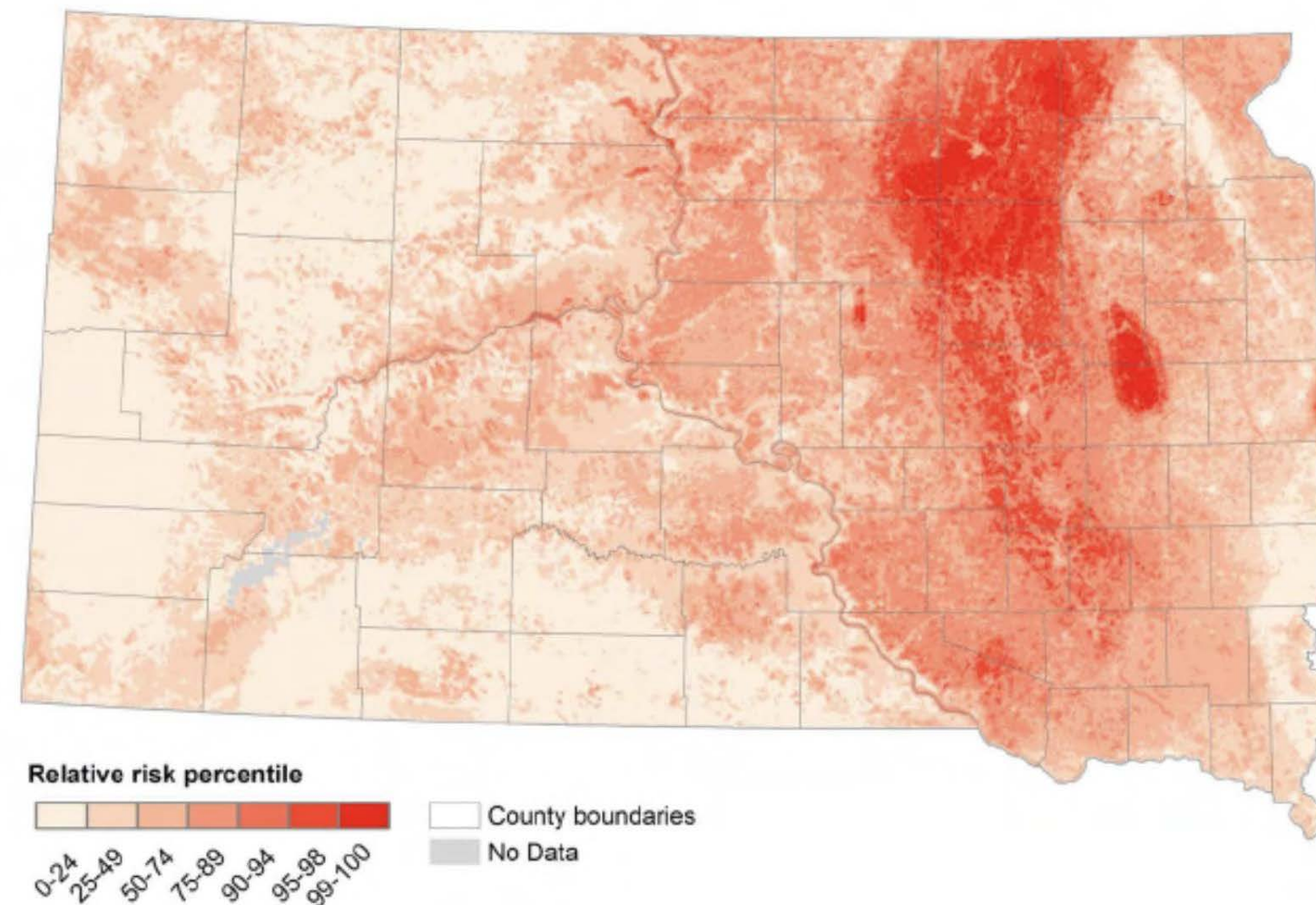


## IN ACTION

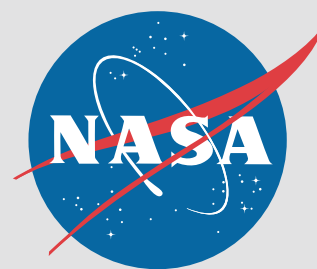
**TOPIC /** Culex spp mosquitoes can transmit West Nile virus (WNV) and cause infections in birds, horses, and humans.

**PROBLEM /** It is challenging for public health officials to alert the public of WNV risk with human cases showing up weeks after exposure. Timely communication of WNV risk to the community could prevent the prevalence of this vector-borne disease.

*Culex tarsalis*



Giving Early Warning to Communities: West Nile Virus



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Epidemiological risk map of WNV in South Dakota (2014-2018)  
Source: Hess et al. (2018) GeoHealth 2: 395-409

## SOLUTION

Mosquito habitats are sensitive to environmental variables like temperature and soil moisture. Therefore, a WNV risk prediction system developed through NASA support now incorporates a weather-driven model that incorporates precipitation, land, and temperature measurements, providing weekly risk forecasts during peak season to enhance public health alerts for people to take action prior to elevated WNV risk.