

Vector-borne diseases

Floods may indirectly lead to an increase in vector-borne diseases through the expansion in the number and range of vector habitats. Standing water caused by heavy rainfall or overflow of rivers can act as breeding sites for mosquitoes, and therefore enhance the potential for exposure of the disaster-affected population and emergency workers to infections such as dengue, malaria and West Nile fever. Flooding may initially flush out mosquito breeding, but it comes back when the waters recede. The lag time is usually around 6-8 weeks before the onset of a malaria epidemic.

- Malaria epidemics in the wake of flooding are a well-known phenomenon in malaria-endemic areas world-wide. For instance, an earthquake and subsequent flooding in Costa Rica's Atlantic region in 1991 and flooding on the Dominican Republic in 2004 led to malaria outbreaks.
- Periodic flooding linked to El Nino-Southern Oscillation (ENSO) is associated with malaria epidemics in the dry coastal region of northern Peru and with the resurgence of dengue in the past 10 years throughout the American continent.
- West Nile Fever has resurged in Europe subsequent to heavy rains and flooding, with outbreaks in Romania in 1996-97, in the Czech Republic in 1997 and Italy in 1998.

The risk of outbreaks is greatly increased by complicating factors, such as changes in human behaviour (increased exposure to mosquitoes while sleeping outside, a temporary pause in disease control activities, overcrowding), or changes in the habitat which promote mosquito breeding (landslide, deforestation, river damming, and rerouting).

Mosquitoes and animals

Prolonged rainfall and floods provide new breeding grounds – wet areas and stagnant pools – for mosquitoes and can lead to an increase in the number of mosquito-borne diseases such as malaria and dengue and West Nile fevers (Montana Department of Public Health and Human Services 2005). It is also suggested to avoid contact with wild animals, rats and rodents that possibly carry viruses and diseases, and to get rid of dead animals in accordance with official guidelines issued by local animal control authorities if any (CDC Fact Sheet 10 September 2004). Leptospirosis, or Weil's disease – a zoonotic bacterial disease associated predominantly with rats – often accompanies floods in developing countries (Leptospirosis Information Center). The leptospirosis risk is however very low in the industrialized regions unless any cuts or wounds have direct contact with the disease contaminated floodwaters or animals

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