Tracing the Life of Deep Convective Systems in the Mid-latitude and Tropics: from Observations to Simulations Zhe Feng¹, Samson Hagos¹, Sally McFarlane^{1,2}, Jiwen Fan¹, Yuan Wang³ ¹PNNL, ²DOE Climate and Environmental Sciences Division, ³Texas A&M University

1. Objective

- To improve our understanding of processes related to lifetime and structure of Deep **Convective Systems (DCSs)**
- Evaluate ability of WRF in simulating lifecycle of DCS and impact of microphysics







- Ocean: weak diurnal cycle, persistent high clouds



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