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Building Toward a Climate-Informed West Nile Virus Forecast



DATE: Wednesday, April 17, 2024

TIME: 11:00 AM – 12:00 PM MT (VIRTUAL)

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West Nile virus (WNV) is the leading cause of mosquito-borne illness in the continental U.S. and has led to a reported 2,600 deaths since its introduction into the country in 1999. Despite the potential public health benefits, forecasts of WNV disease burden are not yet reliable enough to provide actionable insights. Toward the goal of an effective national-scale WNV prediction capability, I first present preliminary results of a multi-model comparison project that assesses the state of WNV forecasting and examines methodologies consistent across the best performing disease models. Second, I describe progress in building a climate-informed WNV disease model. This project blends statistically downscaled, gridded near-surface meteorological data (e.g., 2-m air temperature, precipitation) with WNV data from the CDC ArboNET national surveillance system at multiple spatiotemporal scales to identify climate anomalies that impact annual WNV caseload and timing. Upcoming work aims to merge identified empirical relationships with weather observations and forecasts to provide WNV disease forecasts at actionable lead times.

