

## Ecoepidemiology of Alphaviruses and Flaviviruses

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**Abstract:** Within the ecosystems, the balance is important since the populations maintain their size and the food habits that are constant over time; in contrast, the disappearance of natural sources or the alteration of habitat at different levels can cause major changes in the very structure of the ecosystem. Alterations in the habitats produced by human activity result in global warming, climatic changes, which together with globalization, increased trade, the shortening of distances thanks to transport, the increase in population and the socioeconomic activities of human cause imbalances. In many cases the vectors and hosts have adapted to the changes and have risen to higher latitudes and altitudes, which could contribute to the appearance of outbreaks or new outbreaks of new arboviruses of public health importance. Different cohabiting species can be reservoirs or vectors of arboviruses such as alphaviruses and flaviviruses. Currently, some viruses transmitted by mosquito vectors, such as dengue virus, Zika virus, and chikungunya virus, have caused epidemic outbreaks with important effects on human populations. It is possible that the expansion of vectors and their diseases reaches developed countries such as the United States and the European Union with a great impact on public health. The clinical signs of the diseases produced by arboviruses can vary from nonspecific febrile syndrome, encephalitis, hemorrhagic fever, and even death. Vectors and reservoirs in some cases are insects, such as mosquitoes and ticks; wild birds are reservoirs for the West Nile virus, small wild mammals such as rodents, bats, and domestic animals involved in food production can potentially harbor arboviruses, and the ecoepidemiological role of these is unknown.