



United States Army Public Health Command
Army Vector-borne Disease Report

25 July 2013

Data are preliminary and subject to change

- **West Nile virus:** CDC reports 31 human cases including 3 deaths for calendar year 2013; Army reports no confirmed/probable cases or deaths.
- **WNV mosquito pools:** No new positive pools were reported from any region; to date one pool from NCR has tested positive at PHCR-North.
- **Rocky Mountain spotted fever:** 8 cases of confirmed or probable RMSF were reported among Army beneficiaries this year.

West Nile Virus (WNV)

United States

- Since the last published report, 17 additional human WNV cases have been reported to the CDC, including one additional death; 35% (n=11) of cases are neuroinvasive.
- The majority of cases (65%, n=20) are classified as non-neuroinvasive; the remainder are considered neuroinvasive (i.e., meningitis, encephalitis, or acute flaccid paralysis).
- As of 23 July, 30 states (an increase of five since the last report) and Washington, D.C. report WNV activity of some type (infections in humans, birds, or mosquitoes).
- The number of states reporting human WNV cases has doubled from seven to 14; newly reporting states include AL, AZ, GA, IA, MN, NE, and WA. MS and SD each report 7 cases, accounting for 45% of the total.
- California, Nevada, and Mississippi each report one WNV fatality.

West Nile Virus Activity by State - United States, 2013 (as of July 23, 2013)



WNV Human Cases ^β		
Population	Reporting Period ^γ	Cum. 2013
United States	17	31
Army Cases [±] Confirmed and Probable		
Army AD [‡]	0	0
Army Non-AD [†]	0	0
WNV Human Deaths		
United States	1	3
Army	0	0

Sources: CDC and AIPH DRIS as of 23 July 2013.

Note: Reporting location may differ from exposure location.

^β Confirmed and probable neuroinvasive and non-neuroinvasive cases.
^γ Difference between last published report and this week's cumulative 2013 value.

[±] Only Army AD and beneficiaries who have a Reportable Medical Event generated on their behalf and whose case status is verified as confirmed/probable are included in this report.

[‡] Active duty, recruits, cadets.
[†] Army-associated beneficiaries.

Cases in Army AD and Other Beneficiaries

- In 2013, no confirmed or probable WNV infections in Army AD or other beneficiaries have been reported. However, two individuals with WNV-related diagnoses were identified in purchased care records; as the case statuses cannot be confirmed, they are excluded from this report.
- No WNV fatalities have been reported among Army beneficiaries this year.

DoD Mosquito Surveillance from Army Laboratories

- PHCR-West and PHCR-North report no positive pools; PHCR-South did not report.

West Nile Virus Activity, by State and Army Public Health Command Region (PHCR), United States, 2013 (as of July 23, 2013)



Mosquito Pool Testing	PHC Region	Reporting Period ^γ		Year to Date 2013	
		No. Positive (No. Tested)	No. Positive (No. Tested)	No. Positive (No. Tested)	No. Positive (No. Tested)
	North	0 (39)	1 (204)		
	South	No Report	0 (509)		
	West	0 (22)	0 (22)		

^γ Absolute difference between last published report and this week's year to date number.

Prevention and Control Activities

- Mosquito activity peaks in the summer; expect mosquitoes to remain active until the first hard or killing frost.
- Preventive Medicine personnel should continue to stress the importance of eliminating mosquito breeding sites (standing water) around homes and workplaces, and using personal protective measures (preferably those containing DEET).

Tick-borne Diseases

- Through week 28, eight cases of Rocky Mountain spotted fever (RMSF) in Army beneficiaries have been reported compared to two cases in 2012.
- Of these, five (63%) RMSF cases are AD; three of whom reported duty-related exposure.
- Humans can contract *R. rickettsii* if a tick attaches/feeds for at least 4-6 hours or if breaks in skin or mucous membranes are contaminated with crushed ticks or their feces.

Geographic Distribution of Reported RMSF Incidence in the United States in 2012



Rocky Mountain Spotted Fever Cases			
Population	Reporting Period ^γ	Cum. 2013	Cum. 2012
United States ^β	38	781	2,087
Army Cases Confirmed and Probable			
Army AD [‡]	0	5	2
Army Non-AD [†]	0	3	0
Regional Distribution			
PHCR-North	0	3	1
PHCR-South	0	4	1
PHCR-West	0	1	0
Other/Unknown	0	0	0

Sources: CDC and AIPH DRIS as of 13 July 2013.

Note: Reporting location may differ from exposure location. CDC data is for Spotted Fever Rickettsiosis (including RMSF).

^γ Cases reported for week 28 (ending 13 July 2013).

^β Provisional confirmed and probable cases.

[‡] Active duty, recruits, cadets.

[†] Army-associated beneficiaries.

Human Tick Testing

- Tick testing is species-specific; each tick species transmits different pathogens.
- To date, all CONUS ticks tested for the causative agent of RMSF (*R. rickettsii*) (n=266) were negative.
- Within the reporting period, 5/78 (6%) ticks sent to the CONUS Human Tick Test Program tested positive for the causative agent of Lyme disease (*Borrelia* spp.), 1/78 (1%) were positive for the pathogen that causes Babesiosis (*B. microti*), 2/162 (1%) were positive for the pathogen that causes Ehrlichiosis (*E. ewingii*), and 0/162 were positive for *E. chaffeensis*, the cause of human monocytic Ehrlichiosis.
- In PHCR-Europe, 3/55 (6%) ticks were positive for *Borrelia* spp.; 0/55 were positive for the causative agent of human granulocytic anaplasmosis (*A. phagocytophilum*).

Human Tick Test Program	A. <i>phagocytophilum</i>	B. <i>microti</i>	B. <i>burgdorferi</i>	E. <i>chaffeensis</i>	E. <i>ewingii</i>	E. <i>muris-like</i>	R. <i>parkerii</i>	R. <i>rickettsii</i>
YTD No. Positive (YTD No. Tested)	11 (327)	7 (327)	74 (327)	7 (940)	18 (940)	0 (327)	2 (8)	0 (266)

Note: CONUS data only.

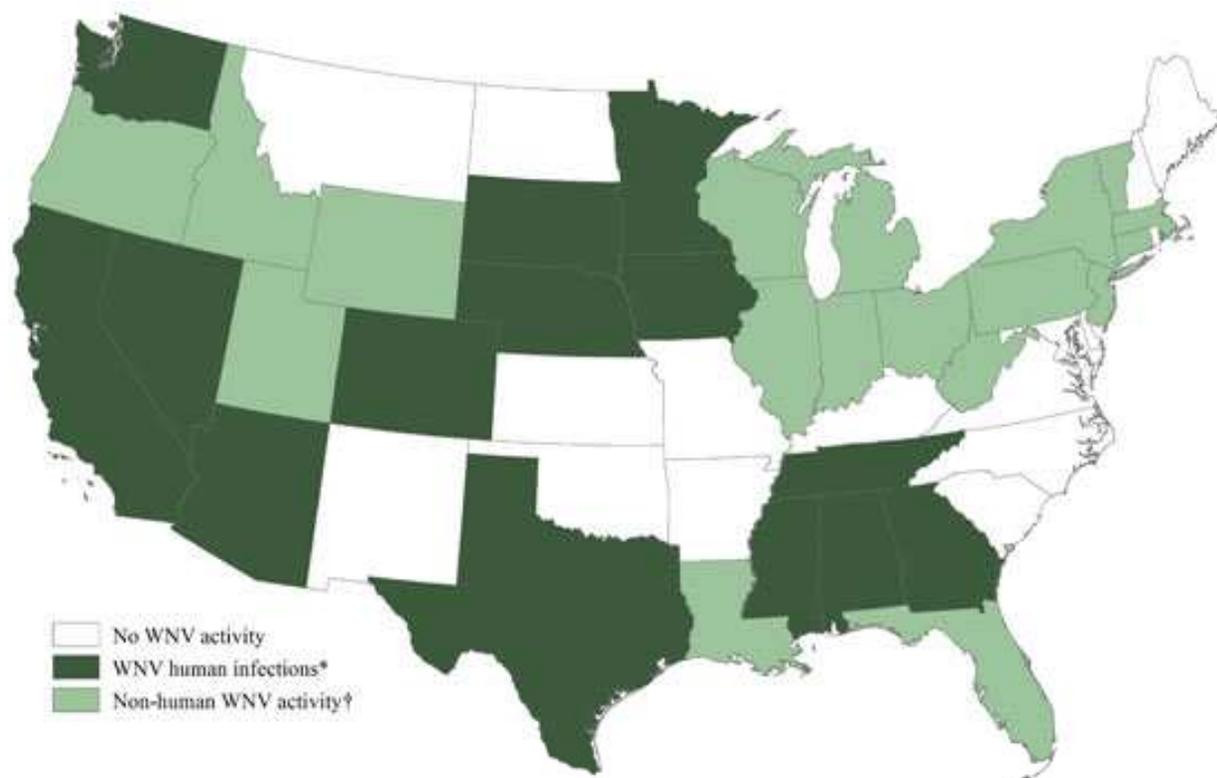
Resources: CDC WNV • CDC Tickborne Diseases • Human Tick Test Program • USAPHC WNV Fact Sheet • Army Vector-borne Disease Reports • USAPHC

Key: CDC Centers for Disease Control and Prevention; DRIS Disease Reporting System Internet; Mosquito pool 1 to 50 mosquitoes; AD Active Duty

Contact us: USAPHC Disease Epidemiology or 410-417-2377

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West Nile Virus Activity by State – United States, 2013 (as of July 23, 2013)



*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.

Data table:

Non-human West Nile virus infections have been reported to CDC ArboNET from the following states: Arizona, California, Colorado, Connecticut, District of Columbia, Florida, Idaho, Illinois, Indiana, Iowa, Louisiana, Massachusetts, Michigan, Minnesota, Mississippi, Nebraska, Nevada, New Jersey, New York, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Vermont, Washington, West Virginia, Wisconsin, and Wyoming.

Human West Nile virus infections have been reported to CDC ArboNET from the following states: Alabama, Arizona, California, Colorado, Georgia, Iowa, Minnesota, Mississippi, Nebraska, Nevada, South Dakota, Tennessee, Texas, and Washington.

Source: <http://www.cdc.gov/westnile/statsMaps/preliminaryMapsData/activitystatedate.html>

West Nile Virus Activity, by State and Army Public Health Command Region (PHCR), United States, 2013

As of July 23, 2013



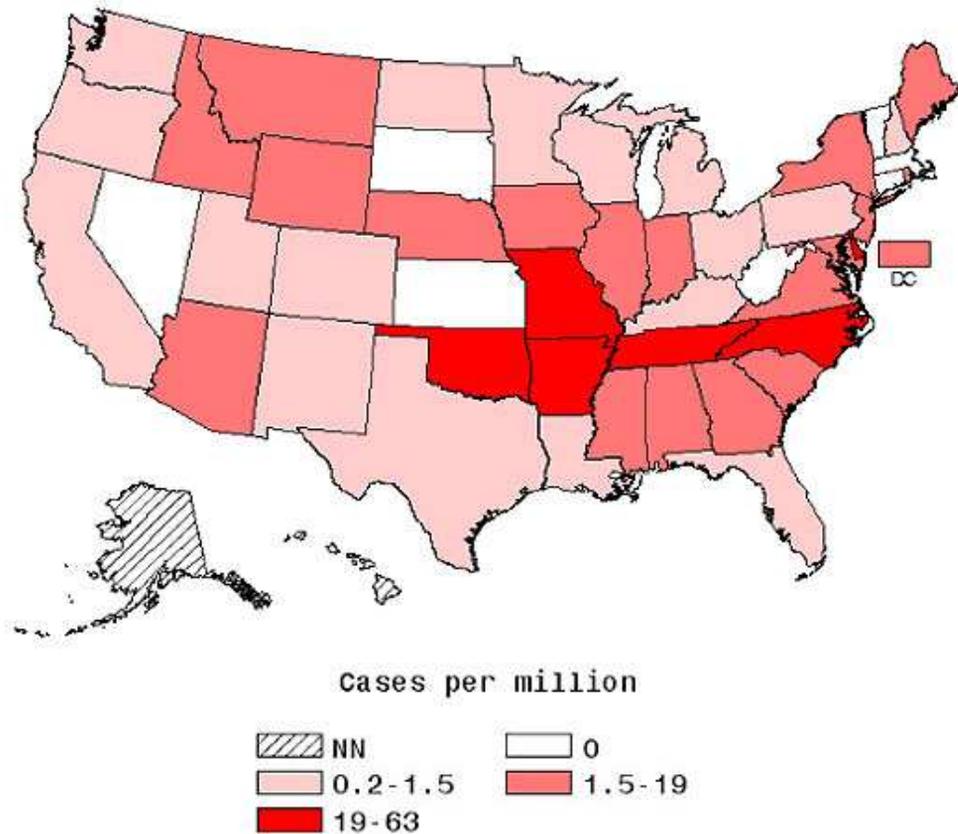
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Footnote: The map displays white areas that indicate no reported West Nile virus (WNV) activity, light blue areas represent any reported WNV activity* within a state; dark blue circles represent WNV positive mosquito pools on military installations, and red squares represent the reporting location/installation of Army human cases (probable and/or confirmed). If West Nile virus infection is reported from any area of a state, that entire state is shaded light blue.

*Includes WNV Army human disease cases (probable and/or confirmed) and infections in mosquito pools on military installations.

Prepared by: US Army Public Health Command Geographic Information Systems Branch.

Geographic Distribution of Reported RMSF Incidence in the United States in 2010



This figure shows the annual reported incidence of RMSF cases by state in 2010 per million persons. The highest incidence rates, ranging from 19 to 63 cases per million persons were found in Arkansas, Delaware, Missouri, North Carolina, Oklahoma, and Tennessee. The incidence rate was zero for Connecticut, Kansas, Massachusetts, Nevada, South Dakota, Vermont and West Virginia. Incidence ranged between 0.2 to 1.5 cases per million persons for California, Colorado, Florida, Kentucky, Louisiana, Michigan, Minnesota, New Hampshire, New Mexico, North Dakota, Ohio, Oregon, Pennsylvania, Texas, Utah, Washington and Wisconsin. Annual incidence ranged from 1.5 to 19 cases per million persons in Alabama, Arizona, the District of Columbia, Georgia, Idaho, Illinois, Indiana, Iowa, Maine, Maryland, Mississippi, Montana, Nebraska, New Jersey, New York, Rhode Island, South Carolina, Virginia and Wyoming. RMSF was not notifiable in Alaska and Hawaii in 2010.

Source: Rocky Mountain Spotted Fever (RMSF): Statistics and Epidemiology. Centers for Disease Control and Prevention. Last updated December 5, 2012. Available at: <http://www.cdc.gov/rmsf/stats/index.html>.