

Protecting Against Vector-Borne Diseases

- Use an insect repellent containing DEET on exposed skin and clothing when outside, particularly between dusk and dawn when mosquitoes are more likely to bite.
- ◆ Repair or install window and door screens to keep mosquitoes outside.
- ◆ Prevent items such as buckets, cans, pool covers, flower pots, and tires from holding standing water so mosquitoes don't have a place to breed.
- ◆ Change water daily in birdbaths and pet's outside water bowl.
- ◆ Clean leaves and debris from gutters regularly to ensure they are not clogged.
- ◆ Cover boats stored outdoors or store upside down.



Culex quinquefasciatus, southern house mosquito (photo from okc.gov)

- ◆ Use larvicides to treat large containers of water that will not be used for drinking and cannot be covered or dumped out.
- ◆ Use an outdoor flying insect spray in dark humid areas where mosquitoes rest, like under patio furniture, or in the carport or garage.

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Climate Change and Human Health

Adverse Health Effects of Vector-Borne Diseases



Kaw Nation EPA Office
With Support From
National Indian Health Board

Climate Change and Vector-Borne Diseases

Vector-borne diseases are illnesses that are transmitted by vectors, such as mosquitoes, ticks, and fleas. These vectors can carry infective pathogens like viruses, bacteria, and protozoa that can be transferred from one host to another.

The seasonality, distribution, and prevalence of vector-borne diseases are influenced significantly by climate factors, primarily high and low temperature extremes and precipitation patterns. Climate change may likely have short-term and long-term effects on vector-borne disease transmission and infection patterns, affecting both seasonal risk and broad geographic changes in disease occurrence over



Blacklegged Tick, commonly known as a deer tick



West Nile Virus is spread through the bite of the *Culex* mosquito

Adverse Health Effects

The potential increase of harmful vectors is related to a number of serious health possibilities:

- ◆ The most predominant vector-borne disease in Oklahoma is the West Nile virus. The *Culex* mosquito usually increases in number during the mid to late summer when temperature and humidity climbs and the weather pattern is drier. Preventing people from contracting West Nile virus is important, because there are no medications to treat or vaccines to prevent this virus in humans, and recovery from severe disease may take several weeks or months

- ◆ The Zika virus is another vector-borne disease that is being identified in the United States, The *Aedes* species mosquitoes transmit the Zika Virus. The *Aedes* mosquito is found in Oklahoma, but local transmission has not been identified.
- ◆ An expansion of the geographic area in which ticks can survive may lead to more people having contact with infected ticks. Studies have shown a small percentage of black-legged ticks found in Oklahoma are infected with *B. burgdorferi*. Though rare, it appears possible to get Lyme disease in Oklahoma.



Zika virus is transmitted through the bite of an *Aedes albopictus*, Asian Tiger Mosquito