**Reading guidelines for Lecture 12: North American Monsoon System**

**Part 1: Toward a unified view of American monsoon systems (read sections 1, 2)**

1. Discuss the similarities (and dissimilarities) of physical features between the NAMS and SAMS.
2. Discuss the similarities (and dissimilarities) of large-scale features (i.e., circulations in the lower and upper levels) between NAMS and SAMS.
3. What are the basic features of a typical monsoon system?
4. What are the associated circulation features when the NAMS onsets over the southwestern United States in the beginning of July?
5. Where are the moisture sources of NAMS rainfall during the northern summer?
6. What is the Arizona monsoon boundary?
7. What possible causal mechanisms can trigger gulf surges?
8. What is the upper-level inverted trough?
9. Climatologically, the south-central Mexico and Central America often experience the *canicula phenomenon*. What is it?

**Part 2: Contributions from North American Monsoon Experiment (NAME) (read sections 1, 2, 3, 4)**

1. How to define the high-impact weather events?
2. Where are the sources of the interannual variability of NAM from?
3. Describe the statistical relationship between ENSO and NAM rainfall anomalies and discuss how the Pacific Decadal Oscillation (PDO) can modulate such a relationship.
4. What are the ingredients to improve the prediction skill of NAM?
5. Identify the 5 transient mechanisms that exert influences on regional moisture flux patterns.
6. How the tropical easterly waves affect the precipitation activity over the southern U.S. Great Plains?
7. What is the temporal relationship between the Madden-Julian Oscillation (MJO) and the NAM rainfall? How such a relationship is established?