Long-term properties of annual maximum daily river discharge worldwide

Dimitris Bouziotas, Georgios Deskos, Nikos Mastrantonas, Dimosthenis Tsaknias, Grigoris Vangelidis, Simon-Michael Papalexiou , and Demetris Koutsoyiannis

National Technical University of Athens, Water Resources and Environmental Engineering, Athens, Greece (bouziot@hotmail.com)

We use a database of annual maximum daily discharge time series (World Catalogue of Maximum Observed Floods, IAHS Press, 2003) and extract those with length greater than 50 years. We analyse extreme floods at several stations worldwide focusing on their long-term properties of the time series including trends and persistence (else known as Hurst-Kolmogorov dynamics), which characterizes the temporal streamflow variability across several time scales. The analysis allows drawing conclusions, which have some importance, given the ongoing and intensifying discussions about worsening of climate and amplification of extreme phenomena.