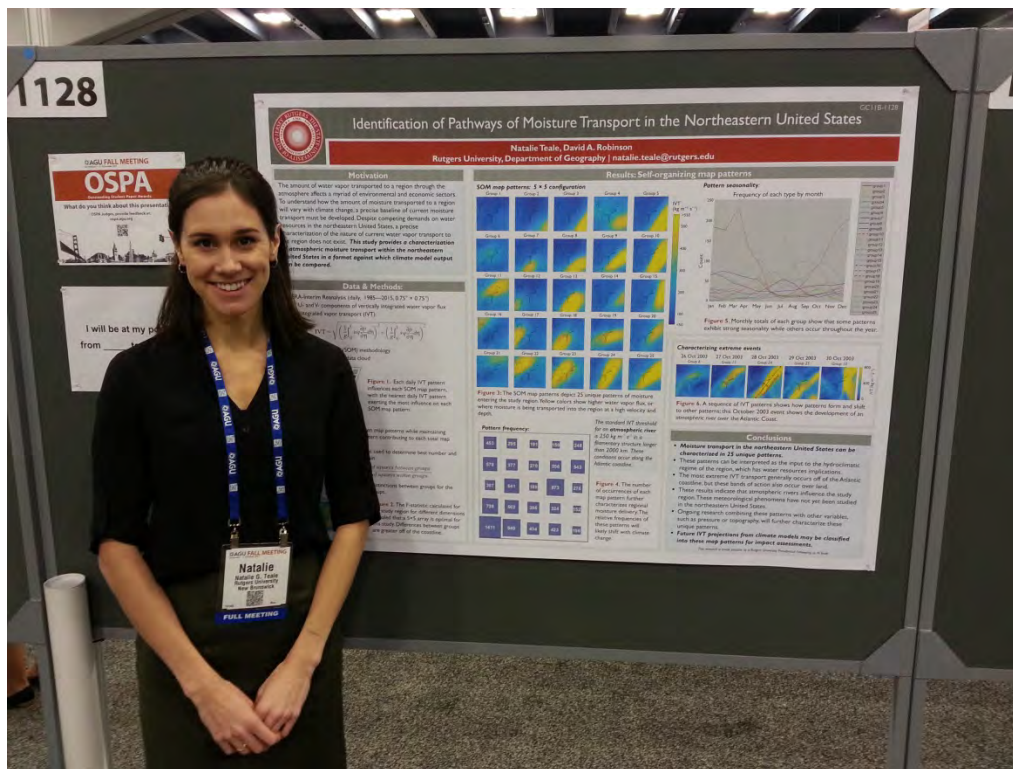


# Hydroclimatology of the northeastern United States

My research is centered on the hydroclimatology of the northeastern United States. Hydroclimatology, defined as the interaction of the climate system with hydrological processes, strongly influences the land surface on which we live. The hydroclimatology of the northeastern US is particularly interesting, as the region is affected by a wide range of climatological and meteorological processes from all sides: cold, dry air masses from the north; warm, moist jets from the south; maritime processes from the Atlantic Ocean to the east; and a mixed bag of synoptic and mesoscale systems from the west. I am focused on studying how water vapor moves to and through the northeastern US via these different pathways, and how those pathways affect the potential for precipitation and the manner of moisture delivery in the northeastern region. This research introduces methodologies and epistemologies of the study of [atmospheric rivers](#) with the ontologies of the regional climatology to produce a comprehensive characterization of water vapor transport in the northeastern US, which will be used in later stages of my dissertation in an assessment of the impacts of climate change on regional atmospheric moisture transport.



This picture was taken during my poster presentation at the 2016 Fall Meeting of the American Geophysical Union in San Francisco, CA. This poster features the use of a self-organizing map methodology to characterizing water vapor transport, and demonstrates how this method may be useful in studying spatiotemporal patterns of extreme moisture transport.