**In which countries is dengue currently spreading, and what precautions should people take when travelling to those countries?**

In 2023, there were over 6 million cases and 6000 deaths globally due to dengue virus (DENV) infection, marking historic milestones for the virus. In the first 11 weeks of 2024, dengue cases surged to nearly 3 million with more than 780 deaths within the World Health Organization's (WHO) American region, encompassing over 40 countries, territories, or islands. Countries in the northern hemisphere are bracing themselves for another potentially record-breaking year as the onset of summer and the rainy season draws near, eliciting a sense of anticipation and surprise among observers.

Dengue fever, a mosquito-borne illness, is caused by four distinct serotypes of the dengue virus within the Flaviviridae family. Transmission to humans occurs through the bites of *Aedes aegypti (L.)* and *Aedes albopictus* (Skuse) mosquitoes. Currently, Dengue Virus (DENV) is endemic in over 125 countries, with reported cases to the World Health Organization (WHO) escalating annually. While the majority of infections (>80%) exhibit no or mild symptoms, leading to lifelong immunity against the specific serotype, reinfection with different serotypes, termed secondary or tertiary dengue infection, poses a significant risk of severe dengue, potentially culminating in fatal outcomes.

**Geographical hotspots:**

In 2023, two distinct hotspots of dengue virus circulation emerged: the South American region and the South and Southeast Asian region (see Table 1). Among the top five countries with DENV infections in 2023 were Brazil (2,569,746 cases), Bangladesh (321,179 cases), Peru (264,764 cases), Mexico (216,277 cases), and Burkina Faso (237,291 cases). Additionally, three European countries reported indigenous dengue cases in 2023: Italy (82 cases), France (43 cases), and Spain (3 cases), while the United States documented a record 156 locally transmitted cases of DENV.

Table 1: Worldwide dengue cases and deaths per million population

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Country | Continents | Cases per million | Deaths per million | References |
| Algeria | Africa | 0.00 | 0.00 | - |
| Angola | Africa | 0.09 | 0.00 | [1] |
| Benin | Africa | 0.00 | 0.00 | - |
| Botswana | Africa | 0.00 | 0.00 | - |
| Burkina Faso | Africa | 10736.81 | 31.72 | [1] |
| Burundi | Africa | 0.00 | 0.00 | - |
| Cameroon | Africa | 0.00 | 0.00 | - |
| Canary Islands | Africa | 0.00 | 0.00 | - |
| Cape Verde | Africa | 697.35 | 0.00 | [1] |
| Central African Republic | Africa | 0.00 | 0.00 | - |
| Chad | Africa | 78.12 | 0.06 | [1] |
| Chagos Archipelago | Africa | 0.00 | 0.00 | - |
| Comoros | Africa | 0.00 | 0.00 | - |
| Democratic Republic of the Congo | Africa | 0.00 | 0.00 | - |
| Djibouti | Africa | 0.00 | 0.00 | - |
| Egypt | Africa | 0.33 | 0.00 | [1] |
| Equatorial Guinea | Africa | 0.00 | 0.00 | - |
| Eritrea | Africa | 0.00 | 0.00 | - |
| Eswatini | Africa | 0.00 | 0.00 | - |
| Ethiopia | Africa | 178.49 | 0.14 | [1] |
| French Southern and Antarctic Lands | Africa | 0.00 | 0.00 | - |
| Gabon | Africa | 0.00 | 0.00 | - |
| Gambia | Africa | 0.00 | 0.00 | - |
| Ghana | Africa | 0.00 | 0.00 | - |
| Guinea | Africa | 0.07 | 0.00 | [1] |
| Guinea-Bissau | Africa | 0.00 | 0.00 | - |
| Ivory Coast | Africa | 141.75 | 0.98 | [1] |
| Kenya | Africa | 0.00 | 0.00 | - |
| Lesotho | Africa | 0.00 | 0.00 | - |
| Liberia | Africa | 0.00 | 0.00 | - |
| Libya | Africa | 0.00 | 0.00 | - |
| Madagascar | Africa | 0.00 | 0.00 | - |
| Madeira Islands | Africa | 0.00 | 0.00 | - |
| Malawi | Africa | 0.00 | 0.00 | - |
| Mali | Africa | 22.55 | 0.05 | [1] |
| Malta | Africa | 0.00 | 0.00 | - |
| Martinique | Africa | 35897.60 | 16.27 | [1] |
| Mauritania | Africa | 0.00 | 0.00 | - |
| Mauritius | Africa | 204.02 | 0.00 | [1] |
| Mayotte | Africa | 0.00 | 0.00 | - |
| Morocco | Africa | 0.00 | 0.00 | - |
| Mozambique | Africa | 0.00 | 0.00 | - |
| Namibia | Africa | 0.00 | 0.00 | - |
| Niger | Africa | 0.00 | 0.00 | - |
| Nigeria | Africa | 0.34 | 0.00 | [1] |
| Republic of Congo | Africa | 0.00 | 0.00 | - |
| Reunion | Africa | 0.00 | 0.00 | - |
| Rwanda | Africa | 0.00 | 0.00 | - |
| Saint Helena | Africa | 0.00 | 0.00 | - |
| Sao Tome and Principe | Africa | 74772.09 | 49.30 | [1] |
| Senegal | Africa | 14.69 | 0.06 | [1] |
| Seychelles | Africa | 0.00 | 0.00 | - |
| Sierra Leone | Africa | 0.00 | 0.00 | - |
| Somalia | Africa | 154.40 | 0.06 | [1] |
| South Africa | Africa | 0.00 | 0.00 | - |
| South Sudan | Africa | 0.00 | 0.00 | - |
| Sudan | Africa | 3.24 | 0.00 | [1] |
| Swaziland | Africa | 0.00 | 0.00 | - |
| Tanzania | Africa | 0.00 | 0.00 | - |
| Togo | Africa | 0.93 | 0.12 | [1] |
| Tunisia | Africa | 0.00 | 0.00 | - |
| Uganda | Africa | 0.00 | 0.00 | - |
| Western Sahara | Africa | 0.00 | 0.00 | - |
| Zambia | Africa | 0.00 | 0.00 | - |
| Zimbabwe | Africa | 0.00 | 0.00 | - |
| Antarctica | Antarctica | 0.00 | 0.00 | - |
| South Georgia | Antarctica | 0.00 | 0.00 | - |
| South Sandwich Islands | Antarctica | 0.00 | 0.00 | - |
| Afghanistan | Asia | 37.31 | 0.02 | [2] |
| Armenia | Asia | 0.00 | 0.00 | - |
| Azerbaijan | Asia | 0.00 | 0.00 | - |
| Bahrain | Asia | 0.00 | 0.00 | - |
| Bangladesh | Asia | 108592.85 | 576.47 | [3] |
| Bhutan | Asia | 0.00 | 0.00 | - |
| Brunei | Asia | 0.00 | 0.00 | - |
| Cambodia | Asia | 1682.32 | 2.35 | [4] |
| China | Asia | 12.47 | 0.00 | [4] |
| Christmas Island | Asia | 0.00 | 0.00 | - |
| Cocos Islands | Asia | 0.00 | 0.00 | - |
| Georgia | Asia | 0.00 | 0.00 | - |
| India | Asia | 66.92 | 0.06 | [3] |
| Indonesia | Asia | 255.70 | 1.83 | [3] |
| Iran | Asia | 0.00 | 0.00 | - |
| Iraq | Asia | 0.00 | 0.00 | - |
| Israel | Asia | 0.00 | 0.00 | - |
| Japan | Asia | 0.00 | 0.00 | - |
| Jordan | Asia | 0.00 | 0.00 | - |
| Kazakhstan | Asia | 0.00 | 0.00 | - |
| Kuwait | Asia | 0.00 | 0.00 | - |
| Kyrgyzstan | Asia | 0.00 | 0.00 | - |
| Laos | Asia | 4257.88 | 2.69 | [4] |
| Lebanon | Asia | 0.00 | 0.00 | - |
| Malaysia | Asia | 3318.56 | 2.50 | [4] |
| Maldives | Asia | 6180.62 | 0.00 | [3] |
| Mongolia | Asia | 0.00 | 0.00 | - |
| Myanmar | Asia | 92.35 | 0.43 | [3] |
| Nepal | Asia | 1706.11 | 0.67 | [3] |
| North Korea | Asia | 0.00 | 0.00 | - |
| Oman | Asia | 440.00 | 0.00 | [2] |
| Pakistan | Asia | 54.40 | 0.04 | [2] |
| Palestine | Asia | 0.00 | 0.00 | - |
| Philippines | Asia | 1469.57 | 5.05 | [4] |
| Qatar | Asia | 0.00 | 0.00 | - |
| Saudi Arabia | Asia | 84.56 | 0.00 | [2] |
| Siachen Glacier | Asia | 0.00 | 0.00 | - |
| Singapore | Asia | 1553.09 | 0.00 | [4] |
| South Korea | Asia | 0.00 | 0.00 | - |
| Sri Lanka | Asia | 3997.03 | 1.75 | [3] |
| Syria | Asia | 0.00 | 0.00 | - |
| Taiwan | Asia | 0.00 | 0.00 | - |
| Tajikistan | Asia | 0.00 | 0.00 | - |
| Thailand | Asia | 2180.09 | 2.33 | [3] |
| Timor-Leste | Asia | 0.00 | 0.00 | [3] |
| Turkey | Asia | 0.00 | 0.00 | - |
| Turkmenistan | Asia | 0.00 | 0.00 | - |
| United Arab Emirates | Asia | 0.00 | 0.00 | - |
| Uzbekistan | Asia | 0.00 | 0.00 | - |
| Vietnam | Asia | 1534.42 | 1.25 | [4] |
| Yemen | Asia | 485.12 | 0.00 | [2] |
| Albania | Europe | 0.00 | 0.00 | - |
| Andorra | Europe | 0.00 | 0.00 | - |
| Austria | Europe | 0.00 | 0.00 | - |
| Belarus | Europe | 0.00 | 0.00 | - |
| Belgium | Europe | 0.00 | 0.00 | - |
| Bosnia and Herzegovina | Europe | 0.00 | 0.00 | - |
| Bulgaria | Europe | 0.00 | 0.00 | - |
| Croatia | Europe | 0.00 | 0.00 | - |
| Cyprus | Europe | 0.00 | 0.00 | - |
| Czech Republic | Europe | 0.00 | 0.00 | - |
| Denmark | Europe | 0.00 | 0.00 | - |
| Estonia | Europe | 0.00 | 0.00 | - |
| Faroe Islands | Europe | 0.00 | 0.00 | - |
| Finland | Europe | 0.00 | 0.00 | - |
| France | Europe | 0.67 | 0.00 | [5] |
| Germany | Europe | 0.00 | 0.00 | - |
| Greece | Europe | 0.00 | 0.00 | - |
| Hungary | Europe | 0.00 | 0.00 | - |
| Iceland | Europe | 0.00 | 0.00 | - |
| Ireland | Europe | 0.00 | 0.00 | - |
| Isle of Man | Europe | 0.00 | 0.00 | - |
| Italy | Europe | 1.38 | 0.00 | [5] |
| Kosovo | Europe | 0.00 | 0.00 | - |
| Latvia | Europe | 0.00 | 0.00 | - |
| Liechtenstein | Europe | 0.00 | 0.00 | - |
| Lithuania | Europe | 0.00 | 0.00 | - |
| Luxembourg | Europe | 0.00 | 0.00 | - |
| Moldova | Europe | 0.00 | 0.00 | - |
| Monaco | Europe | 0.00 | 0.00 | - |
| Montenegro | Europe | 0.00 | 0.00 | - |
| Netherlands | Europe | 0.00 | 0.00 | - |
| North Macedonia | Europe | 0.00 | 0.00 | - |
| Norway | Europe | 0.00 | 0.00 | - |
| Poland | Europe | 0.00 | 0.00 | - |
| Portugal | Europe | 0.00 | 0.00 | - |
| Romania | Europe | 0.00 | 0.00 | - |
| Russia | Europe | 0.00 | 0.00 | - |
| San Marino | Europe | 0.00 | 0.00 | - |
| Serbia | Europe | 0.00 | 0.00 | - |
| Slovakia | Europe | 0.00 | 0.00 | - |
| Slovenia | Europe | 0.00 | 0.00 | - |
| Spain | Europe | 0.06 | 0.00 | [6] |
| Sweden | Europe | 0.00 | 0.00 | - |
| Switzerland | Europe | 0.00 | 0.00 | - |
| UK | Europe | 0.00 | 0.00 | - |
| Ukraine | Europe | 0.00 | 0.00 | - |
| Anguilla | North America | 63.38 | 0.00 | [6] |
| Antigua | North America | 2724.47 | 0.00 | [6] |
| Antilles | North America | 0.00 | 0.00 | - |
| Bahamas | North America | 52472.47 | 215.94 | [6] |
| Barbados | North America | 255467.20 | 0.00 | [6] |
| Barbuda | North America | 0.00 | 0.00 | - |
| Belize | North America | 238958.10 | 0.00 | [6] |
| Bermuda | North America | 1976.28 | 0.00 | [6] |
| Canada | North America | 0.00 | 0.00 | - |
| Cayman Islands | North America | 616.22 | 0.00 | [6] |
| Costa Rica | North America | 5946.69 | 0.00 | [6] |
| Cuba | North America | 0.00 | 0.00 | - |
| Dominica | North America | 0.00 | 0.00 | - |
| Dominican Republic | North America | 2290.64 | 2.07 | [6] |
| El Salvador | North America | 916.67 | 0.00 | [6] |
| Greenland | North America | 0.00 | 0.00 | - |
| Grenada | North America | 5039.16 | 8.02 | [6] |
| Grenadines | North America | 0.00 | 0.00 | - |
| Guadeloupe | North America | 29669.97 | 17.67 | [6] |
| Guatemala | North America | 4109.27 | 6.76 | [6] |
| Guernsey | North America | 0.00 | 0.00 | - |
| Haiti | North America | 0.00 | 0.00 | - |
| Honduras | North America | 3312.79 | 4.77 | [6] |
| Jamaica | North America | 2892.81 | 2.12 | [6] |
| Jersey | North America | 0.00 | 0.00 | - |
| Mexico | North America | 2193.78 | 1.60 | [6] |
| Montserrat | North America | 1351.96 | 0.00 | [6] |
| Nevis | North America | 0.00 | 0.00 | - |
| Nicaragua | North America | 26435.27 | 0.58 | [6] |
| Panama | North America | 4808.72 | 4.14 | [6] |
| Puerto Rico | North America | 381.45 | 0.00 | [6] |
| Saba | North America | 0.00 | 0.00 | - |
| Saint Barthelemy | North America | 67689.20 | 0.00 | [6] |
| Saint Kitts | North America | 5962.50 | 20.99 | [6] |
| Saint Lucia | North America | 333.96 | 0.00 | [6] |
| Saint Martin | North America | 39794.77 | 0.00 | [6] |
| Saint Pierre and Miquelon | North America | 0.00 | 0.00 | - |
| Saint Vincent | North America | 143.76 | 0.00 | [6] |
| Sint Eustatius | North America | 0.00 | 0.00 | [6] |
| Sint Maarten | North America | 22.70 | 0.00 | [6] |
| Trinidad | North America | 82.59 | 0.00 | [6] |
| Turks and Caicos Islands | North America | 4031.81 | 0.00 | [6] |
| USA | North America | 0.46 | 0.00 | [6] |
| Virgin Islands | North America | 224.76 | 0.00 | [6] |
| Azores | North America | 0.00 | 0.00 | - |
| American Samoa | Oceania | 0.00 | 0.00 | - |
| Australia | Oceania | 3221.67 | 0.00 | [4] |
| Cook Islands | Oceania | 0.00 | 0.00 | - |
| Fiji | Oceania | 0.00 | 0.00 | - |
| French Polynesia | Oceania | 0.00 | 0.00 | - |
| Guam | Oceania | 0.00 | 0.00 | - |
| Heard Island | Oceania | 0.00 | 0.00 | - |
| Kiribati | Oceania | 0.00 | 0.00 | - |
| Marshall Islands | Oceania | 0.00 | 0.00 | - |
| Micronesia | Oceania | 0.00 | 0.00 | - |
| Nauru | Oceania | 0.00 | 0.00 | - |
| New Caledonia | Oceania | 13.90 | 0.00 | [4] |
| New Zealand | Oceania | 0.00 | 0.00 | - |
| Niue | Oceania | 0.00 | 0.00 | - |
| Norfolk Island | Oceania | 0.00 | 0.00 | - |
| Northern Mariana Islands | Oceania | 0.00 | 0.00 | - |
| Palau | Oceania | 0.00 | 0.00 | - |
| Papua New Guinea | Oceania | 0.00 | 0.00 | - |
| Pitcairn Islands | Oceania | 0.00 | 0.00 | - |
| Samoa | Oceania | 0.00 | 0.00 | - |
| Solomon Islands | Oceania | 0.00 | 0.00 | - |
| Tonga | Oceania | 0.00 | 0.00 | - |
| Tuvalu | Oceania | 0.00 | 0.00 | - |
| Vanuatu | Oceania | 0.00 | 0.00 | - |
| Wallis and Futuna | Oceania | 0.00 | 0.00 | - |
| Argentina | South America | 2877.57 | 1.66 | [6] |
| Aruba | South America | 206.49 | 0.00 | [6] |
| Ascension Island | South America | 0.00 | 0.00 | - |
| Bolivia | South America | 609297.16 | 342.01 | [6] |
| Brazil | South America | 14408.98 | 5.43 | [6] |
| Chile | South America | 0.00 | 0.00 | - |
| Colombia | South America | 2558.09 | 1.75 | [6] |
| Curacao | South America | 0.00 | 0.00 | - |
| Ecuador | South America | 1564.13 | 1.85 | [6] |
| Falkland Islands | South America | 0.00 | 0.00 | - |
| French Guiana | South America | 9023.00 | 0.00 | [6] |
| Guyana | South America | 114.35 | 0.00 | [6] |
| Paraguay | South America | 9429.87 | 3.58 | [6] |
| Peru | South America | 8133.57 | 13.08 | [6] |
| Suriname | South America | 455.15 | 4.89 | [6] |
| Tobago | South America | 82.59 | 0.00 | [6] |
| Uruguay | South America | 14.01 | 0.00 | [6] |
| Venezuela | South America | 170.53 | 0.28 | [6] |



**Map:** Global country-wise map showing the number of dengue cases and deaths per million population in 2023

Table 2: Continent-wise dengue cases and deaths per million population

|  |  |  |  |
| --- | --- | --- | --- |
| Continents | Cases per million | Deaths per million | References |
| Africa | 122902.88 | 98.75 | [1] |
| Antarctica | 0.00 | 0.00 | - |
| Asia | 138001.37 | 597.45 | [2], [3], [4] |
| Europe | 2.11 | 0.00 | [5] |
| North America | 759913.79 | 284.67 | [6] |
| Oceania | 3235.57 | 0.00 | [4] |
| South America | 658335.49 | 374.53 | [6] |



**Map:** Global continent-wise map showing the number of dengue cases and deaths per million population in 2023

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