

Preparing for the Summer of Zika Virus

By Bob Vincent

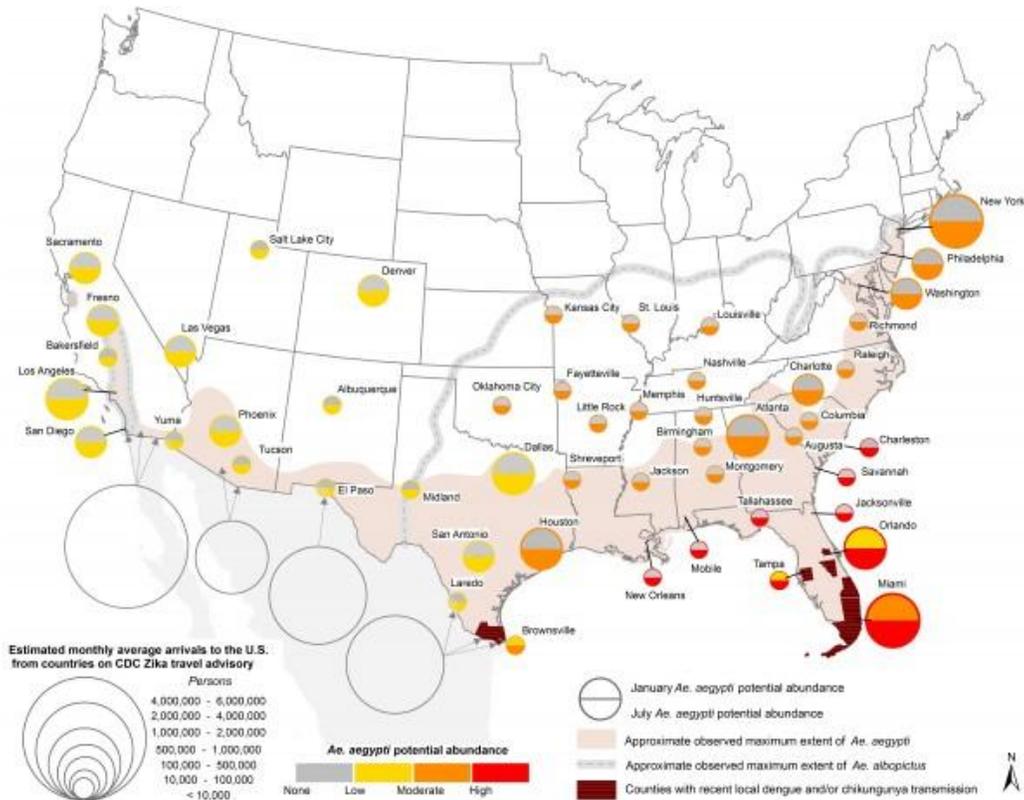


Fig. 1. U.S. map showing 1) *Ae. aegypti* potential abundance for Jan/July (colored circles), 2) approximate maximum known range of *Ae. aegypti* (shaded regions) and *Ae. albopictus* (gray dashed lines), and 3) monthly average number arrivals to the U.S. by air and land from countries on the CDC Zika travel advisory. Additional details can be found in the text. Figure reproduced with permission of PLOS Currents Outbreaks.

Are you curious about your risk of contracting Zika virus this summer? The figure above is from a brand new [study](#)¹ on the projected spread of the *Aedes aegypti* mosquito, the main Zika virus “vector”². Based on meteorological models, mosquito-breeding patterns, air travel and socioeconomic status, the study compares the January, 2016 abundance of the mosquito (upper hemisphere of each circle) in each geographical location with its projected abundance this July (lower hemisphere of each circle). The area of each circle is proportional to the estimated monthly average arrivals of people to the US from countries on the [Centers for Disease Control and Prevention \(CDC\) travel advisory list](#).

The researchers project the greatest concentration of the *Aedes aegypti* mosquito in the US this summer will be throughout the Gulf Coast states and along the eastern seaboard as far north as New York City, a destination of many arrivals from countries on the CDC Zika travel advisory. In fact, the circle for New York City is approximately the same size as the one for Miami.

¹ Monaghan AJ, Morin CW, Steinhoff DF, Wilhelmi O, Hayden M, Quattrochi DA, Reiskind M, Lloyd AL, Smith K, Schmidt CA, Scalf PE, Ernst K. “On the Seasonal Occurrence and Abundance of the Zika Virus Vector Mosquito *Aedes Aegypti* in the Contiguous United States,” *PLOS Currents Outbreaks*. 2016 Mar 16 . Edition 1. doi: 10.1371/currents.outbreaks.50dfc7f46798675fc63e7d7da563da76.

²Disease vectors, according to the [World Health Organization](#), are “living organisms that can transmit infectious diseases between humans or from animals to humans.” In addition to Zika virus, the *Aedes aegypti* is a vector for Chikungunya, Dengue fever, Rift Valley fever and Yellow fever.

Zika Virus to Date

As of early spring, 2016, virtually all of the known Zika virus infections in the US have been acquired during travel to other countries. Many Zika-infected individuals travelled to Latin America and the Caribbean, where there are Zika virus pandemics. In Florida, where I am an Environmental Administrator in the Florida Department of Health (FL DOH), we have documented 67 cases of travel-related Zika virus. Texas has had 27 confirmed cases, including one believed to have been sexually transmitted. With the northern migration of the *Aedes aegypti* mosquito carrier this summer, however, Zika virus could soon be transmitted in the US.

The FL DOH and other state and county health departments in Zika virus-vulnerable areas are in full response mode. States of emergency have been declared in 12 Florida counties,³ and Florida has a mosquito control district operating in every county. Having worked at the FL DOH for over 30 years, I know we will harness the lessons learned in the past fighting other mosquito borne illnesses, such as Eastern Equine Encephalitis and Dengue Fever. We will inevitably learn a few new tricks as we turn our attention to Zika. We already have a robust communication plan around this public health threat.

What Florida is Doing to Fight Zika

Daily Zika Updates: Each day at 2 pm EDT, the Florida DOH issues an [online Zika update](#) and press release, identifying new Zika cases, making recommendations, and providing links to additional information.

Tips for Residents: The Florida DOH [website](#) “encourages Florida residents and visitors to protect themselves from all mosquito borne illnesses by draining standing water; covering their skin with repellent and clothing; and covering windows with screens.” See our “[Drain and Cover](#)” web page for more information, including keeping pool chemistry maintained. Appropriate pH and chlorine levels will help avoid swimming pools becoming breeding grounds for mosquitoes.

Tips for Travelers: The Florida DOH [website](#) advises travelers to tropical and sub-tropical regions can protect themselves from Zika virus and other mosquito borne illnesses by using appropriate insect repellent, covering skin with long-sleeved shirts and long pants, and keeping mosquitoes out of hotel rooms by choosing a hotel with air conditioning or window screens or sleeping under a mosquito bed net. Our [website](#) notes that pregnant women should consider postponing travel to areas of Zika virus transmission.

Basic Information on Zika virus: Zika is transmitted through the bite of infected *Aedes aegypti* mosquitoes. [Perinatal](#) (mother to child in the weeks just before or just after birth) and [sexual transmission](#) have also been reported.

As summer approaches, stay tuned to public health communications on Zika virus so that you can make decisions and take actions to help protect your family.

Bob G. Vincent is an Environmental Administrator in the Florida Department of Health. He manages Department of Health programs for Healthy Marine Beaches, Safe Drinking Water, Water Well Surveillance and Public Pools and Bathing Places.

³ Alachua, Brevard, Broward, Hillsborough, Lee, Miami-Dade, Orange, Osceola, Polk, Santa Rosa, Seminole and St. Johns Counties