised to reflect the latest available location and classification of summertime wetted features within the study area. These edits primarily were performed using the ArcInfo ArcEdit Version 8.3 program, with the NAIP 2009 photographs as visual reference.