Heat Wave Identification Using an Operational Weather Model and Analog Ensemble

*Alon Sidel¹, Weiming Hu¹, Martina Calovi¹, Guido Cervone^{1,2}

1. The Pennsylvania State University, 2. National Center for Atmospheric Research

Heat waves are notoriously difficult to forecast due to their highly localized variables, yet remain one of the world's deadliest natural disasters. This project uses the Analog Ensemble technique (AnEn), which generates probability information from a deterministic predictive model, to identify heat waves across the continental United States with further accuracy. Heat index was calculated to assess the intensity of heat waves and forecast ensembles for heat index were generated using weather analogs. AnEn was shown to outperform the baseline weather prediction model when a quantile was used to summarize the ensemble.

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