Climate: Macro & Micro

Macromimate is the general climate of a large region, country or continent.

- Broad shifts in climate or extreme weather events can trigger large-scale diseases outbreaks globally.
- In 2012, a high number of West Nile virus cases were reported in the southern United States. Scientists concluded that heavy spring rainfall followed by an unusually hot, dry summer contributed to the outbreak.

Case Study: West Nile Virus Epidemic
Summer 2012 - Dallas, Texas

Texas and other southern states saw the most West Nile virus cases due to excessive rainfall in March 2012 and unusually high temperatures in June 2012. North and South Dakota and Nebraska experienced similar extreme weather in April and July 2012.

Microclimates allow insects to survive in harsh climates by sheltering them in microhabitats with more favorable environmental conditions.

- Natural shelter: snow layers, leaf duff, soil
- Man-made shelter: storm drains, basins, basements

Overwintering: As global temperatures rise, some mosquito species are migrating northward. They have a variety of species-specific strategies to survive winter: eggs, larvae or adults. Microclimates allow more mosquitoes to overwinter, so higher numbers emerge in the spring.