



UNIVERSITY
of HAWAI'I
MĀNOA

Department of Atmospheric Sciences Seminar Announcement

Department of Atmospheric Sciences, S.O.E.S.T., University of Hawai'i at Mānoa
2525 Correa Road, HIG 350; Honolulu, HI 96822 ☎956-8775



Reconstruction of the Asian summer monsoon precipitation for the past five centuries

Ms. Hui (Daisy) Shi

Meteorology Ph.D. Candidate
Department of Atmospheric Sciences
University of Hawai'i at Mānoa

Date: Wednesday, October 19, 2016
Refreshments: 3:00pm at MSB courtyard
Free Cookies, Coffee & Tea Provided
(Please Bring Your Own Cup)
Seminar Time: 3:30pm
Location: Marine Sciences Building, MSB 100

Abstract:

The Asian monsoon bears great significance to the people of Asia for millennia, yet even today it remains a challenge for models to accurately predict its behavior. The lack of understanding of the Asian monsoon system, especially on decadal and large spatial scales, is primarily due to the limited number of long-term monsoon records with sufficient spatiotemporal resolution. Here we present a gridded 544-year reconstruction of the Asian summer monsoon precipitation, stemming from the effort of combining an extensive tree ring network and valuable historical drought/flood atlas and documents. Validation of the reconstruction against a gauge- and satellite-based precipitation reconstruction shows good agreement for the recent century, especially in regions including East and North Asia, north and west India, and maritime continent. Intercomparison with speleothem records, marine upwelling record, and ice core record confirmed the reliability of the reconstruction before 1900. Finally, seven historical megadroughts were proficiently reproduced with the reconstruction. We believe that our reconstruction will enrich the archive of the past Asian monsoon records and enable future research that enhances our understanding of this complex system.