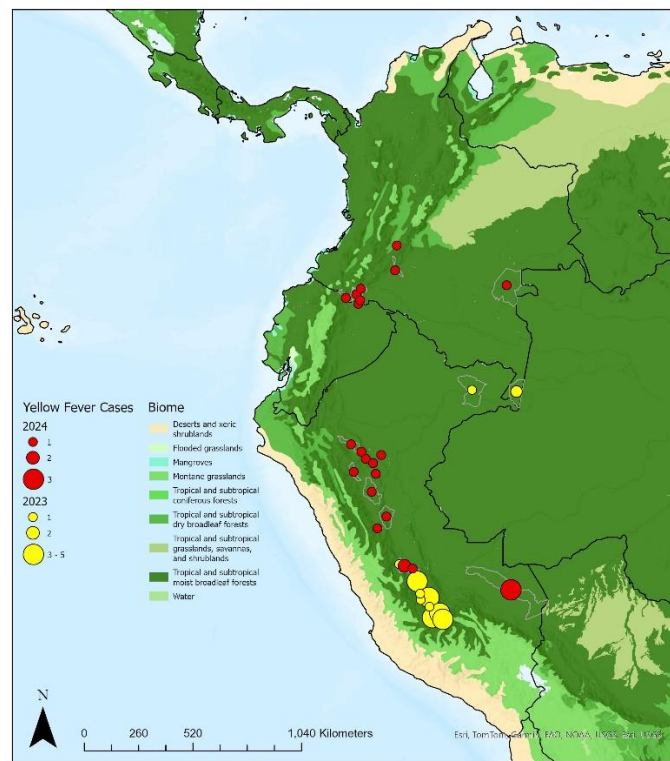


### Summary of the situation

Between the epidemiological week (EW) 1 and EW 29 of 2024, 33 confirmed cases of yellow fever, including 17 deaths, have been reported in the Region of the Americas. Cases have been reported in five countries in the Region of the Americas: the Plurinational State of Bolivia (four cases, including three deaths), Brazil (three cases, including two deaths), Colombia (eight cases, including five deaths), Guyana (two cases), and Peru (16 cases, including seven deaths) (1 - 7).

The cases were recorded along the Amazonian area of Peru, Ecuador, and Colombia following a south-to-north trajectory (**Figure 1**).

**Figure 1.** Geographic distribution of human yellow fever cases in Colombia, Ecuador, and Peru, 2023 and 2024.



**Source:** Adapted from data provided by countries or published by Ministries of Health and reproduced by PAHO/WHO (1-7).

**Suggested citation:** Pan American Health Organization / World Health Organization. Epidemiological Update. Yellow Fever in the Region of the Americas, 29 July 2024, Washington, D.C. PAHO/WHO. 2024

In **Bolivia**, between EW 1 and EW 29 of 2024, four cases of yellow fever have been confirmed (three by laboratory and one by clinical and epidemiological link), including three deaths. The cases correspond to males, with ages between 15 and 64 years, with onset of symptoms between 20 April and 8 June 2024. None of the cases had a history of vaccination against yellow fever and all had a history of exposure to wild and/or wooded areas due to occupational activities. The cases were probably exposed in the department of La Paz in the municipalities of Caranavi (n= 2 fatal cases), Guanay (n= 1 case), and the municipality of San Buenaventura (n=1 fatal case) (1).

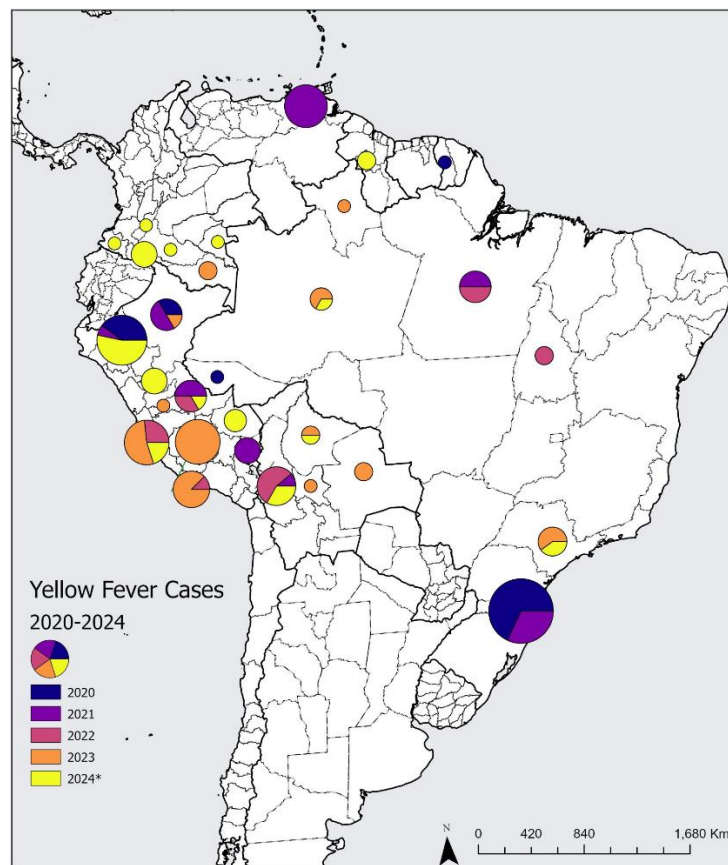
In **Brazil**, between EW 1 and EW 29 of 2024, three confirmed cases of yellow fever, including two deaths, were reported in the state of Amazonas (n= 1 fatal case) and in the state of São Paulo (n= 2 cases, including one death). One case corresponds to a 63-year-old male residing in Presidente Figueiredo, Amazonas state, with no history of yellow fever vaccination, with onset of symptoms on 5 February 2024 and died on 10 February 2024. The second case is a 50-year-old male, with no history of vaccination against yellow fever, residing in the region between Águas de Lindóia and Monte Sião, on the border between São Paulo and Minas Gerais, with onset of symptoms on 23 March 2024 and died on 29 March 2024. The third case corresponds to a 28-year-old male, with a history of yellow fever vaccination from 2017, in the municipality of Serra Negra, with onset of symptoms on 1 April 2024 and has recovered from the disease. All cases had a history of exposure to wild and/or forested areas, due to work activities and were laboratory confirmed by RT-PCR technique. During the yellow fever monitoring period (July 2023 to June 2024), as of EW 29 of 2024, 1,669 events involving dead non-human primates (monkeys) were reported. Of this total, ten (0.6%) were confirmed for yellow fever by laboratory criteria, six in the state of Rio Grande do Sul and four in the state of Minas Gerais (2, 3).

In **Colombia**, between EW 1 and EW 29 of 2024, eight confirmed cases of yellow fever were reported, including five deaths; seven of the cases were detected in laboratory and histopathology surveillance for dengue, confirmed through real-time PCR analysis. Cases have been reported in five departments: in the department of Caquetá, municipality of El Doncello (n=1 case); in the department of Huila, municipality of Campoalegre (n= 1 fatal case); in the department of Nariño, municipality of Ipiales (n= 1 case); in the department of Putumayo, municipalities of Orito (n=1 fatal case), San Miguel (n=1 fatal case), Valle del Guamuez (n= 1 fatal case) and Villagarzón (n= 1 fatal case); and in the department of Vaupés, municipality of Mitú (n= 1 case). The cases correspond to males with ages between 18 and 66 years, with onset of symptoms between 3 January and 2 July 2024, all cases had a history of exposure to wild or wooded areas, due to agricultural work activities, one case had a history of vaccination against yellow fever (4).

In **Guyana**, two laboratory-confirmed cases were identified during EW 11 of 2024. The first case was identified in Boa Vista, in the state of Roraima, Brazil; in a 17-year-old male, resident of the community of Massara, 100 km from Lethem, bordering Bonfim, Roraima, with no history of vaccination. The case works in a rural area of Siparuni (forest region) extracting trees and presented onset of symptoms on 29 February 2024. On 12 March 2024, the RT-PCR test confirmed the identification of the sylvatic yellow fever virus by the Central Public Health Laboratory of Roraima. The second case was identified during the process of investigation and testing after the identification of the index case. The case is a 21-year-old female, with no history of vaccination, resident of Siparuni, in the same logging camp as the first case. She initiated symptoms on 13 March 2024, with a positive result for yellow fever by RT-PCR test on 16 March 2024. Both cases recovered and as of the date of publication of this update, no new cases have been reported (5).

In **Peru**, between EW 1 and EW 29 of 2024, 16 cases of yellow fever were confirmed, including seven deaths. Cases were confirmed in the departments of Huánuco, district of Mariano Damaso Beraún (n= 1 fatal case); department of Junín, districts of Pichanaqui (n= 2 cases) and Satipo (n= 1 fatal case); department of Madre de Dios, district of Tambopata (n= 3 cases); department of San Martín, districts of Alto Biavo (n= 1 fatal case), El Porvenir (n= 1 fatal case), Lamas (n= 1 fatal case), Moyobamba (n= 1 fatal case), Pachiza (n= 1 case), Pinto Recodo (n= 1 case), Shamboyacu (n= 1 case) and Shapaja (n= 1 fatal case); and in the department of Ucayali, district of Padre Abad (n= 1 case). The cases correspond to 15 males with ages between 18 and 83 years, and one female aged 30 years, with onset of symptoms between 11 January and 12 July 2024. All cases had a history of exposure to wild and/or wooded areas, due to agricultural work activities, and no history of vaccination against yellow fever (6, 7).

**Figure 2.** Geographic distribution of human yellow fever cases in the Region of the Americas, from January 2020 to July 2024.



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 Map production:  
 PAHO Health Emergencies Department (PHE)  
 Health Emergencies Information and Risk Assessment Unit (HEIRAU)



**Source:** Adapted from data provided by countries or published by Ministries of Health and reproduced by PAHO/WHO (1-7).

## Recommendations for health authorities

In the Region of the Americas, the risk of yellow fever outbreaks is high. Although immunization is one of the most successful public health interventions to prevent this disease, most of the cases reported during 2024 do not have a history of yellow fever vaccination.

The Pan American Health Organization / World Health Organization (PAHO / WHO) encourages Member States with yellow fever risk areas to continue their efforts to strengthen surveillance and vaccination in endemic areas.

Countries need to ensure that vaccination coverage is uniformly greater than or equal to 95% and that health authorities ensure that they have a strategic stockpile that allows them to maintain routine vaccination and at the same time respond to possible outbreaks (8).

### Surveillance

Member States with risk areas for yellow fever are recommended to implement the following strategies to strengthen surveillance (9):

- Issue epidemiological alerts to municipalities and health services.
- Conduct an active search for persons with illness compatible with the definition of a suspected case and/or with acute febrile icteric syndrome in the areas where cases have occurred, as well as in the surrounding municipalities and the places visited by the cases in the period of 3 to 6 days prior to the onset of the disease.
- Conduct retrospective investigation of death certificates to detect cases compatible with the case definition.
- Intensify surveillance actions for epizootics in non-human primates, since the death of non-human primates can serve as an early warning to identify the circulation of yellow fever and indicate the need to intensify vaccination actions.

### Clinical management:

Yellow fever is a serious viral hemorrhagic disease that represents a challenge for the health professional. It requires early recognition of signs and symptoms, which are often nonspecific and may mimic other acute febrile syndromes (10).

Classic studies on the natural history of the disease show that it is clinically characterized by three phases: 1) *infection phase*, with elevated body temperature; 2) *remission phase*, with the presence of albuminuria; and 3) *toxic phase*, with hemorrhagic manifestations and signs and symptoms of acute liver failure, such as jaundice and hepatic encephalopathy (10).

There is still no specific treatment for yellow fever; therefore, early detection of suspected or confirmed cases, monitoring of vital signs, life support measures, and management of acute liver failure remain the recommended strategies for case management (10).

## Vaccination

The yellow fever vaccine is safe, affordable, and a single dose is sufficient to confer lifelong immunity and protection, without the need for booster doses (11).

PAHO/WHO reiterates its recommendations to national authorities (12):

- **Universal vaccination** in children in endemic countries at 12 months of age, administered simultaneously with measles, rubella and mumps (MMR) vaccine.
- Endemic countries with scheduled follow-up campaigns for measles/rubella in children under 5 years of age should take the opportunity to **integrate** yellow fever vaccination and administer these two vaccines simultaneously.
- Update the **risk assessment and the estimate of the susceptible population**, taking into account changes in ecological factors, migrations, vaccination coverage, socioeconomic activities, as well as the risk of urbanization, in order to guide vaccination and control measures.
- Vaccination of the population in at-risk areas, reaching at least **95% coverage** in residents of these areas (urban, rural, and jungle), through different strategies:
  - At the intramural level, make rational use of the vaccine and avoid missed opportunities for vaccination.
  - Extramurally, when yellow fever vaccine is more widely available, countries should conduct **catch-up campaigns**, identifying unvaccinated populations, occupational and professional risk groups, and age groups with suboptimal coverage, for example, young men who do not readily accept vaccination.
- Ensure vaccination of all travelers to endemic areas at least 10 days prior to travel.
- **To have a reserve inventory in the country** to maintain routine vaccination and to respond in a timely manner in case of outbreaks.

Recommendations for international travelers on yellow fever vaccination are available from: <https://www.who.int/publications/i/item/9789241580472> .

Guidance for laboratory diagnosis is the same as that published in PAHO's 7 December 2018 Epidemiological Update on yellow fever (11).

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## Useful links

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