

MMM SEMINAR SERIES



This seminar will include 2 speakers/presentations:

1) Atmospheric Dynamics Governing the Recurvature of Eastern North Pacific Tropical Cyclones

Alex Mitchell, SUNY, Albany

Enhancing our understanding of the atmospheric dynamics that govern the recurvature of tropical cyclones (TCs) in the eastern North Pacific (EPAC) is crucial for improving track forecasting accuracy and mitigating potential impacts along the Western North American coastline. This study integrates insights from two complementary investigations into the atmospheric dynamics driving EPAC TC recurvature and subsequent landfall. The first investigation focuses on the linkages between large-scale flow patterns in the North Pacific (NPAC) and the recurvature of EPAC TCs. Utilizing 6-hourly best-track data (1951–2022) from the National Hurricane Center's HURDAT2, we identify TC recurvature events and extract the antecedent NPAC large-scale patterns that influence EPAC TC tracks through K-means clustering. In addition to identifying and characterizing TC recurvature events, storm-relative composite analyses of large-scale flow patterns are constructed using ERA5 reanalysis, providing a detailed understanding of the atmospheric conditions leading to TC recurvature...[link to full abstract](#)

2) Northern Hemisphere Wintertime Persistent Flow Regimes: Linkages to MJO and AR Variability

Tyler C. Leicht and Lance F. Bosart, SUNY, Albany

Weather regimes are often studied to understand low-frequency variability in the extratropical atmosphere. Weather regimes can also be linked to variations in surface weather, making the study of weather regimes a bridge between traditional synoptic-dynamic meteorology and subseasonal-to-seasonal (S2S) variability. The philosophy behind my PhD thesis has been to identify persistent flow regimes (PFRs) in the Northern Hemisphere during winter, create time-lag composites depicting the dynamical mechanisms underpinning PFR formation, examine the linkage between PFRs and various atmospheric teleconnections, and assess the frequency and variability of surface weather associated with PFRs. This talk will touch on the last two components of the PhD work, with a specific emphasis on the Madden–Julian Oscillation (MJO) and atmospheric rivers (ARs)...[link to full abstract](#)

Wednesday, 17 July 2024, 2:00pm

Refreshments 1:45pm

NCAR-Foothills Laboratory, 3450 Mitchell Lane
FL2/1022, Large Auditorium

Seminars will also be live webcast

<https://operations.ucar.edu/live-mmm>

Participants may ask questions during the seminar via Slido.

