

# Channel Migration Zone Analysis of the Skykomish River

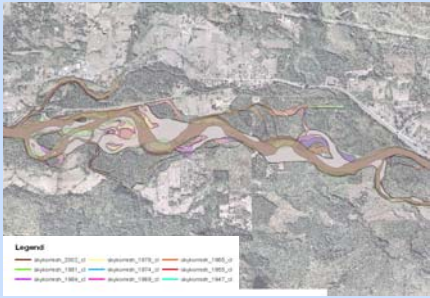
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**Motive**

The erosion and deposition that accompanies river migration influences ecological processes and human infrastructure throughout the Pacific Northwest. Differences in channel mobility along reaches of a river system depends on different geomorphologies and consequently yields different rates of erosion. By studying the Skykomish River we can produce data that defines the fundamental dynamics of this river in regards to erosion rates, the probability of where it will reoccupy past locations in its floodplain, and investigate how this varies along the river system.

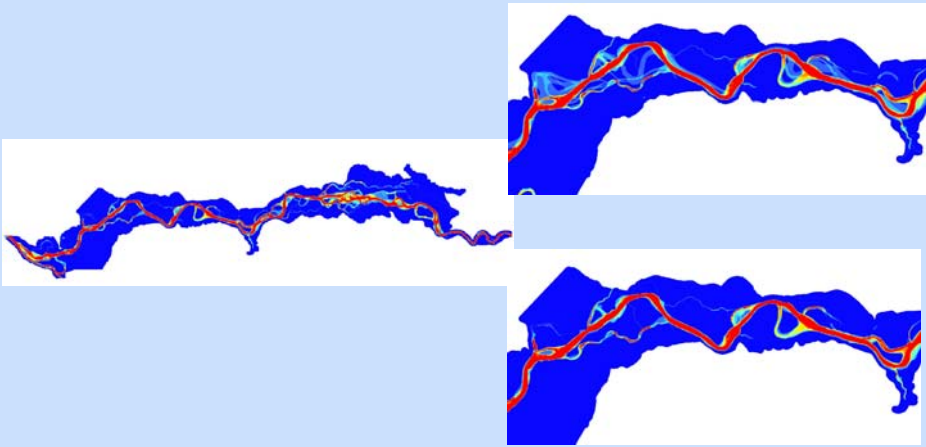
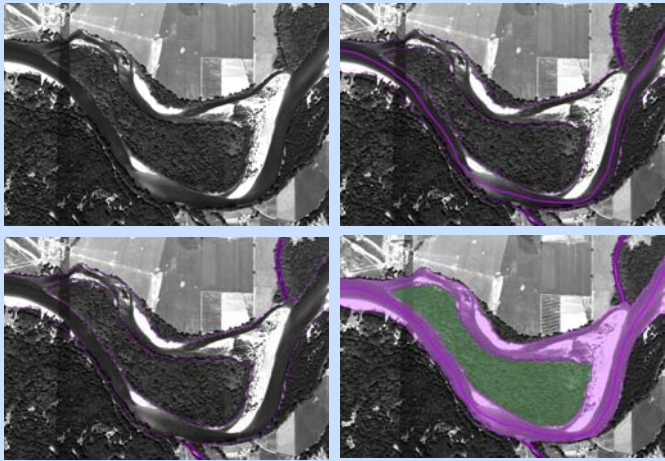
**Methods**

With the use of available time-lapsed aerial photographs of the Skykomish dating back to as early as the late 1930s, it is possible to reconstruct river migration and forecast the probability of future floodplain re-occupation.



**Results**

From a scientific approach, studying the fundamental river dynamics and mechanics of how rivers have occupied their floodplains in the past will yield an understanding of differences between rivers in different geo-spatial contexts and allow calculation of probabilities of where they will be in the future. The data generated from this project can help counties to locate where their river channels have been in the past and where they might be in the future. This information is essential in regard to river floodplain planning, management, and restoration.



**Complications**

The photos provided for the project contain several sources of error including distortion, bad control where photos overlap, and incomplete photo sets. An error analysis consisting of determining the direction and distance of offset and extra digitization of topo maps was performed.



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