A critical aspect of human-induced climate change is how it will affect regional hydroclimate around the world. To leading order, the increased ability of the atmosphere to hold moisture as it warms, intensifies moisture transports, making sub-tropical dry regions drier and mid-latitude wet regions wetter. But regional changes in hydroclimate will also depend on how the atmospheric circulation responds to warming. Here, two aspects of Northern Hemisphere wintertime circulation change will be discussed, one that is relevant for North American hydroclimate and another that is relevant for European hydroclimate. Over North America, changes in the stationary wave flow make an important contribution to future hydroclimate change as well as the spread among models. A mechanism for these stationary wave changes, as well as an explanation for the spread among models, will be proposed. Over Europe it has been suggested that the way in which the stratospheric polar vortex will change in the future could contribute to hydroclimate change and spread among models. The potential role that the stratosphere might play in future predictions of European hydroclimate will be discussed.

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Wednesday, February 28, 2018, at 3:15pm
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Refreshments and Meet the Speaker at 3:00pm