



■ Overview

Climate change is reshaping the geography of infectious disease. As temperatures rise, winters shorten, and precipitation patterns shift, the habitats suitable for disease-carrying insects and ticks expand dramatically. Vector-borne diseases — those transmitted by insects like ticks, mosquitoes, and fleas — are among the fastest-growing categories of infectious disease in the United States, driven in significant part by climate disruption.

■ ■ **What "climate change" means for your pet's parasite risk:** Tick seasons that historically ran April–October in the Northeast now frequently extend from February to December or beyond. Mosquito ranges are expanding northward and into higher elevations. Flea seasons indoors are effectively year-round in urban environments with climate-controlled buildings.

■ ■ Expanding Tick Threats

- **Deer tick (*Ixodes scapularis*):** Range has expanded steadily northward; now endemic throughout the entire eastern U.S. and into Canada; primary vector for Lyme, Anaplasmosis, Babesiosis
- **Lone Star tick (*Amblyomma americanum*):** Historically southeastern, now established in New York, New Jersey, and Connecticut; transmits Ehrlichiosis and the alpha-gal syndrome (red meat allergy in humans)
- **Asian longhorned tick (*Haemaphysalis longicornis*):** An invasive species first found in NJ in 2017, now present in NYC and surrounding areas; capable of reproducing without mating — populations can explode rapidly
- **Gulf Coast tick (*Amblyomma maculatum*):** Range expanding northward; transmits *Rickettsia parkeri*

■ Mosquito-Borne Disease and Climate

Heartworm: *Dirofilaria immitis* requires mosquito transmission. Longer warm seasons = more mosquito breeding cycles = more heartworm transmission windows. Year-round prevention is now the standard of care throughout the U.S.

West Nile Virus: A zoonotic arbovirus transmitted by *Culex* mosquitoes. Dogs and cats can be infected but rarely show severe illness. Birds (corvids especially) are sentinel species — a dead crow in your neighborhood is reportable to the NYC DOHMH. Humans can develop encephalitis.

Eastern Equine Encephalitis (EEE): Rare but severe mosquito-borne encephalitis affecting horses, humans, and occasionally other species. Climate-driven range expansion has brought cases closer to urban areas. No treatment; vaccination available for horses.

■ One Health and Climate Adaptation

Climate-driven disease expansion is not a future scenario — it is a present reality. One Health adaptation strategies operating at every level:

- **Individual:** Year-round parasite prevention, tick checks, avoiding standing water near home



- **Veterinary:** Adjusting prevention protocols based on regional surveillance data; year-round heartworm and tick prevention
- **Public health:** Enhanced vector surveillance, mosquito abatement programs, tick drag surveys in parks
- **Policy:** Funding One Health surveillance networks, integrating climate projections into infectious disease modeling

■ **What you can do today:** Year-round flea, tick, and heartworm prevention is the most direct response to climate-driven parasite expansion. Report dead birds to NYC DOHMH. Check yourself and your pet for ticks after every outdoor visit. Stay current on local disease surveillance updates. Prevention is the most powerful climate adaptation tool you have.

■ **Schedule a parasite prevention review today.** If your pet is not on year-round heartworm, flea, and tick prevention, now is the time to start. The season is no longer a reason to take a break.

■ Final Summary

Climate change is not an abstract future threat for vector-borne disease — it is already expanding tick seasons, shifting mosquito ranges, and bringing new parasites into our region. Year-round prevention is the response.

■ Related XVC Guides:

- [Flea & Tick Prevention](#) · [Heartworm Prevention](#)
- [Zoonotic Diseases Overview](#) · [NYC Urban Ecosystem & Animal Health](#)



This resource may be shared for personal, educational, or non-commercial use provided it remains unmodified and Xavier's Veterinary Care is credited as the original source. Commercial reproduction or resale without written permission is prohibited. For diagnosis & prescriptions, consult a licensed veterinarian.
© 2026 Xavier's Veterinary Care.