Department of Defense
Armed Forces Health Surveillance Branch
Global Zika Virus Surveillance Summary
(6 JUL 2016)

Approved for Public Release

For questions or comments, please contact:
dha.ncr.health-surv.list.afhs-ib-alert-response@mail.mil

DEPARTMENT OF DEFENSE (AFHSB)

Global Zika Virus Surveillance Summary #25

6 JUL 2016 (next report 13 JUL 2016)

DoD SURVEILLANCE: On 17 MAY, AFHSB issued updated guidance for detecting and reporting DoD cases of acute Zika virus disease that includes changes to clinical criteria, case definitions, and laboratory testing, as well as a list of DoD laboratory POCs. Confirmed and probable cases should be reported in DRSi as "Any Other Unusual Condition Not Listed," with "Zika" entered in the comment field along with pertinent travel history and pregnancy status.

The CDC Zika IgM MAC-ELISA and CDC Zika Trioplex rRT-PCR are available under an Emergency Use Authorization (EUA) at DoD laboratories. The IgM is available at three labs (NIDDL, BAMC, and USAFSAM). The Trioplex EUA assay is available at 15 DoD labs (BAMC, CRDAMC, EAMC, LRMC, USAMRIID, WBAMC, MAMC, Brian Allgood ACH, NHRC, USAFSAM, WAMC, NAMRU-3, TAMC, WRNMMC, and NIDDL).

Strategy for Control of Zika Virus Transmitting Mosquitoes on Military Installations is available from the Armed Forces Pest Management Board. The Armed Services Blood Program Office implemented the American Association of Blood Banks' guidance for reducing the risk of Zika, dengue, and chikungunya virus transmission through blood products on 12 FEB.

CASE REPORT: From 1 MAY 2015 to 6 JUL 2016, confirmed autochthonous vector-borne transmission of Zika virus (ZIKV) has been reported in 40 countries and territories in the Western Hemisphere. In AFRICOM, Cape Verde reported 7,580 cases as of 8 JUN. WHO reported on 20 MAY that the ZIKV circulating in Cape Verde is the Asian strain, which is the same strain circulating in the Americas; it was most likely imported from Brazil. In PACOM, American Samoa, Samoa, Fiji, Kosrae (Federated States of Micronesia), Marshall Islands, New Caledonia, Papua New Guinea, and Tonga are reporting active ZIKV transmission. CDC has issued Alert Level 2, Practice Enhanced Precautions travel notices for these 49 (+1, Anguilla) areas and for travelers to the 2016 Summer Olympics and Paralympics in Rio de Janeiro. According to CDC, locations above 6,500 feet elevation in these countries and territories present minimal transmission risk. Past vector-borne outbreaks have been reported from other areas of Africa, Southeast Asia, and the Pacific Islands, where sporadic transmission may continue to occur. Guinea-Bissau reported three ZIKV cases on 1 JUL; serological evidence of likely ZIKV transmission has previously been reported. Eleven (+1, Spain) countries have reported person-to-person transmission, most likely through sexual contact.

As of 29 JUN, CDC (ArboNet) and state health departments report 922 (+113) travel-related cases, 13 (+2) locally-acquired, non-vector-borne (sexually transmitted) cases, and one laboratory acquired case in 46 states and the District of Columbia since MAY 2015; no autochthonous vector-borne cases have been reported. As of 16 JUN, Puerto Rico DOH reports 2,387 (+225) confirmed cases (1 death), with 339 (+40) cases in pregnant women. The U.S. Virgin Islands DOH reported 29 (+3) confirmed cases as of 28 JUN. American Samoa DOH reported 32 (+3) confirmed cases, including 15 (+1) cases in pregnant women, as of 30 JUN.

As of 23 JUN, the CDC's U.S. pregnancy registry has recorded 287 (+22) pregnant women with laboratory evidence of a ZIKV infection in the 50 states and the District of Columbia. Seven (+3) infants were born with birth defects and there were five (+1) fetal deaths due to birth defects. CDC is tracking an additional 250 (+34) pregnant women in the U.S. territories, with one fetal death due to birth defects.

On 17 JUN, CDC said none of the 5,961 donated blood units tested at the Gulf Coast Regional Blood Center in Texas since 23 MAY have tested positive for ZIKV. In Puerto Rico, CDC reports 68 of 12,777 (0.5%) of blood donors tested ZIKV positive between 3 APR and 11 JUN. During the latest week of testing, 1.1% of blood donors were positive; the percentage has been increasing over time.

Text updated from the previous report will be printed in red; items in (+xx) represent the change in number from the previous AFHSB summary (29 JUN 2016).
All information has been verified unless noted otherwise. Additional sources include: Pacific Public Health Surveillance Network and Gulf Coast Regional Blood Center.
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ZIKA AND MICROCEPHALY: As of 29 JUN, Brazil (1,638 (+22) cases), Cape Verde (11 cases), Colombia (13 (+2) cases), French Polynesia (8 cases), the Marshall Islands (1 case), Martinique (6 (+2) cases), El Salvador (1 case), French Guiana (1 case), Panama (5 cases), and Puerto Rico (1 case) have reported microcephaly and other fetal malformations potentially associated with ZIKV infection or suggestive of a congenital infection. The U.S. (12 (+4)), Spain (2), and Slovenia (1) have reported travel associated microcephaly cases. NEJM published a preliminary analysis of the ZIKV outbreak in Colombia, with the main finding that infection during the third trimester of pregnancy is not linked to structural abnormalities in the fetus. CDC has said, "a causal relationship exists between prenatal Zika virus infection and microcephaly and other serious brain anomalies." On 29 JUN, The Lancet published a study of the first 1,501 live births in Brazil with suspected congenital ZIKV syndrome.

ZIKA AND GUILLAIN-BARRÉ SYNDROME: According to WHO on 30 JUN, 14 (+1, Guadeloupe) countries (13 in the Western Hemisphere and French Polynesia) have reported Guillain-Barré syndrome (GBS) cases that may be associated with the introduction of ZIKV. There have been four (+1) GBS cases linked to ZIKV reported in the continental U.S. and 16 (+2) cases in Puerto Rico.

USG RESPONSE: CDC published a presentation, Zika Virus: Information for Clinicians, on 23 JUN. On 17 JUN, the agency published guidance for Americans living in areas with ongoing ZIKV transmission. On 14 JUN, CDC issued its draft interim plan for response activities that would occur after locally acquired ZIKA transmission has been identified in the continental United States and Hawaii. CDC published interim guidance for interpretation of ZIKV antibody test results in its 3 JUN MMWR. ZIKV disease is a notifiable disease in the U.S. Additional data, guidance, and information from CDC is available on its ZIKV web pages.

GLOBAL RESPONSE: WHO issued a revised Strategic Response Plan on 17 JUN that places a greater focus on preventing and managing medical complications caused by ZIKV infection. Following the third meeting of the WHO Emergency Committee concerning ZIKV and observed increases in neurological disorders and neonatal malformations on 14 JUN, WHO said that the clusters of microcephaly cases and other neurological disorders continue to constitute a Public Health Emergency of International Concern (PHEIC). The Committee found the risk of further international spread of ZIKV from the Olympic and Paralympic games is very low and reaffirmed its previous advice that there should be no general restrictions on travel and trade with countries, areas, and/or territories with ZIKV transmission. The Committee provided additional advice to the Director-General on controlling ZIKV during mass gatherings. WHO updated its interim guidance for preventing sexual transmission on 7 JUN.

An epi-curve published by PAHO shows a downward trend in suspected and confirmed cases reported since early FEB 2016 in the countries where the ZIKV outbreak started in the fall of 2015. PAHO has created a searchable database of published primary research and protocols. WHO Regional Office in Europe assessed the risk of ZIKV spread in Europe during late spring and summer to be low to moderate. For additional information, visit the WHO and PAHO Zika web pages.

MEDICAL COUNTERMEASURES: According to a study published in Nature on 28 JUN, two vaccine candidates, including one developed at the Walter Reed Army Institute of Research (WRAIR), protected 100% of tested mice from ZIKV infection four and eight weeks after a single injection. WRAIR will co-develop its vaccine with Sanofi Pasteur.

Text updated from the previous report will be printed in red; items in (+xx) represent the change in number from the previous AFHSB summary (29 JUN 2016).

All information has been verified unless noted otherwise. Additional sources include: Brazil MOH and Generalitat de Catalunya .

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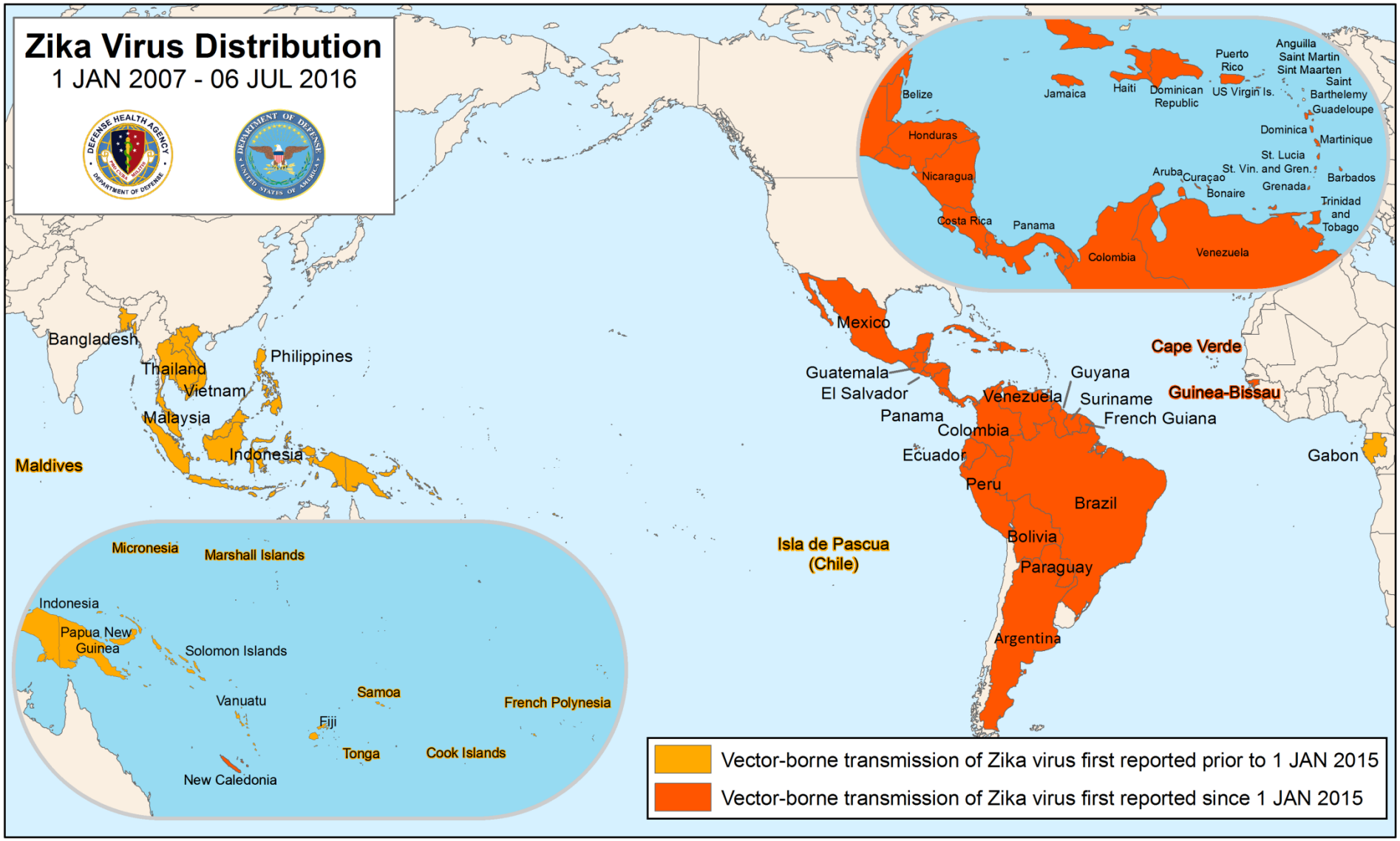

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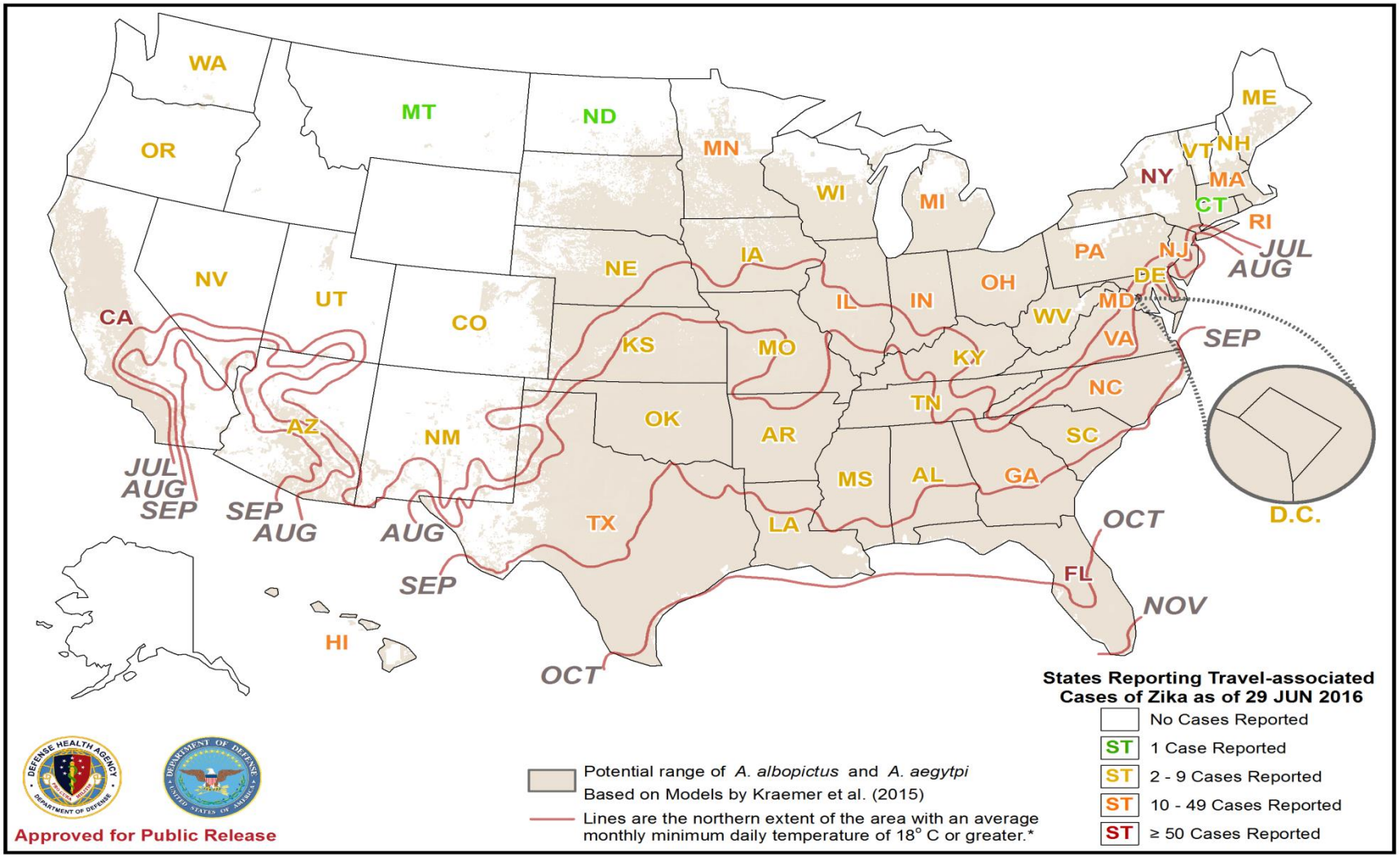
Overlap of States Reporting Imported Zika Cases with Locations of Major DoD Installations, and the Estimated Range of Mosquito Vectors and Transmission Suitability

6 JUL 2016



This version of the map shows that after JUL the northern extent begins to move southward.

Based on Sang et al, Predicting Unprecedented Dengue Outbreak Using Imported Cases and Climatic Factors in Guangzhou, 2014. PLoS Negl Trop Dis 9(5);e0003808.

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Western Hemisphere Countries and Territories with Autochthonous Transmission of Zika Virus: 01 JAN 2015 – 30 JUN 2016

	Confirmed	Suspected	Microcephaly Cases*	Reporting GBS†
Total	58,352	405,030	1,665	13 Countries

Country/Territory	Confirmed	Suspected	Microcephaly Cases*	Reporting GBS†
Anguilla	1	0		
Argentina	22	98		
Aruba	17	0		
Barbados	18	770		
Belize	5	0		
Bolivia	124	0		
Bonaire	3	0		
Brazil	40,086	159,939	1,638**	Yes
Colombia	8,356	86,446	13**	Yes
Costa Rica	140	676		
Cuba	1	0		
Curaçao	73	0		
Dominica	57	611		
Dominican Republic	101	3,771		Yes
Ecuador	381	1,064		
El Salvador	46	10,590	1	Yes
French Guiana	483	8,450	1	Yes
Grenada	2	0		
Guadeloupe	379	17,820		Yes
Guatemala	1,850	408		
Guyana	6	0		

Country/Territory	Confirmed	Suspected	Microcephaly Cases*	Reporting GBS†
Haiti	5	2,125		Yes
Honduras	44	25,568		Yes
Jamaica	24	1,972		
Martinique	12	31,760	6	Yes
Mexico	562	0		
Nicaragua	294	0		
Panama	283	1,052	5††	Yes
Paraguay	8	275		
Peru	78	0		
Puerto Rico	2,387	0	1	Yes
Saint Barthelemy	27	130		
Saint Lucia	9	127		
Saint Martin	200	1,095		
Saint Vincent and the Grenadines	8	0		
Sint Maarten	7	0		
Suriname	697	2,524		Yes
Trinidad and Tobago	83	0		
U.S. Virgin Islands	29	43		
Venezuela	1,444	47,716		Yes

* Number of microcephaly and/or CNS malformation cases suggestive of congenital infections or potentially associated with ZIKV infection

**Brazil is currently investigating 3,061 suspected microcephaly cases as of 25 JUN; Colombia is currently investigating 112 suspected microcephaly cases as of 25 JUN.

† Reported increase in GBS cases associated with the introduction of ZIKV and/or GBS case(s) linked to ZIKV infection

†† WHO reports that it "is not possible to establish a link between" ZIKV infection and microcephaly in one of the reported Panama cases because of a lack of information and because the infection may have occurred too late in the pregnancy.

Sources: Zika cases reported to PAHO as of 30 JUN, and Zika cases reported by the health departments in Puerto Rico as of 16 JUN and USVI as of 28 JUN; and GBS cases and microcephaly cases reported to WHO as of 23 JUN, except for microcephaly cases reported by the MOHs of Brazil as of 25 JUN and Colombia as of 25 JUN.

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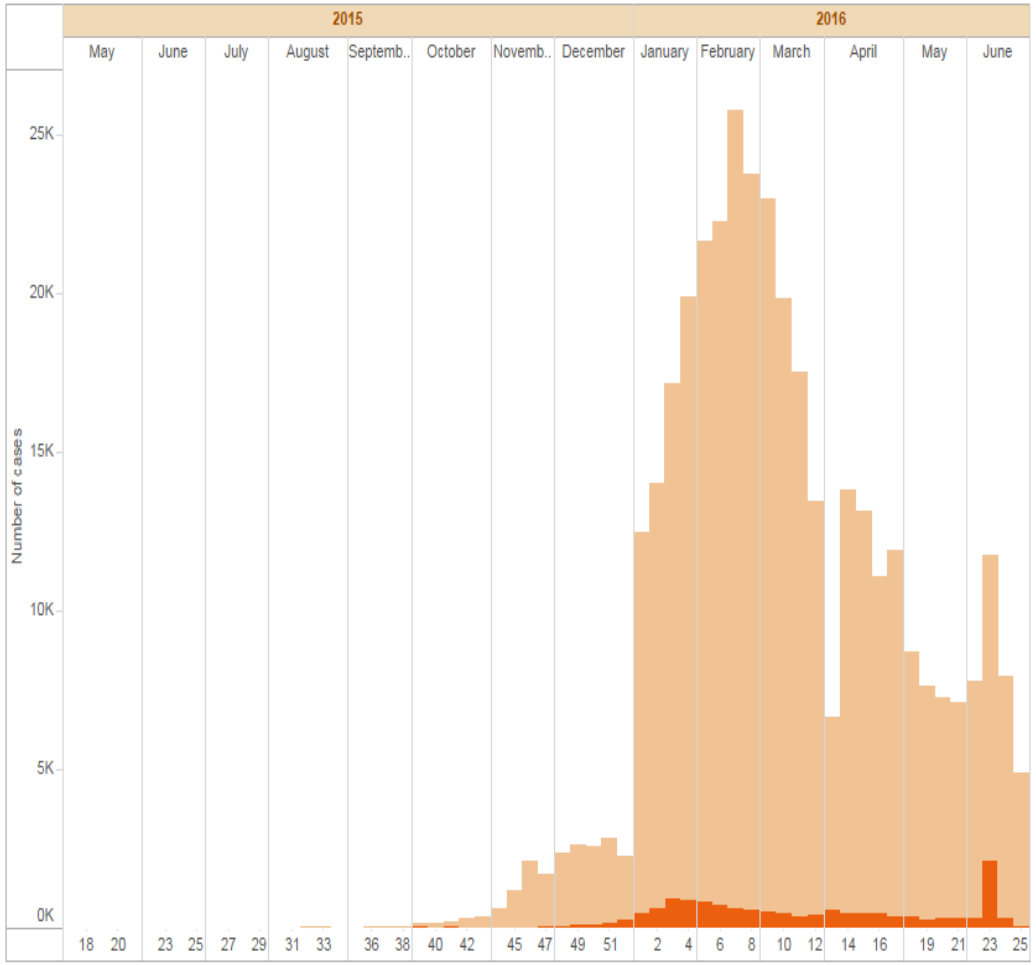
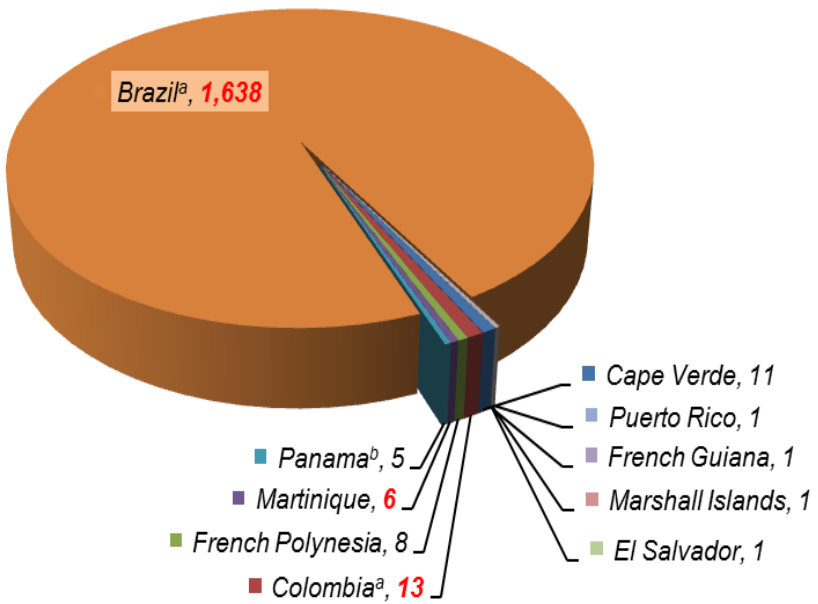
Suspected and confirmed ZIKV cases in the Americas by Epidemiological Week, 1 MAY 2015 - 30 JUN 2016



Countries and Territories reporting microcephaly and/or CNS malformation cases potentially associated with ZIKV infection as of 30 JUN 2016



a) Brazil is currently investigating 3,007 suspected microcephaly cases as of 18 JUN; Colombia is currently investigating 102 suspected microcephaly cases as of 18 JUN.

b) WHO reports that it "is not possible to establish a link between" ZIKV infection and microcephaly in one of the reported Panama cases because of a lack of information and because the infection may have occurred too late in the pregnancy.

Source: PAHO, http://ais.paho.org/phip/viz/ed_zika_epicurve.asp