



Transboundary Groundwater Cooperation & How To Bake A Cake: Basic Principles

Tuesday, April 12, 11:00-12:00, De Bartolo Hall 102

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Abstract: Reports of record rains and flooding seem incessant: Hurricane Harvey (2017), Ellicott City (2016, 2018), Hurricane Florence (2018), Missouri River Basin (2019), Hurricane Ida (2021), Washington State flooding (2021), to name just a few. I will present analyses of heavy rainfall trends in the United States extending back to the early 20th Century. There is an overall upward trend in extreme precipitation occurrences by several metrics but with substantial regional variability. I will discuss the possible meteorological causes of the trends and climatological relationships we have found in the historical record. These results inform estimates of future changes in response to global warming. Based on this meteorological understanding, we have developed a method to adjust NOAA Atlas-14 rainfall design values that incorporates potential future changes.