

Abstract:

This presentation will provide a technical summary of my work in flood frequency analysis in the context of the new Bulletin 17C procedure. I will provide a summary of hydrologic regionalization using least squares linear regression, and highlight my contribution in developing a hybrid Bayesian WLS/GLS method for California rainfall floods that is currently widely applied nationally by the USGS. I will also discuss the occurrence of low outliers in annual maximum records, my contributions in developing the automated outlier detection algorithm used in Bulletin 17C, and the impact of that algorithm on overall quantile estimator efficiency using the Expected Moments Algorithm (EMA). I will close with a discussion of my ongoing work and interests.

Bio:

Jonathan Lamontagne received his M.S. and Ph.D. in environmental water resources systems analysis from Cornell University (w/ Jery Stedinger) in 2014 and 2015, respectively. His graduate studies focused on flood frequency analysis and the incorporation of uncertainty in hydropower systems planning. Following his graduate studies, Lamontagne worked as a postdoctoral research associate at Cornell University, studying uncertainty and robustness issues for models of the integrated human-climate system. He joined the Tufts Department of Civil and Environmental Engineering in 2017.

Jonathan's past collaboration with the USGS has included a regional skew study for California and the development of low-outlier detection tests for the new Bulletin 17C FFA guide.