

Quantifying variability in stream morphology/habitat

Bartley, R and I. Rutherford, Measuring the reach-scale geomorphic diversity of streams: application to a stream disturbed by a sediment slug, *River Res. Applic.*, 21, 39, 2005.

(Compiles tools for assessing geomorphic variability, tests on synthetic data and applies to Australian river.)

Chappell, A., G. L. Heritage, I. C. Fuller, A. R. G. Large and D. J. Milan, Geostatistical analysis of ground-survey elevation data to elucidate spatial and temporal river channel change, *Earth Surf. Process. Landforms*, 28, 349, 2003.

(Use kriging for surfaces and spatial statistics on sequential DEMs – compare to examine changes over time in channel morphology, UK river and researchers.)

Cooper, S. D., L. Barmuta, O. Sarnelle, K. Kratz and S. Diehl, Quantifying spatial heterogeneity in streams, *J. N. Am. Benthol. Soc.*, 16(1), 174, 1997.

(Review paper – addresses problem at multiple spatial scales, major tool = correlograms and semi-variograms.)

Madej, M.A., Temporal and spatial variability in the thalweg profiles of a gravel-bed river, *Earth Surf. Process. Landforms* 24, 1153, 1999.

(Examines changes in residual water depth over time in California river. Good application of geostatistics.)

Palmer, M. A. and N. L. Poff, The influence of environmental heterogeneity on patterns and processes in streams, *J. N. Am. Benthol. Soc.*, 16(1), 169, 1997.

(Introduction to a special issue of *J. N. Am. Benthol. Soc.* Good review of the state of this line of research. Cooper article above came from this issue.)

Stewardson, M. J. and T. A. McMahon, A stochastic model of hydraulic variations within stream channels, *Water Resour. Res.*, 38(1), 2002.

(Depth and velocity frequency distributions compiled from data around the world.)

Trainor, K and M. Church, Quantifying variability in stream channel morphology, *Water Resour. Res.*, 39(9), 1248, 2003.

(Used measures of variability and dissimilarity to compare channel units within reaches.)