

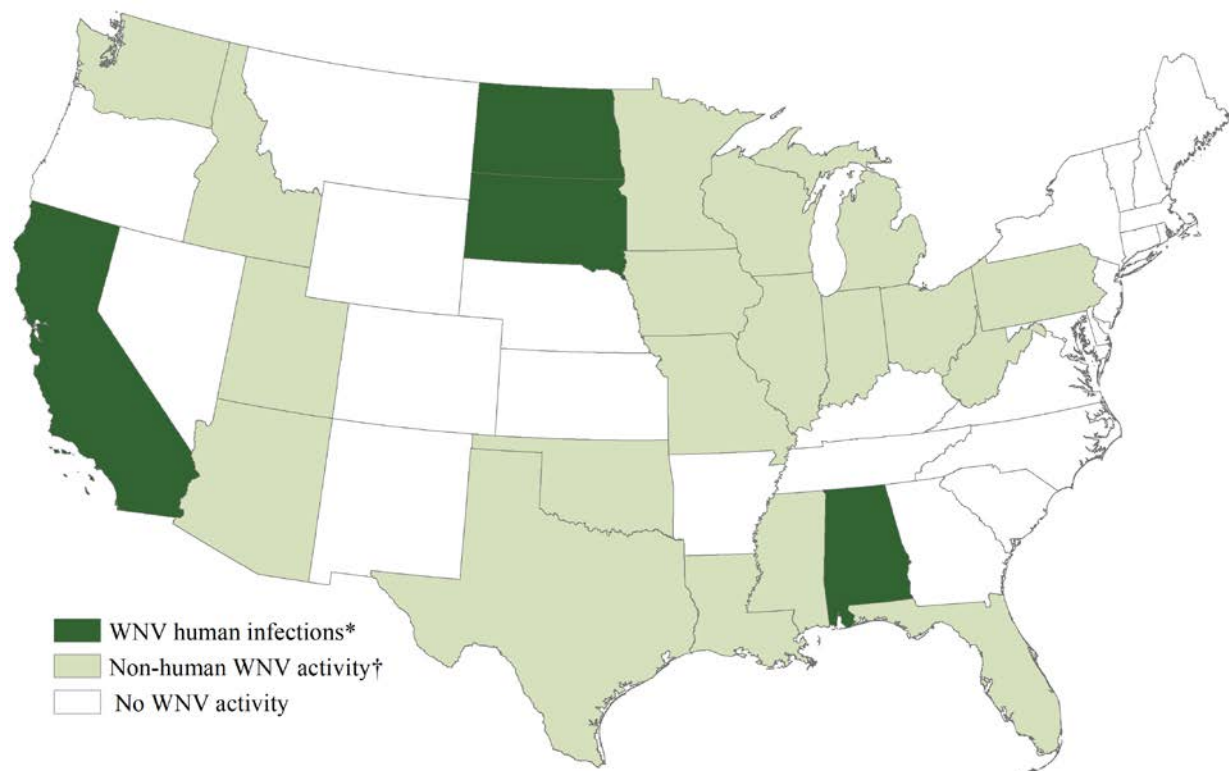
West Nile virus and other domestic arboviral activity -- United States, 2018
Provisional data reported to ArboNET
Tuesday, June 26, 2018

This update from the CDC Arboviral Disease Branch includes provisional data reported to ArboNET for **January 1 – June 26, 2018** for West Nile virus and selected other nationally notifiable domestic arboviruses. Additional resources for ArboNET and arboviral diseases are provided on page 9.

West Nile virus (WNV) activity in 2018

As of June 26th, 89 counties from 23 states have reported WNV activity to ArboNET for 2018, including four states with reported WNV human infections (i.e., disease cases or viremic blood donors) and 19 additional states with reported WNV activity in non-human species only (i.e., veterinary cases, mosquito pools, dead birds, or sentinel animals) **[Figure 1]**.

Figure 1. West Nile virus (WNV) activity reported to ArboNET, by state — United States, 2018 (as of June 26, 2018)



*WNV human disease cases or presumptive viremic blood donors. Presumptive viremic blood donors have a positive screening test which has not necessarily been confirmed.

†WNV veterinary disease cases, or infections in mosquitoes, birds, or sentinel animals



Reported WNV disease cases

To date, 10 human WNV disease cases have been reported from seven counties in two states (California and North Dakota) [Table 1]. Dates of illness onset for cases ranged from January–May [Figure 2].

Of the 10 reported cases, 5 (50%) were classified as neuroinvasive disease (e.g., meningitis or encephalitis) and 5 (50%) were classified as non-neuroinvasive disease [Figure 3].

Presumptive viremic donors (PVDs)

Overall, two WNV PVDs have been reported from two states (Alabama and South Dakota) [Table 1].

Table 1. West Nile virus infections in humans reported to ArboNET, 2018

State	Human disease cases reported to CDC*			Deaths	Presumptive viremic blood donors
	Neuroinvasive	Non-neuroinvasive	Total		
Alabama	0	0	0	0	1
California	5	4	9	0	0
North Dakota	0	1	1	0	0
South Dakota	0	0	0	0	1
Totals	5	5	10	0	2

*Includes confirmed and probable cases

Figure 2. West Nile virus disease cases reported to ArboNET, by month of onset* — United States, 2017 (as of June 26, 2018)

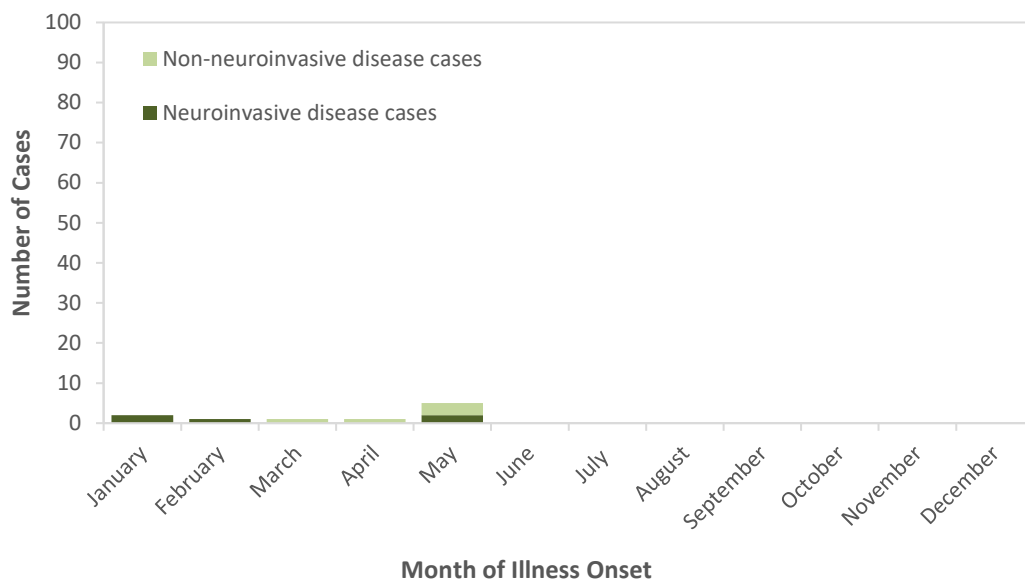


Figure 3. West Nile virus (WNV) neuroinvasive disease incidence* reported to ArboNET, by state — United States, 2017 (as of June 26, 2018)



*Incidence per 100,000 population

Eastern equine encephalitis virus (EEEV) activity in 2018

As of June 26th, one county in Florida has reported a human case of EEEV disease to ArboNET for 2018 [Figure 4 and Table 2]. Twenty-five additional counties in Florida have reported EEEV activity in non-human species only.

Figure 4. Eastern equine encephalitis virus (EEEV) activity reported to ArboNET, by state — United States, 2018 (as of June 26, 2018)

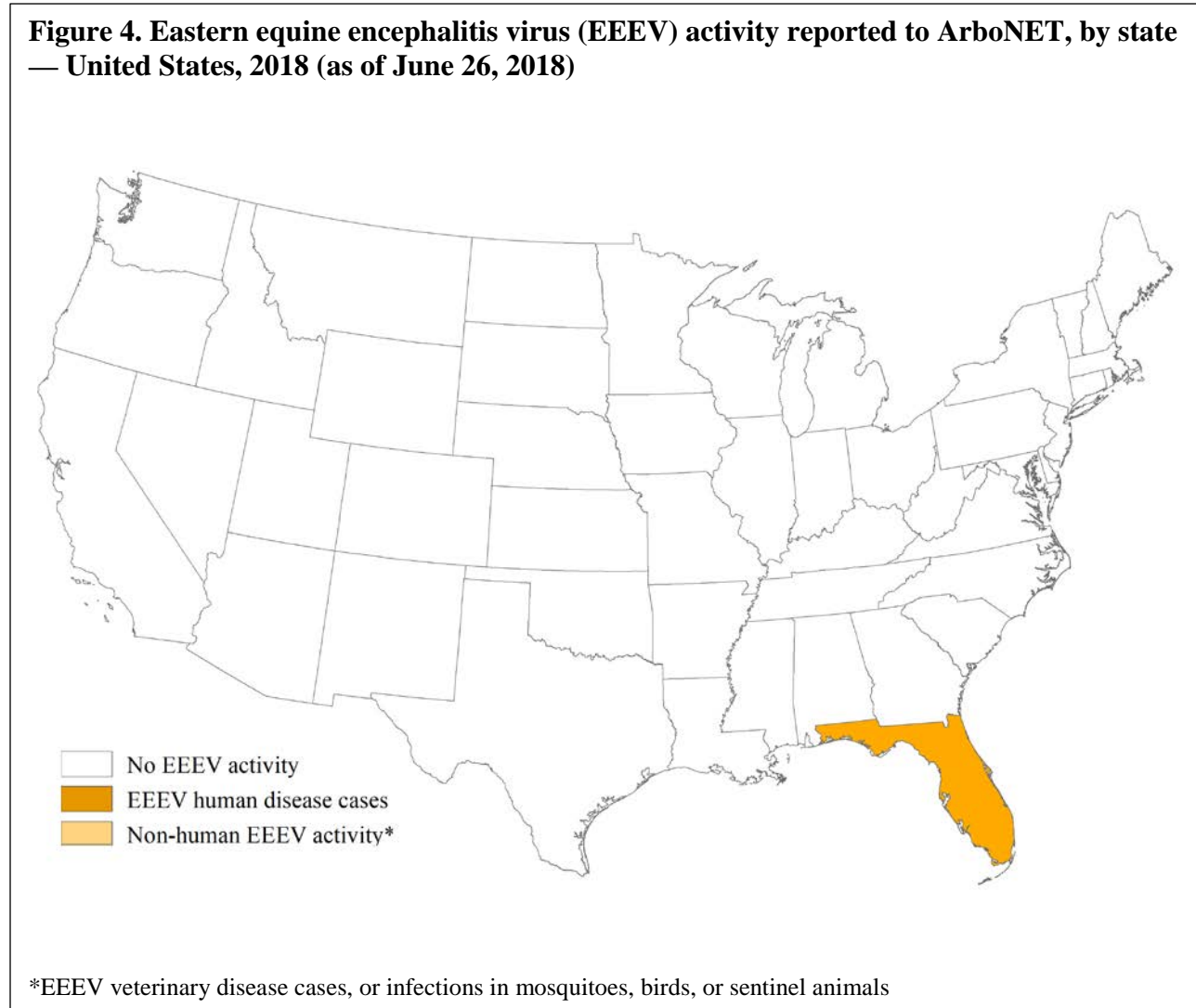


Table 2. Eastern equine encephalitis virus human disease cases reported to ArboNET, United States, 2018

State	Neuroinvasive disease cases	Non-neuroinvasive disease cases	Total cases*	Deaths
Florida	1	0	1	0
Totals	1	0	1	0

*Includes confirmed and probable cases.

Jamestown Canyon virus (JCV) activity in 2018

As of June 26th, five counties in Connecticut have reported JCV activity in non-human species to ArboNET for 2018 [Figure 5]. To date, no human cases of JCV disease have been reported.

Figure 5. Jamestown Canyon virus (JCV) activity reported to ArboNET, by state — United States, 2018 (as of June 26, 2018)



*JCV veterinary disease cases, or infections in mosquitoes, birds, or sentinel animals

La Crosse encephalitis virus (LACV) activity in 2018

As of June 26th, one county in Tennessee has reported a human case of LACV disease to ArboNET for 2018 [Figure 6 and Table 3]. To date, no LACV activity in non-human species has been reported to ArboNET for 2018.

Figure 6. La Crosse encephalitis virus (LACV) activity reported to ArboNET, by state — United States, 2018 (as of June 26, 2018)

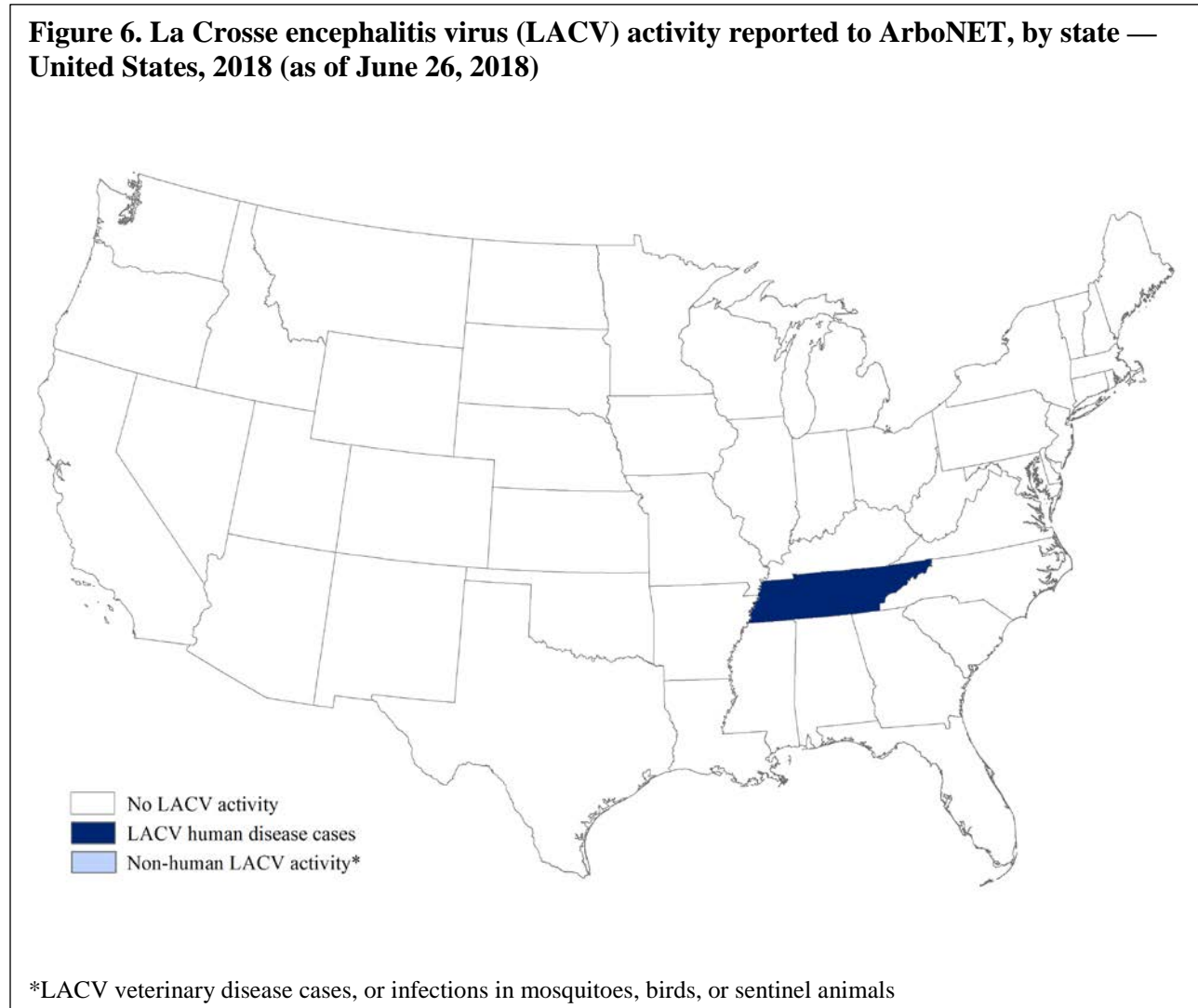


Table 3. La Crosse encephalitis virus human disease cases reported to ArboNET, United States, 2018

	Neuroinvasive disease cases	Nonneuroinvasive disease cases	Total cases*	Deaths
Tennessee	0	1	1	0
Totals	0	1	1	0

*Includes confirmed and probable cases.

Powassan virus (POWV) activity in 2018

As of June 26th, two counties in two states (Massachusetts and New York) have reported human cases of POWV disease to ArboNET for 2018 [Figure 7 and Table 4].

Figure 7. Powassan virus (POWV) activity reported to ArboNET, by state — United States, 2018 (as of June 26, 2018)

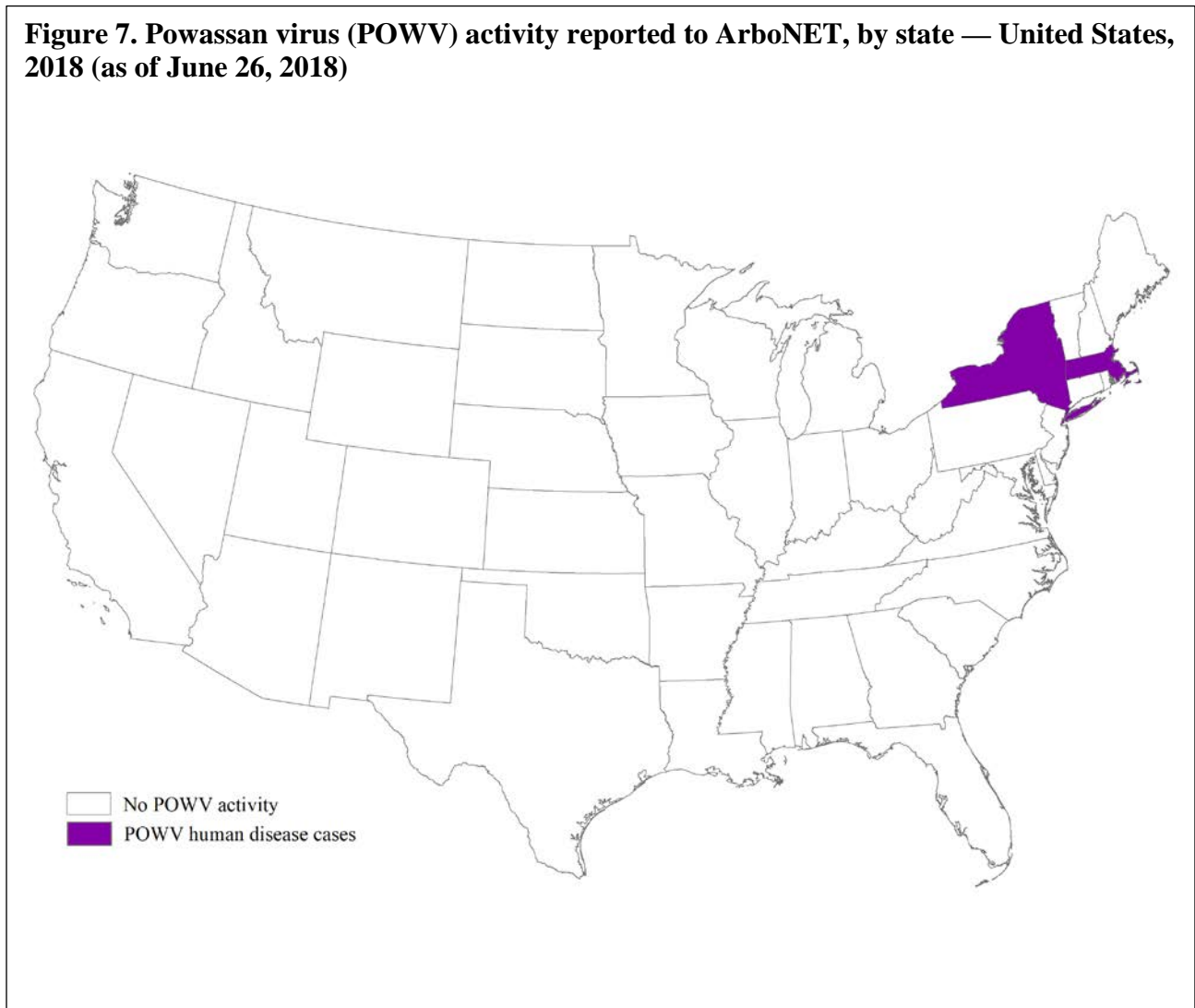


Table 4. Powassan virus human disease cases reported to ArboNET, United States, 2018

	Neuroinvasive disease cases	Nonneuroinvasive disease cases	Total cases*	Deaths
Massachusetts	1	0	1	0
New York	1	0	1	0
Totals	2	0	2	0

*Includes confirmed and probable cases.

St. Louis encephalitis virus (SLEV) activity in 2018

As of June 26th, four counties in two states (Arizona and California) have reported SLEV activity in non-human species to ArboNET for 2018 [Figure 8]. To date, no human cases of SLEV disease have been reported.

Figure 8. St. Louis encephalitis virus (SLEV) activity reported to ArboNET, by state — United States, 2018 (as of June 26, 2018)



*SLEV veterinary disease cases, or infections in mosquitoes, birds, or sentinel animals



About ArboNET

ArboNET is a national arboviral surveillance system managed by CDC and state health departments. In addition to human disease, ArboNET maintains data on arboviral infections among presumptive viremic blood donors (PVDs), veterinary disease cases, mosquitoes, dead birds, and sentinel animals. As with other national surveillance data, ArboNET data has several limitations that should be considered in analysis, interpretation, and reporting [**Box**].

Box: Limitations of ArboNET data

The following should be considered in the analysis, interpretation, and reporting of ArboNET data:

1. ArboNET is a passive surveillance system. It is dependent on clinicians considering the diagnosis of an arboviral disease and obtaining the appropriate diagnostic test, and reporting of laboratory-confirmed cases to public health authorities. Diagnosis and reporting are incomplete, and the incidence of arboviral diseases is underestimated.
2. Reported neuroinvasive disease cases are considered the most accurate indicator of arboviral activity in humans because of the substantial associated morbidity. In contrast, reported cases of nonneuroinvasive arboviral disease are more likely to be affected by disease awareness and healthcare-seeking behavior in different communities and by the availability and specificity of laboratory tests performed. Surveillance data for nonneuroinvasive disease should be interpreted with caution and generally should not be used to make comparisons between geographic areas or over time.

Additional resources

For additional arboviral disease information and data, please visit the following websites:

- CDC's Division of Vector-Borne Diseases:
<http://www.cdc.gov/ncezid/dvbd/>
- National Notifiable Diseases Surveillance System:
<http://wwwn.cdc.gov/nndss/conditions/arboviral-diseases-neuroinvasive-and-non-neuroinvasive/case-definition/2015/>
- CDC Disease Maps
https://wwwnd.cdc.gov/arboNET/Maps/ADB_Diseases_Map/index.html
- AABB (American Association of Blood Banks):
www.aabb.org/programs/biovigilance/Pages/wnv.aspx