



KEY UPDATES

Countries and territories reporting mosquito-borne Zika virus infections for the first time:

- Bahamas

Countries and territories reporting microcephaly and other central nervous system (CNS) malformations potentially associated with Zika virus infection for the first time:

- Honduras and Suriname

Countries and territories reporting Guillain-Barré syndrome (GBS) cases associated with Zika virus infection for the first time:

- Costa Rica and Guatemala

Operational measures from the WHO Eastern Mediterranean Region:

- WHO will conduct Zika risk assessment missions including to Somalia
- WHO is planning a training workshop on Incident Command System with partners in addition to a workshop to develop surveillance strategy and guidance for detection of Zika and other arboviral diseases, both for November 2016.
- WHO is rolling out three training workshops on prevention and control of *Aedes* mosquitoes for national entomologists from August to October

ANALYSIS

- Overall, the global risk assessment has not changed.
- Zika virus continues to spread geographically to areas where competent vectors are present.
- Recent cases of Zika virus in Africa highlight the need to better understand the virology of the global outbreak.
 - Thus far, outbreaks of the Asian lineage of the Zika virus appear to be more associated with neurologic and congenital complications than historic cases of the African lineage; however, with few known cases of the African lineage, it is possible that such complications were simply never identified. Thus it remains crucial to sequence Zika isolates, particularly from cases in Africa, to understand whether there has indeed been a real shift in the clinical manifestations of Zika infection since the first identified outbreak in 2007.
- Further entomologic (mosquito) studies should be prioritized in newly affected areas to understand transmission dynamics, inform localized risk assessments, and focus vector control interventions including providing appropriate health promotion messages.

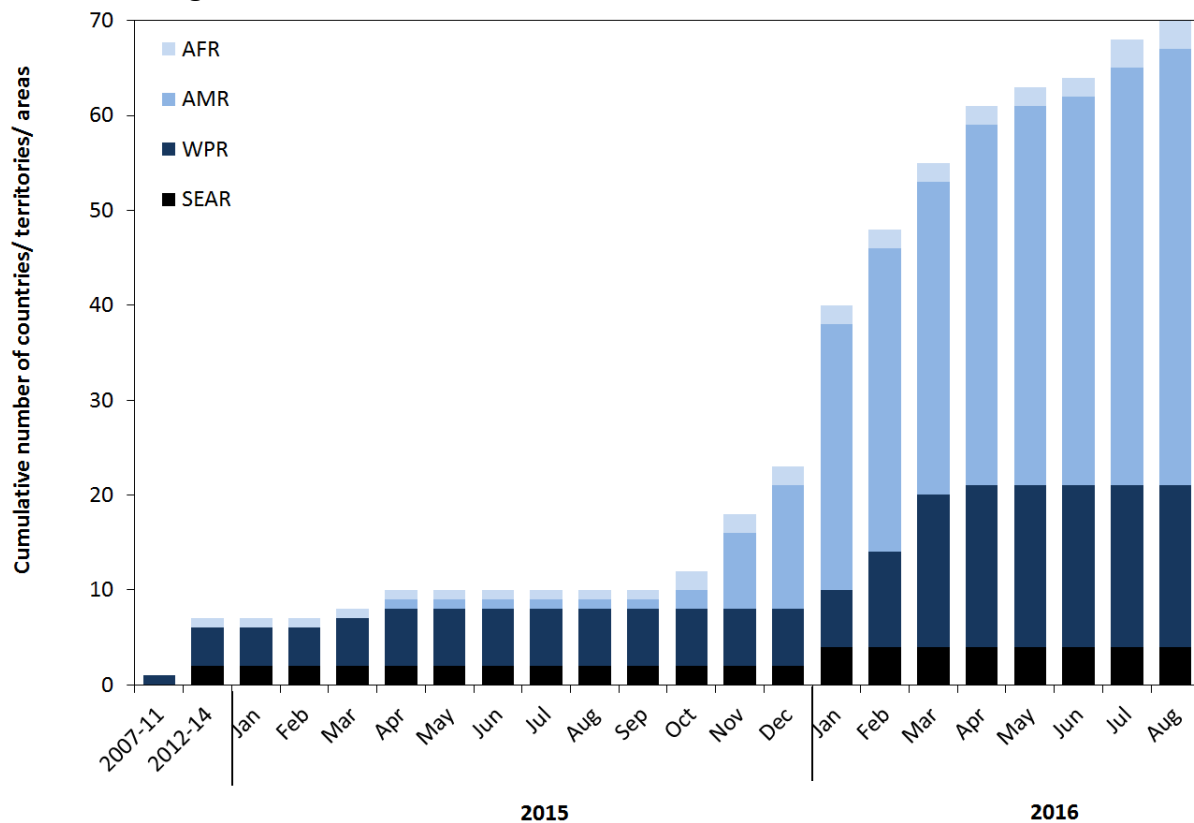
SITUATION

- 70 countries and territories (Fig. 1, Table 1) have reported evidence of mosquito-borne Zika virus transmission since 2007 (67 since 2015):
 - 53 with a first reported outbreak from 2015 onwards (Fig. 2, Table 1).
 - Four with having possible endemic transmission or evidence of local mosquito-borne Zika infections in 2016.
 - 13 with evidence of local mosquito-borne Zika infections in or before 2015, but without documentation of cases in 2016, or with the outbreak terminated.
- Since February 2016, 11 countries have reported evidence of person-to-person transmission of Zika virus (Table 2).
- 17 countries or territories have reported microcephaly and other CNS malformations potentially associated with Zika virus infection or suggestive of congenital infection (Table 3). Four of the 17 countries reported microcephalic babies born from mothers in countries with no endemic Zika virus transmission but who reported recent travel history to Zika-affected countries.
- Outcomes of pregnancies with laboratory evidence of possible Zika virus in the United States of America¹:
 - 16 total liveborn infants with birth defects (one newly reported)
 - Five total pregnancy losses with birth defects
- Outcomes of pregnancies with laboratory evidence of possible Zika virus in territories of the United States of America:
 - One total liveborn infant with birth defects
 - One total pregnancy loss with birth defects
- 18 countries and territories have reported an increased incidence of GBS and/or laboratory confirmation of a Zika virus infection among GBS cases (Table 4).
- Guinea-Bissau:
 - Seven new cases were found to be positive for Zika. The samples have been sent to Institute Pasteur Dakar (IPD) in Senegal for further testing. A total of 154 samples were collected from the Bijagos islands by the recent mission by staff from the WHO Regional Office for Africa and regional partners. During this mission 401 lots of mosquitos were collected and four of them were positive for Zika. Of the mosquitoes collected 80% were *Aedes aegypti* and *Aedes luteocephalus* which indicates that the risk index is high.
 - Five cases of microcephaly have been reported since April 2016. Three cases were reported from Oio and two cases from Gabu. Investigations of these cases are ongoing.
 - The gene sequencing results of the four confirmed Zika cases sent on 1 July are still pending.
 - Following the joint mission, additional WHO deployments of entomologists, epidemiologists and laboratory experts are being pursued.

¹ <https://www.cdc.gov/zika/geo/pregnancy-outcomes.html>

- Zika virus test kits have been made available by the local authorities at the Central Public Health Laboratory in Rio de Janeiro in Brazil and symptomatic athletes, volunteers, visitors and residents are encouraged to get tested.
- WHO has developed advice and information on diverse topics in the context of Zika virus.^{2,3}

Figure 1. Cumulative number of countries, territories and areas by WHO region⁴ reporting mosquito-borne Zika virus transmission in years (2007–2014), and monthly from 1 January 2015 to 17 August 2016



² <http://www.who.int/csr/resources/publications/zika/en/>

³ <http://www.who.int/emergencies/zika-virus/en/>; <http://www.who.int/risk-communication/zika-virus/en/>

⁴ <http://www.who.int/about/regions/en/>

Table 1. Countries and territories reporting mosquito-borne Zika virus transmission

Classification	WHO Regional Office	Country / territory / area	Total
Category 1: Countries with a first reported outbreak from 2015 onwards	AFRO	Cabo Verde; Guinea-Bissau	2
	AMRO/PAHO	Anguilla; Antigua and Barbuda; Argentina; Aruba; Bahamas; Barbados; Belize; Bolivia (Plurinational State of), Bonaire, Sint Eustatius and Saba – Netherlands*; Brazil; Cayman Islands; Colombia; Costa Rica; Cuba; Curaçao; Dominica; Dominican Republic; Ecuador; El Salvador; French Guiana; Grenada; Guadeloupe; Guatemala; Guyana; Haiti; Honduras; Jamaica; Martinique; Mexico; Nicaragua; Panama; Paraguay; Peru; Puerto Rico; Saint Barthélemy; Saint Lucia; Saint Martin; Saint Vincent and the Grenadines; Sint Maarten; Suriname; Trinidad and Tobago; Turks and Caicos; United States of America; United States Virgin Islands; Venezuela (Bolivarian Republic of)	45
	WPRO	American Samoa; Fiji; Marshall Islands; Micronesia (Federated States of); Samoa; Tonga	6
Subtotal			53
Category 2: Countries with possible endemic transmission or evidence of local mosquito-borne Zika infections in 2016	SEARO	Indonesia; Thailand	2
	WPRO	Philippines; Viet Nam	2
Subtotal			4
Category 3: Countries with evidence of local mosquito-borne Zika infections in or before 2015, but without documentation of cases in 2016, or outbreak terminated	AFRO	Gabon	1
	PAHO/AMRO	ISLA DE PASCUA – Chile**	1
	SEARO	Bangladesh; Maldives	2
	WPRO	Cambodia; Cook Islands**; French Polynesia**; Lao People's Democratic Republic; Malaysia; New Caledonia; Papua New Guinea; Solomon Islands; Vanuatu	9
Subtotal			13
Total			70

*This includes confirmed Zika virus cases reported in BONAIRE – Netherlands, SINT EUSTATIUS and SABA – Netherlands.

**These countries and territories have not reported Zika virus cases in 2015 or 2016.

Categories are defined as follows:

Category 1: Countries with a first reported outbreak from 2015 onwards

- A laboratory confirmed, autochthonous, mosquito-borne case of Zika virus infection in an area where there is no evidence of circulation of the virus in the past (prior 2015), whether it is detected and reported by the country itself or by another state party diagnosing returning travellers **OR**
- A laboratory confirmed, autochthonous, mosquito-borne case of Zika virus infection in an area where transmission has been previously interrupted. The assumption is that the size of the susceptible population has built up to a sufficient level to allow transmission again; the size of the outbreak will be a function of the size of the susceptible population **OR**
- An increase of the incidence of laboratory confirmed, autochthonous, mosquito-borne Zika virus infection in areas where there is on-going transmission, above two standard deviations of the baseline rate, or doubling the number of cases over a 4-week period. Clusters of febrile illnesses, in particular when epidemiologically-linked to a confirmed case, should be microbiologically investigated.

Category 2: Countries with possible endemic transmission or evidence of local mosquito-borne Zika infections in 2016 with the reporting period beginning in 2007

- Countries or territories that have reported an outbreak with consistent presence of laboratory confirmed, autochthonous, mosquito-borne cases of Zika virus infection 12 months after the outbreak **OR**
- Countries or territories where Zika virus has been circulating for several years with consistent presence of laboratory confirmed, autochthonous, mosquito-borne cases of Zika virus infection or evidence of local mosquito-borne Zika infections in 2016. Reports can be from the country or territory where infection occurred, or from a third party where the case is first recorded according to the International Health Regulations (IHR 2005). Countries with evidence of infection prior to 2007 are listed in http://www.who.int/bulletin/online_first/16-171082.pdf

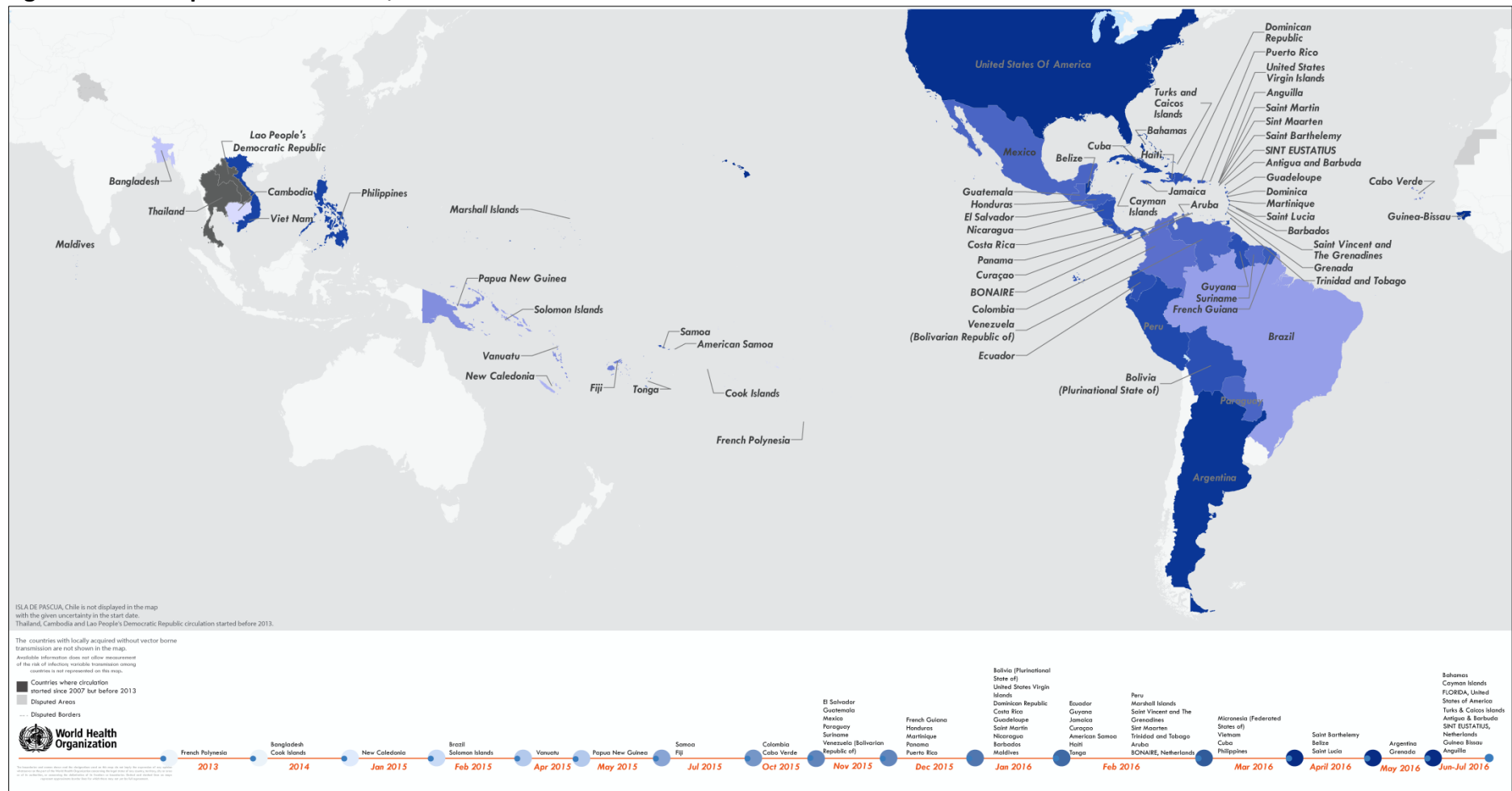
Category 3: Countries with evidence of local mosquito-borne Zika infections in or before 2015, but without documentation of cases in 2016, or outbreak terminated with the reporting period beginning in 2007

- Absence of confirmed cases over a 3-month period in a specific geographical area with climatic conditions suitable for year-round arbovirus transmission, or over a 12-month period in an area with seasonal vector activity.

Table 2. Countries reporting non mosquito-borne Zika virus transmission since February 2016

Classification	WHO Regional Office	Country / territory / area	Total
Countries with evidence of person-to-person transmission of Zika virus, other than mosquito-borne transmission	AMRO/PAHO	Argentina, Canada, Chile, Peru, United States of America	5
	EURO	France, Germany, Italy, Portugal, Spain	5
	WPRO	New Zealand	1
Total			11

Figure 2. Global spread of Zika virus, 2013-2016



ISLA DE PASCUA – Chile is not displayed in the map given uncertainty about the date of onset of the outbreak there. Circulation of Zika virus in Thailand, Cambodia and Lao People’s Democratic Republic started before 2013. Countries where sexual transmission occurred are not represented in this map. Available information does not permit measurement of the risk of infection in any country; the variation in transmission intensity among countries is therefore NOT represented on this map. Zika virus is not necessarily present throughout the countries/territories shaded in this map.

Table 3. Countries, territories and areas reporting microcephaly and/or CNS malformation cases potentially associated with Zika virus infection

Reporting country or territory	Number of microcephaly and/or CNS malformation cases suggestive of congenital Zika infections or potentially associated with a Zika virus infection	Probable location of infection
Brazil	1835 ⁵	Brazil
Cabo Verde	9	Cabo Verde
Canada	1	Undetermined
Colombia	24 ⁶	Colombia
El Salvador	4	El Salvador
French Guiana	2 ⁷	French Guiana
French Polynesia	8	French Polynesia
Honduras	1	Honduras
Marshall Islands	1	Marshall Islands
Martinique	8 ⁸	Martinique
Panama	5	Panama
Paraguay	2 ⁹	Paraguay
Puerto Rico	1	Puerto Rico
Slovenia	1 ¹⁰	Brazil
Spain	2	Colombia, Venezuela (Bolivarian Republic of)
Suriname	1	Suriname
United States of America*	21 ¹¹	Undetermined**

* US-CDC has modified the way information is displayed. To protect the privacy of the women and children affected by Zika, US-CDC is not reporting individual state, tribal, territorial or jurisdictional level data.

**The probable locations of three of the infections were Brazil (1 case), Haiti (1 case) and Mexico, Belize or Guatemala (1 case).

Table 4. Countries, territories or areas reporting Guillain-Barré syndrome (GBS) potentially associated with Zika virus infection

Classification	Country / territory / area
Reported increase in incidence of GBS cases, with at least one GBS case with confirmed Zika virus infection	Brazil, Colombia, Dominican Republic, El Salvador*, French Guiana, French Polynesia, Honduras, Jamaica, Martinique, Suriname**, Venezuela (Bolivarian Republic of)
No increase in GBS incidence reported, but at least one GBS case with confirmed Zika virus infection	Costa Rica, Grenada ¹² , Guadeloupe ¹³ , Guatemala, Haiti, Panama, Puerto Rico

*GBS cases with previous history of Zika virus infection were reported by the International Health Regulations (2005) National Focal Point in United States of America.

**One case living in continental Netherlands was diagnosed in mid-January 2016 at the Erasmus Academic Medical Center and reported by the Netherlands.

⁵ <http://portalsaude.saude.gov.br/images/pdf/2016/agosto/17/Informe-Epidemiol--gico-n---39--SE-32-2016--16ago2016-19h10.pdf>

⁶ <http://www.ins.gov.co/boletin-epidemiologico/Boletn%20Epidemiologico/2016%20Boletin%20epidemiologico%20semana%2031.pdf>

⁷ <http://www.invs.sante.fr/Publications-et-outils/Points-epidemiologiques/Tous-les-numeros/Antilles-Guyane/2016/Situation-epidemiologique-du-virus-Zika-aux-Antilles-Guyane.-Point-au-21-juillet-2016>

⁸ <http://www.invs.sante.fr/Publications-et-outils/Points-epidemiologiques/Tous-les-numeros/Antilles-Guyane/2016/Situation-epidemiologique-du-virus-Zika-aux-Antilles-Guyane.-Point-au-21-juillet-2016>

⁹ <http://www.mspbs.gov.py/v3/paraguay-reporta-sus-dos-primeros-casos-de-microcefalia-asociados-al-zika/>

¹⁰ <http://www.nejm.org/doi/pdf/10.1056/NEJMoa1600651>

¹¹ <http://www.cdc.gov/zika/geo/pregnancy-outcomes.html>

¹² http://health.gov.gd/index.php?option=com_content&view=article&id=434:nine-confirmed-zika-cases-in-grenada&catid=83:latest-news&Itemid=932&lang=en

¹³ <http://www.invs.sante.fr/Publications-et-outils/Points-epidemiologiques/Tous-les-numeros/Antilles-Guyane/2016/Situation-epidemiologique-du-virus-Zika-aux-Antilles-Guyane.-Point-au-23-juin-2016>