

BIOSKETCH

Jonathan Nelson, Ph.D.

USGS Geomorphology and Sediment Transport Laboratory

4620 Technology Dr, Suite 400

Golden, Colorado USA 80403

Tel: +1 303-765-0247

email: jmn@usgs.gov



Jonathan Nelson graduated from the University of Puget Sound in Tacoma, Washington with a Bachelor of Science degree in Physics in 1981. He subsequently received both Master of Science and Ph.D. degrees from the Geophysics Program of the University of Washington in 1986 and 1988. His dissertation, entitled “Mechanics of flow and sediment transport over nonuniform erodible beds”, presented early experimental and computational work on flow and morphodynamics of both river bars and bedforms. He began work as a part-time Research Hydrologist at the United States Geological Survey in 1986 and was converted to a permanent position in the USGS National Research Program in 1988. He has held adjunct and affiliate faculty appointments at many US and international Universities and served on more than 40 student committees.

His research interests are primarily directed toward understanding and modeling the mechanics of flow and morphodynamics in rivers. His work is characterized by a multifaceted approach including computational modeling, laboratory experiments, and field measurement programs. He has written over 125 papers on his research and served in both active and advisory roles on several large river modeling programs in the US and other countries. His recent work has focused on the use of remotely sensed water-surface velocities and elevations in computational inverse problems for determining spatially distributed flow and depth fields in river reaches. In addition to his research work, he has worked in collaboration with Professor Yasuyuki Shimizu and an international group of colleagues to develop and distribute a public-domain interface and suite of modeling codes for rivers (www.i-ric.org). His research and shared tools have received many USGS awards and the Hans Albert Einstein Award from the American Society of Civil Engineers.