

Country list¹

Yellow fever vaccination requirements and recommendations; and malaria situation

Introduction

The information provided for each country includes the country's stated requirements for yellow fever vaccination, WHO recommendation for travellers regarding yellow fever vaccinations, and details concerning the malaria situation and recommended prevention of the disease.^{2,3}

Yellow fever

Yellow fever vaccination

Yellow fever vaccination is carried out for two different purposes:

1. To prevent the international spread of the disease by protecting countries from the risk of importing or spreading the yellow fever virus. These are requirements established by the country.

The countries that require proof of vaccination² are those where the disease may or may not occur and where the mosquito vector and potential non-human primate hosts of yellow fever are present. Any importation of the virus into such countries by infected travellers could result in its propagation and establishment, leading to a permanent risk of infection for the human population. Proof of vaccination is often required for travellers arriving from countries with risk of yellow fever transmission and sometimes for travellers in transit through such countries. A

¹ For the purpose of this publication, the terms "country" and "countries" cover countries, territories and areas.

² Please note that the requirements for vaccination of infants over 6 months of age by some countries are not in accordance with WHO's advice (Chapter 6). Travellers should, however, be informed that the requirement exists for entry into the countries concerned.

³ WHO publishes these requirements for informational purposes only; this publication does not constitute an endorsement or confirmation that such requirements are in accordance with the provisions of the International Health Regulations.

meeting of yellow fever experts organized in 2010 proposed that under 12 h of airport transit the risk of yellow fever is almost non-existent and therefore that a proof of vaccination might not be necessary. This information is being provided to WHO Member States, but travellers are recommended to consult individual country requirements by contacting the embassy(ies) of the country(ies) they intend to visit. It should be noted that some countries require proof of vaccination from all travellers.

Countries requiring yellow fever vaccination for entry do so in accordance with the International Health Regulations. Country requirements are subject to change at any time. Updates can be found at: <http://www.who.int/ith>. This chapter contains information on yellow fever requirements as provided by countries.

The fact that a country has no requirement for yellow fever vaccination does not imply that there is no risk of yellow fever transmission.

2. To protect individual travellers who may be exposed to yellow fever infection.

The risk of yellow fever transmission depends on the presence of the virus in the country in humans, mosquitoes or animals. As yellow fever is frequently fatal for those who have not been vaccinated, vaccination is recommended for all travellers (with few exceptions, Chapter 6) visiting areas where there is a risk of yellow fever transmission.

WHO determines those areas where “a risk of yellow fever transmission is present” on the basis of the diagnosis of cases of yellow fever in humans and/or animals, the results of yellow fever sero-surveys and the presence of vectors and animal reservoirs.⁴

In consultation with experts, WHO has revised the criteria for the risk of yellow fever transmission. Updates have been made for Argentina, Bolivarian Republic of Venezuela, Brazil, Colombia, the Democratic Republic of the Congo, Ecuador, Eritrea, Ethiopia, Kenya, Panama, Paraguay, Peru, Sao Tome and Principe, Somalia, Trinidad and Tobago, United Republic of Tanzania and Zambia (Country list below, Annex 1 and yellow fever map).

Decisions regarding the use of yellow fever vaccine for travellers must weigh several factors, including the risk of travel-associated yellow fever virus disease, country

⁴ More extensive descriptions of the classifications that define areas with risk of yellow fever virus transmission can be found at <http://www.who.int/ith/YFrisk.pdf>. These classifications inform the vaccine recommendations listed here.

requirements, and the potential for serious adverse events following yellow fever vaccination (Chapter 6).

The table below summarizes WHO's revised recommendations for yellow fever vaccination for travellers.

Yellow fever vaccination category	Rationale for recommendation
Recommended	Yellow fever vaccination is recommended for all travellers ≥ 9 months old in areas where there is evidence of persistent or periodic yellow fever virus transmission.
Generally not recommended	Yellow fever vaccination is <i>generally not recommended</i> in areas where there is low potential for yellow fever virus exposure (no human yellow fever cases ever reported and evidence to suggest only low levels of yellow fever virus transmission in the past). However, vaccination might be considered for a small subset of travellers to these areas, who are at increased risk of exposure to mosquitoes or unable to avoid mosquito bites. When considering vaccination, any traveller must take into account the risk of being infected with yellow fever virus, country entry requirements, as well as individual risk factors (e.g. age, immune status) for serious vaccine-associated adverse events.

Annex 1 provides a summary list of countries with risk of yellow fever transmission in whole or in part, as well as a list of countries that require proof of yellow fever vaccination as a condition for entry.

Other diseases

Cholera. No country reports a requirement for a certificate of vaccination against cholera as a condition for entry. For information on selective use of cholera vaccines, Chapter 6.

Smallpox. Since the global eradication of smallpox was certified in 1980, WHO does not recommend smallpox vaccination for travellers.

Other infectious diseases. Information on the main infectious disease threats for travellers, their geographical distribution, and corresponding precautions are provided in Chapter 5. Chapter 6 provides information on vaccine-preventable diseases.

Malaria

General information about malaria, its geographical distribution and details of preventive measures are included in Chapter 7. Protective measures against mosquito bites are described in Chapter 3. Specific information for each country is provided in this section, including epidemiological details for all countries with malarious areas (geographical and seasonal distribution, altitude, predominant species, reported resistance). The recommended prevention is also indicated. For each country, recommended prevention is decided on the basis of the following factors: the risk of contracting malaria; the prevailing species of malaria parasites in the area; the level and spread of drug resistance reported from the country; and the possible risk of serious side-effects resulting from the use of the various prophylactic drugs. Where *Plasmodium falciparum* and *P. vivax* both occur, prevention of falciparum malaria takes priority. Unless the malaria risk is defined as due “exclusively” to a certain species (*P. falciparum* or *P. vivax*), travellers may be at risk of any of the parasite species, including mixed infections.

The numbers I, II, III and IV refer to the type of prevention based on the table below.

	Malaria risk	Type of prevention
Type I	Very limited risk of malaria transmission	Mosquito bite prevention only
Type II	Risk of <i>P. vivax</i> malaria only; or fully chloroquine-sensitive <i>P. falciparum</i>	Mosquito bite prevention plus chloroquine chemoprophylaxis
Type III^a	Risk of <i>P. vivax</i> and <i>P. falciparum</i> malaria transmission, combined with emerging chloroquine resistance	Mosquito bite prevention plus chloroquine+proguanil chemoprophylaxis
Type IV	(1) High risk of <i>P. falciparum</i> malaria, combined with reported antimalarial drug resistance; or (2) Moderate/low risk of <i>P. falciparum</i> malaria, combined with reported high levels of drug resistance ^b	Mosquito bite prevention plus atovaquone–proguanil, doxycycline or mefloquine chemoprophylaxis (select according to reported resistance pattern)

^a The areas where Type III prevention is still an option are parts of Colombia and India, Nepal, Sri Lanka and Tajikistan. If needed, Type IV prevention can be used instead.

^b Alternatively, when travelling to rural areas with multidrug-resistant malaria and only a very low risk of *P. falciparum* infection, mosquito bite prevention can be combined with stand-by emergency treatment.

AFGHANISTAN**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk – *P. falciparum* and *P. vivax* – exists from May to November inclusive below 2000 m. *P. falciparum* resistant to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention in risk areas: **IV**

ALBANIA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

ALGERIA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk is limited. Small foci of local transmission (*P. vivax*) have previously been reported in the six southern and south-eastern wilayas (Adrar, El Oued, Ghardaia, Illizi, Ouargla, Tamanrasset), with isolated local *P. falciparum* transmission reported from the two southernmost wilayas in areas under the influence of trans-Saharan migration. Three locally acquired cases were reported in 2008.

Recommended prevention in risk areas: **I**

AMERICAN SAMOA**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

ANDORRA**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

ANGOLA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from all travellers over 1 year of age.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

ANGUILLA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

ANTIGUA AND BARBUDA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

ARGENTINA**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: yes

Recommended for all travellers aged 9 months and over going to northern and north-eastern forested areas of Argentina bordering Brazil and Paraguay where altitudes are <2300 m (Map). Travellers to departments in the following provinces should be vaccinated: Misiones (all departments) and Corrientes (Berón de Astrada, Capital, General Alvear, General Paz, Ituzaingó, Itatí, Paso de los Libres, San Cosme, San Martín, San Miguel, Santo Tomé). Vaccination is also recommended for travellers visiting Iguazu Falls.

*Generally not recommended*¹ for travellers whose itineraries are limited to the designated depart-

¹ Yellow fever vaccination is *generally not recommended* in areas where there is low potential for exposure to yellow fever virus. However, vaccination might be considered for a small subset of travellers to these areas, who are at increased risk of exposure to yellow fever virus (e.g. prolonged travel, extensive exposure to mosquitoes, inability to avoid mosquito bites). When considering vaccination, any traveller must take into account the risk of being infected with yellow fever virus, country entry requirements, as well as individual risk factors (e.g. age, immune status) for serious vaccine-associated adverse events.

COUNTRY LIST: YELLOW FEVER VACCINATION REQUIREMENTS AND RECOMMENDATIONS

ments in the following provinces, where altitudes are <2300 m: Formosa (all departments), Chaco (Bermejo) Jujuy (Ledesma, San Pedro, Santa Bárbara, Valle Grande), and Salta (Anta, General José de San Martín, Orán, Rivadavia) (Map).

Not recommended for travellers whose itineraries are limited to areas at altitudes >2300 m and all provinces and departments not listed above.

Malaria: Malaria risk due exclusively to *P. vivax* is very low and is confined to rural areas along the borders with Plurinational State of Bolivia (lowlands of Salta province) and with Paraguay (lowlands of Chaco and Misiones provinces).

Recommended prevention in risk areas: **II**

ARMENIA

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

Malaria: Limited malaria risk due exclusively to *P. vivax* may exist focally from June to October inclusive in some villages located in Ararat Valley. No risk in tourist areas. No indigenous cases reported since 2006.

Recommended prevention in risk areas: **I**

AUSTRALIA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age entering Australia within 6 days of having stayed overnight or longer in a country with risk of yellow fever transmission, excluding Galapagos Islands in Ecuador and limited to Misiones province in Argentina, but including Sao Toe and Principe, Somalia and the United Republic of Tanzania.

Yellow fever vaccine recommendation: no

AUSTRIA

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

AZERBAIJAN

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due exclusively to *P. vivax* exists from June to October inclusive in lowland areas, mainly in the area between the Kura and Arax rivers.

Recommended prevention in risk areas: **II**

AZORES see PORTUGAL

BAHAMAS

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Sporadic local transmission of *P. falciparum* has been reported in recent years on Great Exuma island only, subsequent to international importation of parasites. No risk on other islands.

Recommended prevention on Great Exuma: **I**

BAHRAIN

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

BANGLADESH

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk exists throughout the year in the whole country excluding Dhaka city, with highest risk in Chittagong Division, the districts of Mymensingh, Netrakona and Sherpur in Dhaka Division, and Kurigram district in Rajshahi Division. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention in risk areas: **IV**

BARBADOS**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission except Guyana and Trinidad and Tobago.

Yellow fever vaccine recommendation: no

BELARUS**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

BELGIUM**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

BELIZE**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. vivax* exists in all districts but varies within regions. Risk is moderate in Stan Creek and Toledo Districts; and low in Cayo, Corozal and Orange Walk.

Recommended prevention in risk areas: **II**

BENIN**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from all travellers over 1 year of age.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention: **IV**

BERMUDA**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

BHUTAN**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk exists throughout the year in the southern belt of the country comprising five districts: Chhukha, Geyleg-phug, Samchi, Samdrup Jonkhar and Shemgang. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention in risk areas: **IV**

BOLIVIA (PLURINATIONAL STATE OF)**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: yes

Recommended for all travellers aged 9 months of age and over travelling to the following area east of the Andes at altitudes below 2300 m: the entire departments of Beni, Pando, and Santa Cruz, and designated areas (Map) of Chuquisaca, Cochabamba, La Paz and Tarija.

Not recommended for travellers whose itineraries are limited to areas at altitudes above 2300 m and all areas not listed above, including the cities of La Paz and Sucre.

Malaria: Malaria risk due predominantly (94%) to *P. vivax* exists throughout the year in the whole country below 2500 m. *Falciparum* malaria occurs in Santa Cruz and in the northern departments of Beni and Pando, especially in the localities of Guayaramerín and Riberalta. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention in risk areas: **II**; in Beni, Pando and Santa Cruz: **IV**

BOSNIA AND HERZEGOVINA**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

BOTSWANA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from or having passed through countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists from November to May/June in the northern parts of the country: Boteti, Chobe, Ngamiland, Okavango, Tutume districts/sub-districts. Chloroquine-resistant *P. falciparum* reported.

Recommended prevention in risk areas: **IV**

BRAZIL**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: yes

Recommended for all travellers aged 9 months or over going to the following areas: the entire states of Acre, Amapá, Amazonas, Distrito Federal (including the capital city of Brasília), Goiás, Maranhão, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Pará, Rondônia, Roraima and Tocantins, and designated areas (Map) of the following states: Bahia, Paraná, Piauí, Rio Grande do Sul, Santa Catarina and São Paulo. Vaccination is also recommended for travellers visiting Iguazu Falls.

Not recommended for travellers whose itineraries are limited to areas not listed above, including the cities of Fortaleza, Recife, Rio de Janeiro, Salvador and São Paulo (Map).

Malaria: In the states outside "Legal Amazonia", the risk of malaria transmission is negligible or non-existent. Malaria risk – *P. vivax* (84%), *P. falciparum* (15%), mixed infections (1%) – is present in most forested areas below 900 m within the nine states of the "Legal Amazonia" region (Acre, Amapá, Amazonas, Maranhão (western part), Mato Grosso (northern part), Pará (except Belém City), Rondônia, Roraima and Tocantins (western part)). Transmission intensity varies from one municipality to another, and is higher in jungle mining areas, in agricultural settlements less than 5 years old, and in some peripheral urban areas of Cruzeiro do Sul, Manaus and Pôrto Velho. Malaria also occurs on the periphery of large cities such as Boa Vista, Macapá, Marabá, Rio Branco and Santarém. Multidrug-resistant *P. falciparum* reported. *P. vivax* resistance to chloroquine reported.

Recommended prevention in risk areas: **IV**

BRITISH VIRGIN ISLANDS**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

BRUNEI DARUSSALAM**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission or having passed through areas partly or wholly at risk of yellow fever transmission within the preceding 6 days.

Yellow fever vaccine recommendation: no

Malaria: Human *P. knowlesi* infection reported.

Recommended prevention: **mosquito bite prevention only**

BULGARIA**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

BURKINA FASO**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from all travellers over 1 year of age.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention: **IV**

BURMA see MYANMAR**BURUNDI****Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from all travellers over 1 year of age.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention: **IV**

CAMBODIA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country except in Phnom Penh and close to Tonle Sap. Risk within the tourist area of Angkor Wat is negligible. *P. falciparum* resistant to chloroquine and sulfadoxine–pyrimethamine reported. Resistance to mefloquine and resistance to artesunate reported in south-western provinces.

Recommended prevention in risk areas: **IV**

CAMEROON**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from all travellers over 1 year of age.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

CANADA**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

CANARY ISLANDS see SPAIN**CAPE VERDE****Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Limited malaria risk due predominantly to *P. falciparum* exists from August to November inclusive in Santiago island (35 locally acquired

cases reported in 2009), and in Boavista island (10 locally acquired cases reported in 2009).

Recommended prevention in risk areas: **I**

CAYMAN ISLANDS**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

CENTRAL AFRICAN REPUBLIC**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from all travellers over 1 year of age.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

CHAD**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: yes

Recommended for all travellers aged 9 months or over travelling to areas south of the Sahara Desert (Map).

Not recommended for travellers whose itineraries are limited to areas within the Sahara Desert (Map).

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

CHILE**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

CHINA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 9 months

of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk, including *P. falciparum* malaria, exists in Yunnan and to a lesser extent in Hainan. *P. falciparum* resistance to chloroquine and sulfadoxine–pyrimethamine reported. Limited risk of *P. vivax* malaria exists in southern and some central provinces, including Anhui, Ghuizhou, Henan, Hubei, Jiangsu. There is no malaria risk in urban areas.

Recommended prevention in risk areas: **II**; in Hainan and Yunnan, **IV**

CHINA, HONG KONG SAR

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

CHINA, MACAO SAR

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

CHRISTMAS ISLAND

(Indian Ocean)

Yellow fever

Same requirements as mainland Australia.

Yellow fever vaccine recommendation: no

COLOMBIA

Yellow fever

Country requirement: no

Yellow fever vaccination recommendation: yes

Recommended for all travellers aged 9 months or over travelling to the following departments at altitudes below 2300 m (Map): Amazonas, Antioquia, Arauca, Atlántico, Bolívar, Boyacá, Caldas, Caquetá, Casanare, Cauca, Cesar, Córdoba, Cundinamarca, Guainía, Guaviare, Huila, Magdalena, Meta, Norte de Santander, Putumayo, Quindio, Risaralda, San Andrés and Providencia, Santander, Sucre, Tolima, Vaupés, Vichada, Choco (only the municipalities of Acandí, Juradó, Riosucio, and Unguía), and La Guajira (only the municipalities of Albania, Barrancas, Dibulla, Distracción, El Molino, Fonseca, Hatonuevo, La Jagua del Pilar, Maicao, Manaure, Riohacha, San Juan del Cesar, Urumita, and Villanueva).

*Generally not recommended*¹ for travellers whose itineraries are limited to the following areas west of the Andes at altitudes below 2300 m: the departments of Cauca, Nariño and Valle de Cauca, central and southern Choco, and the cities of Baranquilla, Cali, Cartagena and Medellín (Map).

Not recommended for travellers whose itineraries are limited to all areas above 2300 m, including the city of Bogotá and the municipality of Uribia in La Guajira department.

Malaria: Malaria risk – *P. vivax* (72%), *P. falciparum* (27%) – is high throughout the year in rural/jungle areas below 1600 m, especially in municipalities of the regions of Amazonia, Orinoquia, Pacífico and Urabá-Bajo Cauca. Transmission intensity varies by department, with the highest risk in Amazonas, Antioquia, Chocó, Córdoba, Guaviare, La Guajira, Nariño and Vichada. Chloroquine-resistant *P. falciparum* exists in Amazonia, Pacífico and Urabá-Bajo Cauca. Resistance to sulfadoxine–pyrimethamine reported.

Recommended prevention in risk areas: **III**; in Amazonia, Pacífico and Urabá-Bajo Cauca: **IV**

COMOROS

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

CONGO

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from all travellers over 1 year of age.

Yellow fever vaccine recommendation: yes

¹ Yellow fever vaccination is *generally not recommended* in areas where there is low potential for exposure to yellow fever virus. However, vaccination might be considered for a small subset of travellers to these areas, who are at increased risk of exposure to yellow fever virus (e.g. prolonged travel, extensive exposure to mosquitoes, inability to avoid mosquito bites). When considering vaccination, any traveller must take into account the risk of being infected with yellow fever virus, country entry requirements, as well as individual risk factors (e.g. age, immune status) for serious vaccine-associated adverse events.

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

COOK ISLANDS

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

COSTA RICA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 9 months of age arriving from countries with risk of yellow fever transmission with the exception of Argentina, Panama and Trinidad and Tobago

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due almost exclusively to *P. vivax* occurs throughout the year in the province of Limón, mostly in the canton of Matina. Negligible or no risk of malaria transmission exists in the other cantons of the country.

Recommended prevention in risk areas: **II**

CÔTE D'IVOIRE

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

CROATIA

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

CUBA

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

CYPRUS

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

CZECH REPUBLIC

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Limited malaria risk due exclusively to *P. vivax* exists in some southern areas.

Recommended prevention in risk areas: **I**

DEMOCRATIC REPUBLIC OF THE CONGO (FORMERLY ZAIRE)

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from all travellers over 1 year of age.

Yellow fever vaccine recommendation: yes

Recommended for all travellers aged 9 months or over, except as mentioned below.

*Generally not recommended*¹ for travellers whose itineraries are limited to Katanga Province.

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

¹ Yellow fever vaccination is *generally not recommended* in areas where there is low potential for exposure to yellow fever virus. However, vaccination might be considered for a small subset of travellers to these areas, who are at increased risk of exposure to yellow fever virus (e.g. prolonged travel, extensive exposure to mosquitoes, inability to avoid mosquito bites). When considering vaccination, any traveller must take into account the risk of being infected with yellow fever virus, country entry requirements, as well as individual risk factors (e.g. age, immune status) for serious vaccine-associated adverse events.

DENMARK**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

DJIBOUTI**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

DOMINICA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

DOMINICAN REPUBLIC**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due exclusively to *P. falciparum* exists throughout the year, especially in the western provinces of Dajabón, Elias Pina and San Juan. Risk in other areas is low to negligible. There is no evidence of *P. falciparum* resistance to any antimalarial drug.

Recommended prevention in risk areas: **II**

ECUADOR**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission. Nationals and residents of Ecuador are required to possess certificates of vaccination on their departure to an area with risk of yellow fever transmission.

Yellow fever vaccine recommendation: yes

Recommended for all travellers aged 9 months or over travelling to the following provinces east of the Andes at altitudes below 2300 m: Morona-Santiago, Napo, Orellana, Pastaza, Sucumbios and Zamora-Chinchipe (Map).

*Generally not recommended*¹ for travellers whose itineraries are limited to the following provinces west of the Andes and at altitudes below 2300 m: Esmeraldas, Guayas, Los Rios and Manabi, and designated areas of Azuay, Bolivar, Canar, Carchi, Chimborazo, Cotopaxi, El Oro, Imbabura, Loja, Pichincha and Tungurahua (Map).

Not recommended for travellers whose itineraries are limited to all areas above 2300 m altitude, the cities of Guayaquil and Quito, and the Galápagos Islands (Map).

Malaria: Malaria risk – *P. vivax* (87%), *P. falciparum* (13%) – exists throughout the year below 1500 m, with moderate transmission risk in coastal provinces. There is no risk in Guayaquil, Quito and other cities of the inter-Andean region. *P. falciparum* resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention in risk areas: **IV**

EGYPT**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

All arrivals from Sudan are required to possess either a vaccination certificate or a location certificate issued by a Sudanese official centre stating that they have not been in Sudan south of 15°N within the previous 6 days.

Yellow fever vaccine recommendation: no

Malaria: Very limited *P. falciparum* and *P. vivax* malaria risk may exist from June to October inclusive in El Faiyûm governorate (no indigenous cases reported since 1998).

Recommended prevention: **none**

¹ Yellow fever vaccination is *generally not recommended* in areas where there is low potential for exposure to yellow fever virus. However, vaccination might be considered for a small subset of travellers to these areas, who are at increased risk of exposure to yellow fever virus (e.g. prolonged travel, extensive exposure to mosquitoes, inability to avoid mosquito bites). When considering vaccination, any traveller must take into account the risk of being infected with yellow fever virus, country entry requirements, as well as individual risk factors (e.g. age, immune status) for serious vaccine-associated adverse events.

EL SALVADOR**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Very low malaria risk due almost exclusively to *P. vivax* exists in rural areas of migratory influence from Guatemala. Sporadic vivax malaria cases are reported from other parts of the country.

Recommended prevention in risk areas: **I**

EQUATORIAL GUINEA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

ERITREA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: in general, no

*Generally not recommended*¹ for travellers going to the following states: Anseba, Debub, Gash Barka, Mae Kel and Semenawi Keih Bahri.

Not recommended for all other areas not listed above, including the islands of the Dahlak Archipelagos (Map).

Malaria: Malaria risk – *P. falciparum* and *P. vivax* – exists throughout the year in the whole coun-

¹ Yellow fever vaccination is *generally not recommended* in areas where there is low potential for exposure to yellow fever virus. However, vaccination might be considered for a small subset of travellers to these areas, who are at increased risk of exposure to yellow fever virus (e.g. prolonged travel, extensive exposure to mosquitoes, inability to avoid mosquito bites). When considering vaccination, any traveller must take into account the risk of being infected with yellow fever virus, country entry requirements, as well as individual risk factors (e.g. age, immune status) for serious vaccine-associated adverse events.

try below 2200 m. There is no risk in Asmara. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention in risk areas: **IV**

ESTONIA**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

ETHIOPIA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: yes

Recommended for all travellers aged 9 months or over, except as mentioned below.

*Generally not recommended*¹ for travellers whose itineraries are limited to the Afar and Somali provinces (Map).

Malaria: Malaria risk – approximately 60% *P. falciparum*, 40% *P. vivax* – exists throughout the year in the whole country below 2000 m. *P. falciparum* resistance to chloroquine and sulfadoxine–pyrimethamine reported. *P. vivax* resistance to chloroquine reported. There is no malaria risk in Addis Ababa.

Recommended prevention in risk areas: **IV**

FALKLAND ISLANDS (MALVINAS)**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

FAROE ISLANDS**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

FIJI**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

FINLAND**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

FRANCE**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

FRENCH GUIANA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from all travellers over 1 year of age.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk – *P. falciparum* (45%), *P. vivax* (55%) – is high throughout the year in nine municipalities of the territory bordering Brazil (Oiapoque river valley) and Suriname (Maroni river valley). In the other 13 municipalities, transmission risk is low or negligible. Multidrug-resistant *P. falciparum* reported in areas influenced by Brazilian migration.

Recommended prevention in risk areas: **IV**

FRENCH POLYNESIA**Yellow fever**

Country requirement: no.

Yellow fever vaccine recommendation: no

GABON**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from all travellers over 1 year of age.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

GALAPAGOS ISLANDS see EQUADOR**GAMBIA****Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

GEORGIA**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

Malaria: Limited malaria risk due exclusively to *P. vivax* exists focally from June to October inclusive in the eastern part of the country bordering Azerbaijan.

Recommended prevention in risk areas: **I**

GERMANY**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

GHANA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from all travellers over 9 months of age.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

GIBRALTAR**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

GREECE**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

GREENLAND**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

GRENADA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

GUADELOUPE**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

GUAM**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

GUATEMALA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. vivax* exists throughout the year below 1500 m. There is moderate risk in the departments of Escuintla and Izabal, and low risk in Alta Verapaz, Baja Verapaz, Chiquimala, Petén, Suchitépéquez and Zacapa.

Recommended prevention in risk areas: **II**

GUINEA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine reported.

Recommended prevention: **IV**

GUINEA-BISSAU**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from all travellers over 1 year of age

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention: **IV**

GUYANA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from all travellers over one year of age arriving from countries with risk of yellow fever transmission with the exception of Argentina, Paraguay, Suriname and Trinidad and Tobago.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk – *P. vivax* (44%), *P. falciparum* (45%), mixed infections (10%) – is high throughout the year in all parts of the interior. Risk is highest in Regions 1, 2, 4, 7, 8, 9 and 10, and very low in Regions 3, 5 and 6. Sporadic cases of malaria have been reported from the densely populated coastal belt. Chloroquine-resistant *P. falciparum* reported.

Recommended prevention in risk areas: **IV**

HAITI**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due exclusively to *P. falciparum* exists throughout the year in the whole country. No *P. falciparum* resistance to chloroquine reported.

Recommended prevention: **II; or IV if chloroquine is not available pre-travel**

HONDURAS

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due to *P. vivax* (85%), *P. falciparum* (14%) and mixed infections (1%). *P. vivax* transmission risk is high in the departments of Gracias a Dios and Islas de la Bahía, and moderate in Atlántida, Colón, Olancho, Valle and Yoro. *P. falciparum* transmission risk is high in Gracias a Dios, and a few cases are also reported in Atlántida, Colon, Islas de la Bahía, Olancho and Yoro.

Recommended prevention in risk areas: **II**

HONG KONG SPECIAL ADMINISTRATIVE REGION OF CHINA see CHINA, HONG KONG SAR

HUNGARY

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

ICELAND

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

INDIA

Yellow fever

Country requirement: anyone (except infants up to the age of 9 months) arriving by air or sea without a yellow fever vaccination certificate is detained in isolation for up to 6 days if that person (i) arrives within 6 days of departure from an area with risk of yellow fever transmission, or

(ii) has been in such an area in transit (except those passengers and members of the crew who, while in transit through an airport situated in an area with risk of yellow fever transmission, remained within the airport premises during the period of their entire stay and the Health Officer agrees to such exemption), or (iii) arrives on a ship that started from or touched at any port in an area with risk of yellow fever transmission up to 30 days before its arrival in India, unless such a ship has been disinfected in accordance with the procedure laid down by WHO, or (iv) arrives on an aircraft that has been in an area with risk of yellow fever transmission and has not been disinfected in accordance with the Indian Aircraft Public Health Rules, 1954, or as recommended by WHO.

The following are regarded as countries and areas with risk of yellow fever transmission:

Africa: Angola, Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Mali, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Sudan, Togo, Uganda, Zambia.

America: Bolivarian Republic of Venezuela, Brazil, Colombia, Ecuador, French Guiana, Guyana, Panama, Peru, Plurinational State of Bolivia, Suriname and Trinidad and Tobago.

Note. When a case of yellow fever is reported from any country, that country is regarded by the Government of India as a country with risk of yellow fever transmission and is added to the above list.

Yellow fever vaccine recommendations: no

Malaria: Malaria risk exists throughout the year in the whole country at altitudes below 2000 m, with overall 40–50% of cases due to *P. falciparum* and the remainder due to *P. vivax*. There is no transmission in parts of the states of Himachal Pradesh, Jammu and Kashmir, and Sikkim. Risk of falciparum malaria and drug resistance are relatively higher in the north-eastern states, in the Andaman and Nicobar Islands, Chhattisgarh, Gujarat, Jharkhand, Karnataka (with the exception of the city of Bangalore) Madhya Pradesh, Maharashtra (with the exception of the cities of Mumbai, Nagpur, Nasik and Pune), Orissa and

West Bengal (with the exception of the city of Kolkata). *P. falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention in risk areas: **III**; in the listed higher risk areas: **IV**

INDONESIA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 9 months of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk exists throughout the year in all areas of the five eastern provinces of East Nusa Tenggara, Maluku, North Maluku, Papua and West Papua. In other parts of the country, there is malaria risk in some districts, except in Jakarta Municipality, in big cities, and within the areas of the main tourist resorts. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. *P. vivax* resistant to chloroquine reported. Human *P. knowlesi* infection reported in the province of Kalimantan.

Recommended prevention in risk areas: **IV**

IRAN (ISLAMIC REPUBLIC OF)

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due to *P. vivax* and *P. falciparum* exists from March to November inclusive in rural areas of the provinces of Hormozgan and Kerman (tropical part) and the southern part of Sistan-Baluchestan. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention in risk areas: **IV**

IRAQ

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Limited malaria risk due exclusively to *P. vivax* – may exist from May to November inclusive in areas in the north below 1500 m (Duhok, Erbil and Sulaimaniya provinces). No indigenous cases reported since 2009.

Recommended prevention in risk areas: **I**

IRELAND

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

ISRAEL

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

ITALY

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

JAMAICA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Very limited risk of *P. falciparum* malaria may occur in the Kingston St Andrew Parish.

Recommended prevention in risk areas: **I**

JAPAN

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

JORDAN

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

KAZAKHSTAN**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

KENYA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: yes

Recommended for all travellers aged 9 months or over, except as mentioned below.

*Generally not recommended*¹ for travellers whose itineraries are limited to the following areas: the entire North Eastern Province; the states of Kilifi, Kwale, Lamu, Malindi and Tanariver in the Coastal Province; and the cities of Nairobi and Mombasa (Map).

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Normally, there is little risk in the city of Nairobi and in the highlands (above 2500 m) of Central, Eastern, Nyanza, Rift Valley and Western provinces. Resistance to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention: **IV**

KIRIBATI**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

¹ Yellow fever vaccination is *generally not recommended* in areas where there is low potential for exposure to yellow fever virus. However, vaccination might be considered for a small subset of travellers to these areas, who are at increased risk of exposure to yellow fever virus (e.g. prolonged travel, extensive exposure to mosquitoes, inability to avoid mosquito bites). When considering vaccination, any traveller must take into account the risk of being infected with yellow fever virus, country entry requirements, as well as individual risk factors (e.g. age, immune status) for serious vaccine-associated adverse events.

KOREA, REPUBLIC OF, see REPUBLIC OF KOREA**KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF, see DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA****KUWAIT****Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

KYRGYZSTAN**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due exclusively to *P. vivax* exists from June to October inclusive in some southern and western parts of the country, mainly in areas bordering Tajikistan and Uzbekistan (Batken, Jalal-Abad and Osh regions) and in the outskirts of Bishkek.

Recommended prevention in risk areas: **I**

LAO PEOPLE'S DEMOCRATIC REPUBLIC**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country except in Vientiane. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention in risk areas: **IV**

LATVIA**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

LEBANON**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 6 months

of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

LESOTHO

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 9 months of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

LIBERIA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from all travellers over 1 year of age.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

LIBYAN ARAB JAMAHIRIYA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

LIECHTENSTEIN

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

LITHUANIA

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

LUXEMBOURG

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

MACAO SPECIAL ADMINISTRATIVE REGION OF CHINA see CHINA, MACAO SAR

MADAGASCAR

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country, with the highest risk in coastal areas. Resistance to chloroquine reported.

Recommended prevention: **IV**

MADEIRA ISLANDS see PORTUGAL

MALAWI

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

MALAYSIA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk exists only in limited foci in the deep hinterland. Urban and coastal areas are free from malaria. *P. falciparum* resistant to chloroquine and sulfadoxine–pyrimethamine reported. Human *P. knowlesi* infection reported. *P. vivax* resistance to chloroquine reported.

Recommended prevention in risk areas: **IV**

MALDIVES**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

MALI**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from all travellers over 1 year of age.

Yellow fever vaccine recommendation: yes

Recommended for all travellers aged 9 months or over going to areas south of the Sahara Desert (Map).

Not recommended for travellers whose itineraries are limited to areas in the Sahara Desert (Map).

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention: **IV**

MALTA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 9 months of age arriving from countries with risk of yellow fever transmission. If indicated on epidemiological grounds, infants under 9 months of age are subject to isolation or surveillance if coming from an area with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

MARSHALL ISLANDS**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

MARTINIQUE**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

MAURITANIA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: yes:

Recommended for all travellers aged 9 months or over travelling to areas south of the Sahara Desert (Map).

Not recommended for travellers whose itineraries are limited to areas in the Sahara Desert (Map).

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country, except in northern areas (Dakhlet-Nouadhibou and Tiris-Zemour). In Adrar and Inchiri there is malaria risk during the rainy season (from July to October inclusive). Resistance to chloroquine reported.

Recommended prevention in risk areas: **IV**

MAURITIUS**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

MAYOTTE (FRENCH TERRITORIAL COLLECTIVITY)**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year. Resistance to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention: **IV**

MEXICO**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due almost exclusively to *P. vivax* exists throughout the year in some rural

areas that are not often visited by tourists. There is moderate risk in some localities in the states of Chiapas and Oaxaca; very low-risk localities are also found in the states of Chihuahua, Durango, Nayarit, Quintana Roo and Sinaloa.

Recommended prevention in risk areas: **II**

MICRONESIA (FEDERATED STATES OF)

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

MONACO

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

MONGOLIA

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

MONTENEGRO

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

MONTSERAT

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

MOROCCO

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

MOZAMBIQUE

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention: **IV**

MYANMAR (FORMERLY BURMA)

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission. Nationals and residents of Myanmar are required to possess certificates of vaccination on their departure to an area with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year at altitudes below 1000 m, excluding the main urban areas of Mandalay and Yangon. Risk is highest in remote rural, hilly and forested areas. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. Mefloquine resistance reported in Kayin state and the eastern part of Shan state. *P. vivax* resistance to chloroquine reported. Human *P. knowlesi* infection reported.

Recommended prevention in risk areas: **IV**

NAMIBIA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission. The countries, or parts of countries, included in the endemic zones in Africa and South America are regarded as areas with risk of yellow fever transmission. Travellers who are on scheduled flights that originated outside the countries with risk of yellow fever transmission, but who have been in transit through these areas, are not required to possess a certificate provided that they remained at the scheduled airport or in the adjacent town during transit. All travellers whose flights originated in countries with risk of yellow fever transmission or who have been in transit through these countries on unscheduled flights are required to possess a certificate. The certificate is not insisted upon in the case of children under 1 year of age, but such infants may be subject to surveillance.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists from November to June inclusive in the following regions: Ohangwena, Omaheke, Omusati, Oshana, Oshikoto and Otjozondjupa. Risk exists throughout the year along the Kunene river and in Caprivi and Kavango regions. Resistance to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention in risk areas: **IV**

NAURU

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

NEPAL

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. vivax* exists throughout the year in rural areas of the 20 Terai districts bordering India, with occasional outbreaks of *P. falciparum* from July to October inclusive. Seasonal transmission of *P. vivax* takes place in 45 districts of the inner Terai and mid-hills. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention in risk areas: **III**

NETHERLANDS

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

NETHERLANDS ANTILLES (BONAIRE, CURAÇAO, SABA, ST EUSTASIUS, ST MARTIN)

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 6 months of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

NEW CALEDONIA AND DEPENDENCIES

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Note. In the event of an epidemic threat to the territory, a specific vaccination certificate may be required.

Yellow fever vaccine recommendation: no

NEW ZEALAND

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

NICARAGUA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Low malaria risk due predominantly to *P. vivax* (85%) exists throughout the year in a number of municipalities in Chinandega, León, Managua, Matagalpa, Región Autónoma del Atlántico Norte and Región Autónoma del Atlántico Sur. Cases are reported from other municipalities in the central and western departments but the risk in these areas is considered to be very low or negligible. No chloroquine-resistant *P. falciparum* reported.

Recommended prevention in risk areas: **II**

NIGER

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from all travellers over 1 year of age and recommended for travellers departing Niger.

Yellow fever vaccine recommendation: yes:

Recommended for all travellers aged 9 months or over travelling to areas south of the Sahara Desert (Map).

Not recommended for travellers whose itineraries are limited to areas in the Sahara Desert (Map).

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Chloroquine-resistant *P. falciparum* reported.

Recommended prevention: **IV**

NIGERIA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention: **IV**

NIUE

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 9 months of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

NORFOLK ISLAND *see* AUSTRALIA

NORTHERN MARIANA ISLANDS

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

NORWAY

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

OMAN

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Sporadic transmission of *P. falciparum* and *P. vivax* may occur subsequent to international importations of parasites. In 2010, local outbreaks of *P. falciparum* and *P. vivax* were reported in North Sharqiya region.

Recommended prevention: **I** (mosquito bite prevention only)

PAKISTAN

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from any part of a country in which there is a risk of yellow fever transmission; infants under 6 months of age are exempt if the mother's vaccination certificate shows that she was vaccinated before the birth of the child.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk – *P. vivax* and *P. falciparum* – exists throughout the year in the whole country below 2000 m. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention in risk areas: **IV**

PALAU

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

PANAMA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from all travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccination recommendation: yes:

Recommended for all travellers aged 9 months or over travelling to all mainland areas east of the Canal Zone, (the entire comarcas of Emberá and Kuna Yala, the province of Darién and areas of the provinces of Colón and Panama that are east of the Canal Zone) (Map).

*Not recommended*¹ for travellers whose itineraries are limited to areas west of the canal zone, the city

¹ Yellow fever vaccination is *generally not recommended* in areas where there is low potential for exposure to yellow fever virus. However, vaccination might be considered for a small subset of travellers to these areas, who are at increased risk of exposure to yellow fever virus (e.g. prolonged travel, extensive exposure to mosquitoes, inability to avoid mosquito bites). When considering vaccination, any traveller must take into account the risk of being infected with yellow fever virus, country entry requirements, as well as individual risk factors (e.g. age, immune status) for serious vaccine-associated adverse events.

of Panama, the canal zone itself, and the Balboa and San Blas Islands (Map).

Malaria: Malaria risk due predominantly to *P. vivax* (99%) exists throughout the year in provinces and comarcas along the Atlantic coast and the borders with Costa Rica and Colombia: Bocas del Toro, Chiriquí, Colón, Darién, Kuna Yala, Ngäbe Buglé, Panama and Veraguas. In Panama City, in the Canal Zone, and in the other provinces there is no or negligible risk of transmission. Chloroquine-resistant *P. falciparum* has been reported in Darién and San Blas.

Recommended prevention in risk areas: **II**; in eastern endemic areas: **IV**

PAPUA NEW GUINEA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country below 1800 m. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. *P. vivax* resistant to chloroquine reported.

Recommended prevention in risk areas: **IV**

PARAGUAY

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: yes

Recommended for all travellers aged 9 months or over, except as mentioned below.

*Generally not recommended*¹ for travellers whose itineraries are limited to the city of Asunción.

¹ Yellow fever vaccination is *generally not recommended* in areas where there is low potential for exposure to yellow fever virus. However, vaccination might be considered for a small subset of travellers to these areas, who are at increased risk of exposure to yellow fever virus (e.g. prolonged travel, extensive exposure to mosquitoes, inability to avoid mosquito bites). When considering vaccination, any traveller must take into account the risk of being infected with yellow fever virus, country entry requirements, as well as individual risk factors (e.g. age, immune status) for serious vaccine-associated adverse events.

Malaria: Malaria risk due almost exclusively to *P. vivax* is moderate in certain municipalities of the departments of Alto Paraná and Caaguazú. In other departments there is no or negligible transmission risk.

Recommended prevention in risk areas: **II**

PERU

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: yes

Recommended for all travellers aged 9 months or over going to the following areas at altitudes below 2300 m: the entire regions of Amazonas, Loreto, Madre de Dios, San Martín and Ucayali, and designated areas (Map) of the following regions: far-north-eastern Ancash; northern Apurímac; northern and north-eastern Ayacucho; northern and eastern Cajamarca; north-western, northern, and north-eastern Cusco; far-northern Huancaavelica; northern, central and eastern Huánuco; northern and eastern Junín; eastern La Libertad; central and eastern Pasco; eastern Piura; and northern Puno.

*Generally not recommended*¹ for travellers whose itineraries are limited to the following areas west of the Andes: the entire regions of Lambayeque and Tumbes and the designated areas (Map) of western Piura and west-central Cajamarca.

Not recommended for travellers whose itineraries are limited to the following areas: all areas above 2300 m altitude, areas west of the Andes not listed above, the cities of Cuzco and Lima, Machu Picchu, and the Inca Trail (Map).

Malaria: Malaria risk – *P. vivax* (89%), *P. falciparum* (11%) – exists throughout the year in rural areas at altitudes below 2000 m. The 23 highest-risk districts are concentrated in the regions of Ayacucho, Junín, Loreto, Madre de Dios, Piura, San Martín and Tumbes. Ninety-nine percent of *P. falciparum* cases are reported from Loreto, which is situated in the Amazon and contains 18 of the highest-risk districts in the country. *P. falciparum* resistance to chloroquine and sulfadoxine-pyrimethamine reported. *P. vivax* resistance to chloroquine reported.

Recommended prevention in risk areas: **II** in *P. vivax* risk areas; **IV** in Loreto

PHILIPPINES**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk exists throughout the year in areas below 600 m, except in the 22 provinces of Aklan, Albay, Benguet, Biliran, Bohol, Camiguin, Capiz, Catanduanes, Cavite, Cebu, Guimaras, Iloilo, Northern Leyte, Southern Leyte, Marinduque, Masbate, Eastern Samar, Northern Samar, Western Samar, Siquijor, Sorsogon, Surigao Del Norte and metropolitan Manila. No risk is considered to exist in urban areas or in the plains. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. Human *P. knowlesi* infection reported in the province of Palawan.

Recommended prevention in risk areas: **IV**

PITCAIRN**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

POLAND**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

PORTUGAL**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

PUERTO RICO**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

QATAR**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

REPUBLIC OF KOREA**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

Malaria: Limited malaria risk due exclusively to *P. vivax* exists mainly in the northern areas of Gangwon-do and Gyeonggi-do Provinces and Incheon City (towards the Demilitarized Zone or DMZ).

Recommended prevention in risk areas: **I**

REPUBLIC OF MOLDOVA**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

REUNION**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

ROMANIA**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

RUSSIAN FEDERATION**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 9 months of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Very limited malaria risk due exclusively to *P. vivax* may exist in areas under influence of intense migration from southern countries in the Commonwealth of Independent States.

Recommended prevention: **none**

RWANDA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from all travellers over 1 year of age.

Yellow fever vaccine recommendation: yes

COUNTRY LIST: YELLOW FEVER VACCINATION REQUIREMENTS AND RECOMMENDATIONS

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

SAINT HELENA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

SAINT KITTS AND NEVIS

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

SAINT LUCIA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

SAINT PIERRE AND MIQUELON

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

SAINT VINCENT AND THE GRENADINES

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

SAMOA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year

of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

SAN MARINO

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

SAO TOME AND PRINCIPE

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from all travellers over 1 year of age.

Yellow fever vaccine recommendation: no

*Generally not recommended*¹ for travellers to Sao Tome and Principe.

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year. Chloroquine-resistant *P. falciparum* reported.

Recommended prevention: **IV**

SAUDI ARABIA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from all travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Limited malaria risk due predominantly to *P. falciparum* exists mainly from September to January inclusive in foci along the southern border with Yemen (except in the high altitude areas of Asir Province). No risk in Mecca or Medina cities. Chloroquine-resistant *P. falciparum* reported.

Recommended prevention in risk areas: **IV**

SENEGAL

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 9 months

¹ Yellow fever vaccination is *generally not recommended* in areas where there is low potential for exposure to yellow fever virus. However, vaccination might be considered for a small subset of travellers to these areas, who are at increased risk of exposure to yellow fever virus (e.g. prolonged travel, extensive exposure to mosquitoes, inability to avoid mosquito bites). When considering vaccination, any traveller must take into account the risk of being infected with yellow fever virus, country entry requirements, as well as individual risk factors (e.g. age, immune status) for serious vaccine-associated adverse events.

of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. There is less risk from January to June inclusive in the central western regions. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

SERBIA

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

SEYCHELLES

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

SIERRA LEONE

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from all travellers.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

SINGAPORE

Yellow fever

Country requirement: certificates of vaccination are required from travellers over 1 year of age who, within the preceding 6 days, have been in or passed through any country with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: One case of human *P. knowlesi* infection reported. Recommended prevention in *P. knowlesi* risk areas: **I**

SLOVAKIA

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

SLOVENIA

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

SOLOMON ISLANDS

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year except in a few outlying eastern and southern islets. *P. falciparum* resistant to chloroquine and sulfadoxine–pyrimethamine reported. *P. vivax* resistance to chloroquine reported.

Recommended prevention in risk areas: **IV**

SOMALIA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: in general, no:

*Generally not recommended*¹ for travellers going to the following regions: Bakool, Banaadir, Bay, Gado, Galgadud, Hiran, Lower Juba, Middle Juba, Lower Shabelle and Middle Shabelle (Map).

Not recommended for all other areas not listed above.

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Risk is relatively low and seasonal in the north. It is higher in the central and southern

¹ Yellow fever vaccination is *generally not recommended* in areas where there is low potential for exposure to yellow fever virus. However, vaccination might be considered for a small subset of travellers to these areas, who are at increased risk of exposure to yellow fever virus (e.g. prolonged travel, extensive exposure to mosquitoes, inability to avoid mosquito bites). When considering vaccination, any traveller must take into account the risk of being infected with yellow fever virus, country entry requirements, as well as individual risk factors (e.g. age, immune status) for serious vaccine-associated adverse events.

parts of the country. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

SOUTH AFRICA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the low-altitude areas of Mpumalanga Province (including the Kruger National Park), Northern Province and north-eastern KwaZulu-Natal as far south as the Tugela River. Risk is highest from October to May inclusive. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention in risk areas: **IV**

SPAIN

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

SRI LANKA

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Limited malaria risk – *P. vivax* (88%), *P. falciparum* (12%) – exists throughout the year, except in the districts of Colombo, Galle, Gampaha, Kalutara, Matara and Nuwara Eliya. *P. falciparum* resistant to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention in risk areas: **III**

SUDAN

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 9 months of age arriving from countries with risk of yellow fever transmission. A certificate may be required from travellers departing Sudan.

Yellow fever vaccine recommendation: yes

Recommended for all travellers aged 9 months or over travelling to areas south of the Sahara desert (Map).

Not recommended for travellers whose itineraries are limited to areas in the Sahara desert and the city of Khartoum (Map).

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Risk is low and seasonal in the north. It is higher in the central and southern parts of the country. Malaria risk on the Red Sea coast is very limited. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

SURINAME

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk – *P. falciparum* (40%), *P. vivax* (58%), mixed infections 2% – continues to decrease in recent years. It occurs throughout the year in the interior of the country beyond the coastal savannah area, with highest risk mainly along the eastern border and in gold-mining areas. In Paramaribo city and the other seven coastal districts, transmission risk is low or negligible. *P. falciparum* resistant to chloroquine, sulfadoxine–pyrimethamine and mefloquine reported. Some decline in quinine sensitivity also reported.

Recommended prevention in risk areas: **IV**

SWAZILAND

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in all low veld areas (mainly Big Bend, Mhlume, Simunye and Tshaneni). Chloroquine-resistant *P. falciparum* reported.

Recommended prevention in risk areas: **IV**

SWEDEN**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

SWITZERLAND**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

SYRIAN ARAB REPUBLIC**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 6 months of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Very limited malaria risk due exclusively to *P. vivax* may exist from May to October inclusive in foci along the northern border, especially in rural areas of El Hasaka Governorate (no indigenous cases reported since 2005).

Recommended prevention: **none**

TAJKIKISTAN**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. vivax* exists from June to October inclusive, particularly in southern areas (Khatlon Region), and in some central (Dushanbe), western (Gorno-Badakhshan), and northern (Leninabad Region) areas. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported in the southern part of the country.

Recommended prevention in risk areas: **III**

**TANZANIA, UNITED REPUBLIC OF,
see UNITED REPUBLIC OF TANZANIA****THAILAND****Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 9 months of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk exists throughout the year in rural, especially forested and hilly, areas of the whole country, mainly towards the international borders, including the southernmost provinces. There is no risk in cities (e.g. Bangkok, Chiang Mai city, Pattaya), Samui island and the main tourist resorts of Phuket island. However, there is a risk in some other areas and islands. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported. Resistance to mefloquine and to quinine reported from areas near the borders with Cambodia and Myanmar. *P. vivax* resistance to chloroquine reported. Human *P. knowlesi* infection reported.

Recommended prevention in risk areas: **I**; in areas near Cambodia and Myanmar borders: **IV**

**THE FORMER YUGOSLAV REPUBLIC
OF MACEDONIA****Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

TIMOR-LESTE**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. *P. falciparum* resistant to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention: **IV**

TOGO**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from all travellers over 1 year of age.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. Chloroquine-resistant *P. falciparum* reported.

Recommended prevention: **IV**

TOKELAU

(Non-self-governing territory of New Zealand)
Same requirements as New Zealand.

TONGA**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

TRINIDAD AND TOBAGO**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: yes

Recommended for all travellers aged 9 months or over travelling to the island of Trinidad, except as mentioned below.

*Generally not recommended*¹ for travellers whose itineraries are limited to the urban areas of the Port of Spain, cruise ship passengers who do not disembark from the ship, and aeroplane passengers in transit.

Not recommended for travellers whose itineraries are limited to the island of Tobago.

TUNISIA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

TURKEY**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

Malaria: Limited malaria risk due exclusively to *P. vivax* exists from May to October inclusive in

¹ Yellow fever vaccination is *generally not recommended* in areas where there is low potential for exposure to yellow fever virus. However, vaccination might be considered for a small subset of travellers to these areas, who are at increased risk of exposure to yellow fever virus (e.g. prolonged travel, extensive exposure to mosquitoes, inability to avoid mosquito bites). When considering vaccination, any traveller must take into account the risk of being infected with yellow fever virus, country entry requirements, as well as individual risk factors (e.g. age, immune status) for serious vaccine-associated adverse events.

the south-eastern part of the country. There is no malaria risk in the main tourist areas in the west and south-west of the country.

Recommended prevention in risk areas: **II**

TURKMENISTAN**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

TUVALU**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

UGANDA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: yes

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country, including the main towns of Fort Portal, Jinja, Kampala, Kigezi and Mbale. Resistance to chloroquine and sulfadoxine-pyrimethamine reported.

Recommended prevention: **IV**

UKRAINE**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

UNITED ARAB EMIRATES**Yellow fever**

Country requirement: no

Yellow fever vaccine recommendation: no

UNITED REPUBLIC OF TANZANIA**Yellow fever**

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: in general, no:

*Generally not recommended*¹ for travellers to United Republic of Tanzania.

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country below 1800 m. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention in risk areas: **IV**

UNITED KINGDOM (WITH CHANNEL ISLANDS AND ISLE OF MAN)

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

UNITED STATES OF AMERICA

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

URUGUAY

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

UZBEKISTAN

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

Malaria: Limited malaria risk due exclusively to *P. vivax* exists from June to October inclusive in some villages located in the southern and eastern parts of the country bordering Afghanistan, Kyrgyzstan and Tajikistan.

Recommended prevention in risk areas: **I**

¹ Yellow fever vaccination is *generally not recommended* in areas where there is low potential for exposure to yellow fever virus. However, vaccination might be considered for a small subset of travellers to these areas, who are at increased risk of exposure to yellow fever virus (e.g. prolonged travel, extensive exposure to mosquitoes, inability to avoid mosquito bites). When considering vaccination, any traveller must take into account the risk of being infected with yellow fever virus, country entry requirements, as well as individual risk factors (e.g. age, immune status) for serious vaccine-associated adverse events.

VANUATU

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

Malaria: Low to moderate malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country. *P. falciparum* resistant to chloroquine and sulfadoxine–pyrimethamine reported. *P. vivax* resistant to chloroquine reported.

Recommended prevention: **IV**

VENEZUELA (BOLIVARIAN REPUBLIC OF)

Yellow fever

Country requirement: no.

Yellow fever vaccine recommendation: yes

Recommended for all travellers aged 9 months or over, except as mentioned below.

*Generally not recommended*¹ for travellers whose itineraries are limited to the following areas: the entire states of Aragua, Carabobo, Miranda, Vargas and Yaracuy, and the Distrito Federal (Map).

Not recommended for travellers whose itineraries are limited to the following areas: the entire states of Falcon and Lara, the peninsular section of the Paez municipality of Zulia Province, Margarita Island, and the cities of Caracas and Valencia (Map).

Malaria: Malaria risk due to *P. vivax* (75%) and *P. falciparum* (25%) is moderate to high throughout the year in some rural areas of Amazonas, Anzoátegui, Bolívar and Delta Amacuro states. There is low risk in Apure, Monagas, Sucre and Zulia. Risk of *P. falciparum* malaria is mostly restricted to municipalities in jungle areas of Amazonas (Alto Orinoco, Atabapo, Atures, Autana, Manapiare) and Bolívar (Cedeño, El Callao, Heres, Gran Sabana, Piar, Raul Leoni, Rocío, Sifontes and Sucre). *P. falciparum* resistant to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **II** in *P. vivax* risk areas; **IV** in *P. falciparum* risk areas

VIET NAM

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists in the whole country, excluding urban centres, the Red River delta, the Mekong delta, and the coastal plain areas of central Viet Nam. High-risk areas are the highland areas below 1500 m south of 18° N, notably in the four central highlands provinces Dak Lak, Dak Nong, Gia Lai and Kon Tum, Binh Phuoc province, and the western parts of the coastal provinces Khanh Hoa, Ninh Thuan, Quang Nam and Quang Tri. Resistance to chloroquine, sulfadoxine–pyrimethamine and mefloquine reported.

Recommended prevention in risk areas: **IV**

VIRGIN ISLANDS (USA)

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

WAKE ISLAND

(US territory)

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: no

YEMEN

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers over 1 year of age arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year, but mainly from September to February inclusive, in the whole country below 2000 m. There is no risk in Sana'a city. Malaria risk on Socotra Island

is very limited. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention in risk areas: **IV**;
Socotra Island: **I**

ZAIRE see DEMOCRATIC REPUBLIC OF THE CONGO

ZAMBIA

Yellow fever

Country requirement: no

Yellow fever vaccine recommendation: in general, no

*Generally not recommended*¹ for travellers going to the following areas: the entire North West and Western provinces

Not recommended in all other areas not listed above.

Malaria: Malaria risk due predominantly to *P. falciparum* exists throughout the year in the whole country, including Lusaka. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention: **IV**

ZIMBABWE

Yellow fever

Country requirement: a yellow fever vaccination certificate is required from travellers arriving from countries with risk of yellow fever transmission.

Yellow fever vaccine recommendation: no

Malaria: Malaria risk due predominantly to *P. falciparum* exists from November to June inclusive in areas below 1200 m and throughout the year in the Zambezi valley. In Bulawayo and Harare, the risk is negligible. Resistance to chloroquine and sulfadoxine–pyrimethamine reported.

Recommended prevention in risk areas: **IV**

¹ Yellow fever vaccination is *generally not recommended* in areas where there is low potential for exposure to yellow fever virus. However, vaccination might be considered for a small subset of travellers to these areas, who are at increased risk of exposure to yellow fever virus (e.g. prolonged travel, extensive exposure to mosquitoes, inability to avoid mosquito bites). When considering vaccination, any traveller must take into account the risk of being infected with yellow fever virus, country entry requirements, as well as individual risk factors (e.g. age, immune status) for serious vaccine-associated adverse events.