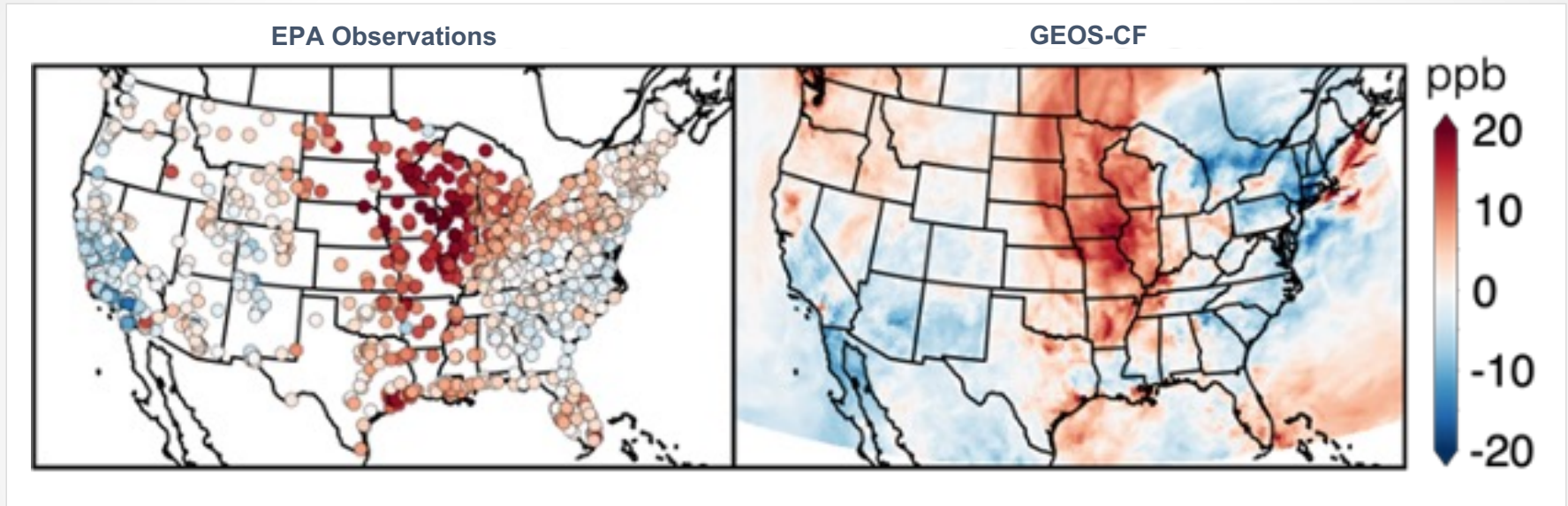


Ozone Extremes Over the U.S. in May 2023 Tracked by NASA's Composition Forecasting System



Anomalies in the 90th percentile 8-hour maximum ozone in May 2023 compared to May 2019-22 in the U.S. Environmental Protection Agency (EPA) observations (left panel) and Goddard Earth Observing System–Composition Forecasting (GEOS-CF, right panel). The Midwest experienced a significant ozone episode this May, and its location and extent were well-captured by GEOS-CF. The model also captures the anomalies in extreme ozone values in past years, indicating that model anomalies can be used for predicting ozone episodes. Ozone anomalies are found to be strongly related to daily maximum 10 m temperature anomalies in the model over the eastern U.S., which suggests the potential for statistically forecasting ozone anomalies on seasonal timescales by leveraging the GEOS Sub-seasonal to Seasonal (GEOS-S2S) forecasts.