

SCIENTIFIC REPORT

Surveillance of West Nile virus infections in humans and animals in Europe, monthly report – data submitted up to 5 November 2025

European Centre for Disease Prevention and Control (ECDC), European Food Safety Authority (EFSA)

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Epidemiological summary

In 2025, and as of 5 November 2025, 14 countries in Europe reported 1 096 locally acquired¹ human cases of WNV infection with known place of infection. The earliest and latest date of onset were on 19 May 2025 and 27 October 2025, respectively. Locally acquired cases have been reported by **Italy** (773), **Greece** (95), **Serbia** (62), **France** (59), **Romania** (49), **Spain** (31), **Hungary** (13), **Croatia** (4), **Albania** (3), **Germany** (2), **North Macedonia** (2), **Bulgaria** (1), **Kosovo*** (1) and **Türkiye** (1). In Europe, 95 deaths were reported.

Case numbers reported this year are above the average for the past decade (751). However, these figures remain lower than those seen in 2018, 2022, and 2024 – years when virus circulation was particularly intense, with over 1 300 cases reported by this point in the year. As the latter figures are based on consolidated data, while the current year's data remain delayed and incomplete, direct comparisons should be made with caution.

This year, Italy experienced a large outbreak, with 773 confirmed human infections, including 71 fatalities (case fatality rate of 9.2%, which is within the expected range). This is the highest number of human WNV infections reported by Italy at this time of the year. Most cases (265) were reported from the Lazio region (Latina, Roma and Frosinone), followed by 133 cases reported by the Campania region (Napoli, Caserta, Salerno and Avellino). Other regions are reporting similar numbers as in previous years.

As of 5 November 2025, locally acquired human cases of WNV infection have been reported in 155 regions across 14 countries. This compares with 187 regions across 18 countries during the same period in 2024. All 14 countries have previously reported human cases of WNV.

¹ Locally acquired cases refer to cases acquired within the reporting country.

In this report, Europe refers to EU/EEA countries and EU-neighbouring countries (Albania, Bosnia and Herzegovina, Kosovo*, Montenegro, North Macedonia, Serbia and Türkiye).

*This designation is without prejudice to positions on status and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

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During the current transmission season, 35 regions reported human cases of WNV infection for the first time ever: by **Italy** in Genova (ITC33), Sondrio (ITC44), Avellino (ITF34), Brindisi (ITF44), Catanzaro (ITF63), Reggio di Calabria (ITF65), Palermo (ITG12), Messina (ITG13), Siracusa (ITG19), Nuoro (ITG2E), Sud Sardegna (ITG2H), Grosseto (ITI1A), Massa-Carrara (ITI11), Arezzo (ITI18), Siena (ITI19), Latina (ITI44) and Frosinone (ITI45); by **France** in Paris (FR101), Yvelines (FR103), Essonne (FR104), Hauts-de-Seine (FR105), Seine-Saint-Denis (FR106), Val-de-Marne (FR107), Val-d'Oise (FR108), Seine-Maritime (FRD22), Lot-et-Garonne (FRI14), Haute-Garonne (FRJ23), Tarn-et-Garonne (FRJ28), Puy-de-Dôme (FRK14), Ardèche (FRK22) and Vaucluse (FRL06); by **Germany** in Aschaffenburg, Landkreis (DE264); by **Greece** in Irakleio (EL431) and Lakonia, Messinia (EL653); by **Spain** in Alicante/Alacant (ES521) and Almería (ES611); by **Croatia** in (HR035); by **Kosovo*** in Pejë (XK003); by **Romania** in Sălaj (RO116); and by **Türkiye** in Çanakkale (TR222).

As observed in previous years, most cases are among males aged 65 years and older. The hospitalisation rate is similar to previous years, with 85% of cases hospitalised this year compared to 91% in the past decade. The high hospitalisation rate is due to the nature of WNV surveillance, which tends to predominantly capture the most severe cases. The case fatality rate so far this year is 8.9%, which is below but comparable to the 10% observed in the previous decade. Neurological manifestations were reported in 56% of cases this year, compared to 66% in the previous decade. In general, a dominance of neurological cases is expected, as cases with more severe symptoms are more likely to be diagnosed.

From the veterinary perspective, 178 WNV outbreaks among equids and 345 outbreaks among birds have been reported in Europe in 2025. The earliest start date of an outbreak among equids and birds was on 15 January 2025 in Germany and 16 February 2025 in Italy, while the latest onset of an outbreak among equids and birds was, respectively, on 21 October 2025 in France and 22 October 2025 in Italy. Outbreaks among equids were reported by **Italy** (86), **France** (55), **Croatia** (10), **Spain** (9), **Hungary** (7), **Germany** (5), **Greece** (4), **Austria** (1) and **the Netherlands** (1). Outbreaks among birds were reported by **Italy** (318), **Germany** (15), **Belgium** (3), **Spain** (3), **Austria** (2), **France** (2), **Croatia** (1) and **Hungary** (1).

In the Animal Disease Information System (ADIS) database, no information was provided on the exact equid species reported, whereas species details were available for birds. The bird species associated with the highest number of reported outbreaks in 2025 were the carrion crow (95) and the common magpie (59), followed by the common wood-pigeon (30), common kestrel (18), northern goshawk (10), herring gull (9), little owl (9), rock dove (9), unidentified Accipitridae (9), and hooded crow (8). In addition, several other bird species were involved in between one and seven outbreaks.

In June, July, and August 2025, equid outbreaks exceeded the 10-year monthly average (2015–2024) but fell below it in September and October, while bird outbreaks remained under the three-year monthly mean (2022–2024) for most months, except in August and September 2025.

As of 5 November 2025, outbreaks in birds and/or equids have been reported in 111 regions across 10 countries. Of the 10 countries that submitted data in 2025, eight had previously reported WNV outbreaks in birds and/or equids to ADIS in previous years, reflecting endemicity in these territories. In contrast, **Belgium** reported WNV outbreaks for the first time ever to ADIS in 2025, with three outbreaks in wild birds. Two outbreaks involved Eurasian jackdaws, and one involved carrion crows, all recorded in August 2025. Both bird species are generally resident, although Eurasian jackdaws from northern and eastern Europe may migrate south during winter. These outbreaks occurred in the administrative units of Mechelen (BE212) and Halle-Vilvoorde (BE241). Additionally, in October 2025, **the Netherlands**

reported a WNV outbreak in equids to ADIS for the first time. The outbreak occurred in the administrative unit of Groot-Rijnmond (NL366). However, this was not the first detection of the virus in the Netherlands, where WNV was first documented in mosquitoes, birds, and humans back in 2020.

Besides the three new regions in Belgium and in the Netherlands, up to 5 November 2025, outbreaks in birds and/or equids were reported for the first time to ADIS in 26 regions: by **Italy** in Arezzo (ITI18), Ascoli Piceno (ITI18), Caltanissetta (ITG15), Firenze (ITI14), Foggia (ITF46), Frosinone (ITI45), L'Aquila (ITF11), Lecco (ITC43), Ragusa (ITG18), Reggio Calabria (ITF65), Siracusa (ITG19), and Sondrio (ITC44); by **France** in Haute-Garonne (FRJ23), Loiret (FRB06), Oise (FRE22), Paris (FR101), Tarn (FRJ27), Val-de-Marne (FR107), Vaucluse (FRL06), and Yvelines (FR103); by **Croatia** in Koprivničko-križevačka županija (HR063), and in Bjelovarsko-bilogorska županija (HR021); by **Spain** in Almería (ES611) and Menorca (ES533); by **Austria** in Innsbruck (AT332); and by **Germany** in Rhein-Neckar-Kreis (DE128). Furthermore, in 2025, outbreaks in equids were reported in the Greek region of Thasos-Kavala (EL515), marking the first such report in animals since the last recorded outbreak 12 years prior.

Reports of WNV outbreaks during the winter, when mosquito activity is minimal, should be carefully evaluated as they raise questions about the timing of infection. Two such reports – one outbreak in equids reported by Germany in January 2025, and one in birds reported by Italy in February 2025 – warrant cautious interpretation, as they may reflect residual detection (e.g. lingering antibodies or viral RNA from infections acquired in the year before) rather than active transmission in 2025.

Seven countries – Croatia, France, Germany, Greece, Hungary, Italy, and Spain – reported both WNV human cases and outbreaks in equids and/or birds. This year, Italy accounted for the majority of the human cases (71%) and the outbreaks in equids and birds (77%). Following an intense circulation of the virus in some regions of the country during the summer and the early autumn, the transmission is now reaching an end. This high number of human cases and outbreaks in birds and equids was likely due to favourable climate conditions and ecological hotspots (e.g. wetlands, agricultural areas) that influenced mosquito vector populations and the distribution and behaviour of animal hosts. Intensive surveillance in Italy may also have contributed to high detection rates of human cases and outbreaks in birds and equids.

The reporting of WNV outbreaks in birds marks the first detection of the virus in Belgium. Notably, the country has never recorded any locally acquired human cases. This development signals a significant step in the local emergence of WNV and points to a likely recent introduction of the virus into the national ecosystem. These findings underline the need for enhanced surveillance and increased public health preparedness.

The identification of WNV cases in humans and animals within previously unaffected areas underscores the continuing geographic expansion of the virus, likely driven by conducive environmental conditions and ecological factors. In addition, increased surveillance or monitoring sensitivity and raised awareness in these areas might play a role in the detection of the cases.

Owing to delays in diagnosis and reporting, as well as the fact that most of the WNV infections are asymptomatic or subclinical, the case numbers provided in this report likely underestimate the true number of cases. Of note, the seasonal surveillance in humans primarily focuses on capturing laboratory-confirmed cases, which contributes to the diagnostic delay.

Given that the weather conditions are much less favourable for WNV transmission in Europe, the number of human cases and outbreaks in equids and birds is steadily decreasing. The

transmission season is reaching its end, and only a few sporadic cases are expected in the coming weeks.

Key words: West Nile virus, humans, birds, equids, outbreak.

The full automated report is available online at the following link:

<https://www.ecdc.europa.eu/en/infectious-disease-topics/west-nile-virus-infection/surveillance-and-disease-data/monthly-updates>