

FSU Meteorology Seminar Series, Spring 2021



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Advancing Understanding of Monsoons: Two Distinct but Complementary Approaches

Abstract

Monsoons play a starring role in Earth's general circulation and in the livelihoods of billions of people. Accurate predictions of monsoon rainfall variations from intraseasonal to centennial timescales, both natural and human-induced, would be of tremendous value but have proved vexing. This isn't shocking, given that our conceptual understanding of some of the most basic characteristics of monsoonal overturning circulations generally and of real-world systems such as the Indian monsoon remains incomplete. In this talk, I describe two approaches, one highly theoretical and the other highly empirical, I have employed in recent years to attack this knowledge gap. The first combines analytical theory and simulations in idealized climate models to develop a new theory for the extent of the ascending and descending branches of zonally averaged monsoonal circulations (i.e. the solstitial Hadley cell). The second uses gauge-based rainfall data in India to delineate the mechanisms linking interannual variability in Indian summer monsoon rainfall within sub-regions of the subcontinent.

Zoom Link

<https://fsu.zoom.us/j/92495409312?pwd=VklzSHdVY0JOUzdDODg4TzJGbnhkdz09>

Time:

Thursday, Feb. 18, 2021 @ 3:30 PM

Host:

Dr. Allison Wing

Note:

Meeting the speaker at 3:15 PM. A post-seminar student-speaker session will start immediately after the seminar.