

# Long Profile Analysis of the Crazy River, NZ

Stacked Metrics for a River Channel with ArcGIS, Excel, Google Earth & Illustrator

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This summary figure, created in Adobe Illustrator, compiles various measurements, calculations, and observations gathered for a ~100 km long channel chosen by a work group (usually a pair of students). The criteria for choosing a study reach are a.) channel descend from mountains and empties to a large inland basin or ocean, b.) the reach is 80-100 km in length, c.) the reach is clearly visible in Google Earth photos, d.) is not a major regional trunk stream; large tributaries work best, e.) is located in a geomorphically interesting area (i.e., formerly glaciated/never glaciated, tectonically active/stable, uniform bedrock/highly diverse bedrock geology). Most of my students are not Geoscience majors, but are able to succeed with the project anyway. It is helpful to have a core of students with some experience in geomorphology or hydrology. Same goes for Illustrator experience. I provide handouts with figures and definitions as well as some background reading/video links on fluvial geomorphology. This is a typical kind of project I have my GIS students do - a good warm up before heading into the field. I like it because it uses readily available data, several different software packages including freeware, involves migrating data between programs, is impossible to fake, and results in a product at the end (printable poster), suitable for inclusion in a portfolio. It's STEAM rather than STEM (add Art).

