

# NSW Arbovirus Surveillance and Mosquito Monitoring 2023-2024

Environmental Health Branch, Health Protection NSW

Weekly Update: Week ending 18 May 2024



**Bottom left** - Common banded mosquito, *Culex annulirostris* **Top and bottom right** - Saltmarsh mosquito, *Aedes vigilax* (Copyright 2020)

Weekly reports are available on [Mosquito-borne disease surveillance](#).

**Please send questions or comments about this report to:**

Surveillance and Risk Unit, Environmental Health Branch, Health Protection NSW: [hssg-ehbsurveillance@health.nsw.gov.au](mailto:hssg-ehbsurveillance@health.nsw.gov.au)

Testing and scientific services are provided by the Department of Medical Entomology, NSW Health Pathology, Institute of Clinical Pathology and Medical Research (ICPMR) for mosquito surveillance, and the Arbovirus Emerging Diseases Unit, NSW Health Pathology (ICPMR) for sentinel chicken surveillance.

The arbovirus surveillance and mosquito monitoring results in this report remain the property of the NSW Ministry of Health and may not be used or disseminated to unauthorised persons or organisations without permission.

SPHN (EH) 230938

# Summary

## Arbovirus detections

### Mosquito isolates

• In the week ending 18 May 2024, there were no arbovirus detections in mosquitoes.

## Mosquito abundance

### Coastal

- **Low:** Bega, Byron Bay, Coffs Harbour, Gosford, Kempsey, Murwillumbah, Port Macquarie, Wauchope, Wyong.
- **Medium:** Ballina, Lake Cathie, Tweed Heads.
- **High:** Nambucca.
- **Very high:** Newcastle.

## Environmental conditions

### Climate

- In the week ending 18 May 2024, rainfall was higher than average along the NSW coastline, especially in the Illawarra Shoalhaven region. Average or lower than average rainfall was recorded across the rest of NSW.
- In April, rainfall was above to very much above average for eastern areas of the state. The western areas of NSW recorded average or below average rainfall.
- In the coming week, 24 May to 30 May 2024, average rainfall is expected along the NSW coastline in Illawarra Shoalhaven, the Sydney region, Central Coast and Hunter New England. Higher than average rainfall is expected along the Mid North Coast and Northern NSW coastline. Lower than average rainfall is expected across the rest of NSW.
- Minimum temperatures are expected to be higher than average in the eastern part of NSW and the northern regions of Western and Far West NSW. Average or lower than average temperatures are expected across the rest of NSW. Maximum temperatures are expected to be average or higher than average across NSW.

## Human arboviral disease notifications

### Ross River virus

Six probable cases were notified in the week ending 18 May 2024.

### Barmah Forest virus

No probable cases were notified in the week ending 18 May 2024.

# Arbovirus detections

This section details detections of Murray Valley encephalitis virus, Japanese encephalitis virus, Kunjin virus, Ross River virus and Barmah Forest virus in the NSW Arbovirus Surveillance and Mosquito Monitoring Program.

## Mosquito isolates

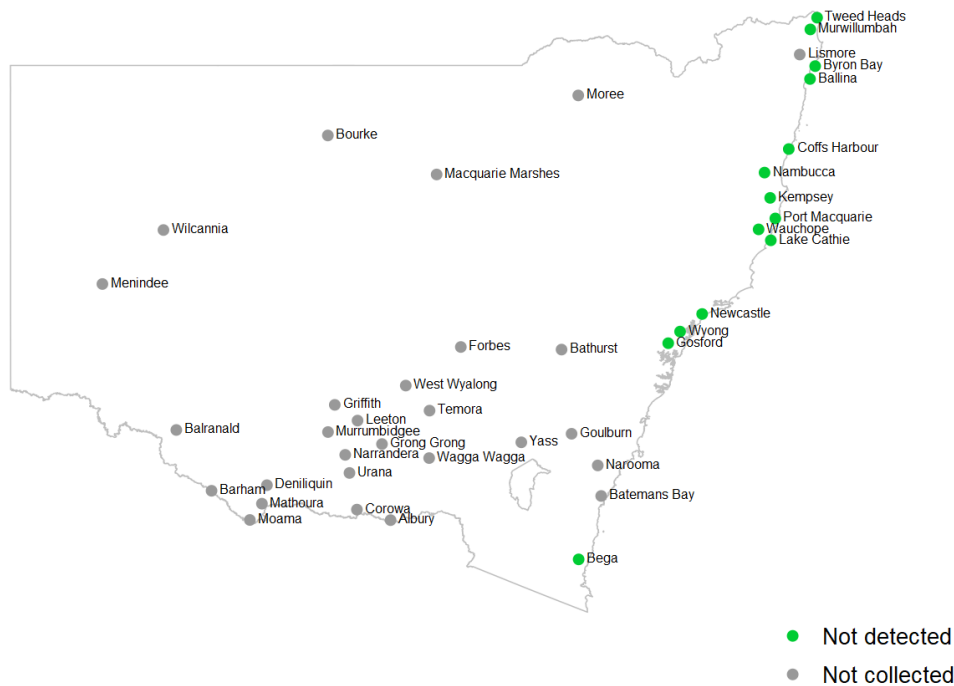
Whole grinds of collected mosquitoes are tested for arbovirus nucleic acids to determine the presence of arboviruses in mosquitoes. Test results for detections of Murray Valley encephalitis virus, Japanese encephalitis virus, Kunjin virus, Ross River virus and Barmah Forest virus for the past week are shown in the maps below. Detections of all arboviruses (including Edge Hill virus and Kokobera virus) for the season are detailed in the positive test results for the 2023-2024 surveillance season.

### Test results for mosquito trapping sites reported in the week ending 18 May 2024

In the week ending 18 May 2024, there were no arbovirus detections in mosquitoes.

#### Inland and coastal sites

The map highlights detections of arboviruses that can cause human notifiable conditions, such as Murray Valley encephalitis virus, Japanese encephalitis virus, Kunjin virus, Ross River virus, and Barmah Forest virus. Detections of all arboviruses (including Edge Hill virus, Stratford virus and Kokobera virus) for the season are detailed in the positive test results for the 2023-2024 surveillance season.



Inland and coastal sites - positive test results in the 2023-2024 surveillance season.

Date of sample collection	Location	Virus
2024-01-03	Gosford	Edge Hill
2024-01-16	Gosford	Edge Hill

Inland and coastal sites - positive test results in the 2023-2024 surveillance season.

<b>Date of sample collection</b>	<b>Location</b>	<b>Virus</b>
2024-01-22	Macquarie Marshes	Kokobera
2024-01-23	Newcastle	Edge Hill
2024-01-29	Tweed	Edge Hill
2024-01-29	Tweed	Ross River
2024-01-29	Temora	Kokobera
2024-01-29	Narrandera	Kokobera
2024-01-30	Forbes	Kokobera
2024-02-04	Narooma	Stratford
2024-02-05	Byron Bay	Ross River
2024-02-06	Batemans Bay	Edge Hill
2024-02-06	Newcastle	Barmah Forest
2024-02-06	Newcastle	Edge Hill
2024-02-06	Newcastle	Stratford
2024-02-07	Central Coast	Edge Hill
2024-02-07	Central Coast	Stratford
2024-02-12	Byron Bay	Ross River
2024-02-12	Ballina	Ross River
2024-02-12	Lake Cathie	Edge Hill
2024-02-12	Newcastle	Edge Hill
2024-02-12	Newcastle	Stratford
2024-02-19	Tweed	Sindbis
2024-02-19	Griffith	Kokobera
2024-02-22	Central Coast	Stratford
2024-02-26	Lake Cathie	Stratford
2024-02-26	Grong Grong	Ross River
2024-02-27	Newcastle	Ross River

Inland and coastal sites - positive test results in the 2023-2024 surveillance season.

<b>Date of sample collection</b>	<b>Location</b>	<b>Virus</b>
2024-02-27	Newcastle	Barmah Forest
2024-02-29	Forbes	Kokobera
2024-03-04	Tweed	Ross River
2024-03-04	Tweed	Stratford
2024-03-04	Leeton	Kokobera
2024-03-04	Grong Grong	Edge Hill
2024-03-05	Newcastle	Barmah Forest
2024-03-11	Griffith	Ross River
2024-03-11	Temora	Ross River
2024-03-11	Newcastle	Ross River
2024-03-11	Newcastle	Edge Hill
2024-03-18	Macquarie Marshes	Kokobera
2024-03-24	Nambucca	Kokobera
2024-03-25	Wyang	Ross River
2024-03-25	Batemans Bay	Edge Hill
2024-03-25	Batemans Bay	Stratford
2024-04-03	Batemans Bay	Stratford
2024-04-07	Narooma	Stratford
2024-04-08	Port Macquarie	Barmah Forest
2024-04-10	Central Coast	Stratford
2024-04-14	Nambucca	Kokobera
2024-04-22	Narooma	Stratford

**Please note:** Human cases of Edge Hill virus, Stratford virus or Kokobera virus have rarely been reported. Infection may present as a mild self-limiting febrile illness with body aches.

# Mosquito abundance

This section details counts of mosquitoes in the NSW Arbovirus Surveillance and Mosquito Monitoring Program. Each location represents the count average for all trapping sites at that location for the most recent week that collections were provided prior to preparation of this report.

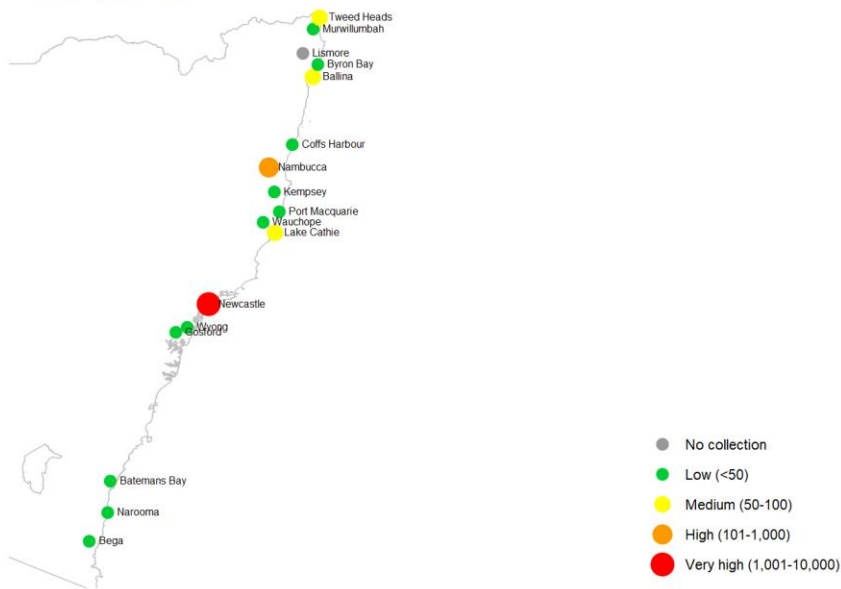
*Culex annulirostris* and *Aedes vigilax* are vectors of interest for Ross River virus and Barmah Forest virus, *Culex annulirostris* is also a vector for Japanese encephalitis virus.

## Mosquito counts

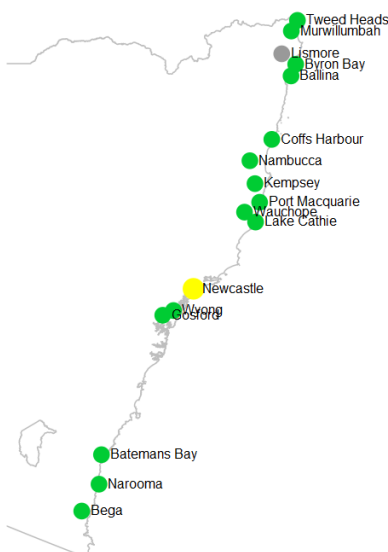
Mosquito counts (average per trap per location) for mosquito trapping sites reported in the week ending 18 May 2024

### Coastal sites

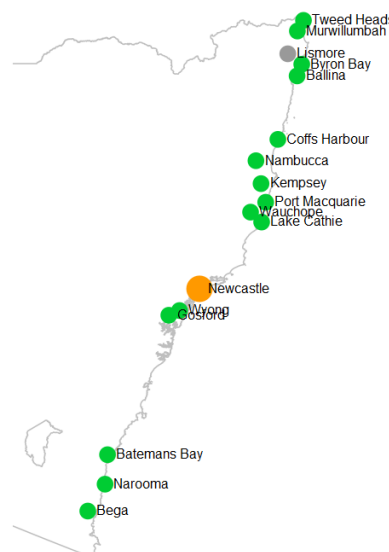
Total mosquito counts



*Culex annulirostris* counts



*Aedes vigilax* counts



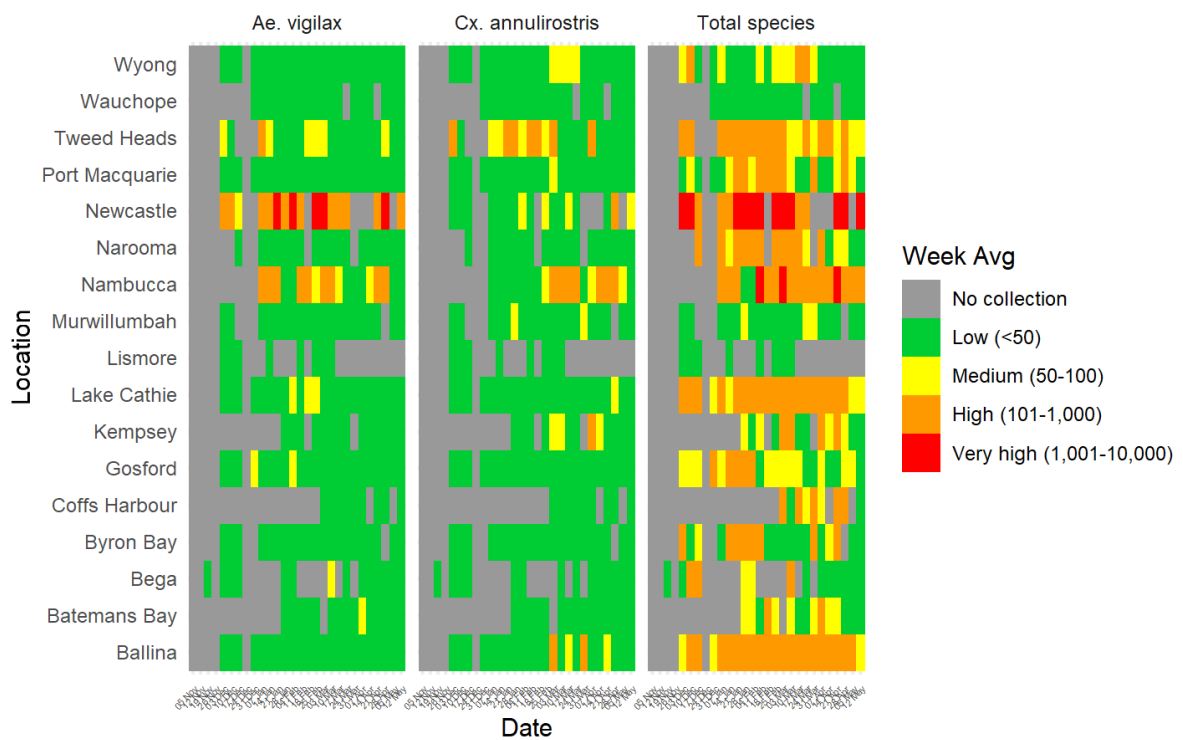
# Mosquito abundance results for the 2023-2024 season

## season

This section shows all mosquito trapping results by location and species type to date for the current arbovirus season.

### Cumulative mosquito abundance tables

Number of mosquitoes trapped along the coast (weekly average)



# Environmental conditions

Mosquitoes require water to breed. Rainfall and tides (for the salt marsh mosquito, *Aedes vigilax*) are important contributing factors for proliferation of mosquito numbers. Unseasonably warm weather can also contribute to higher mosquito numbers.

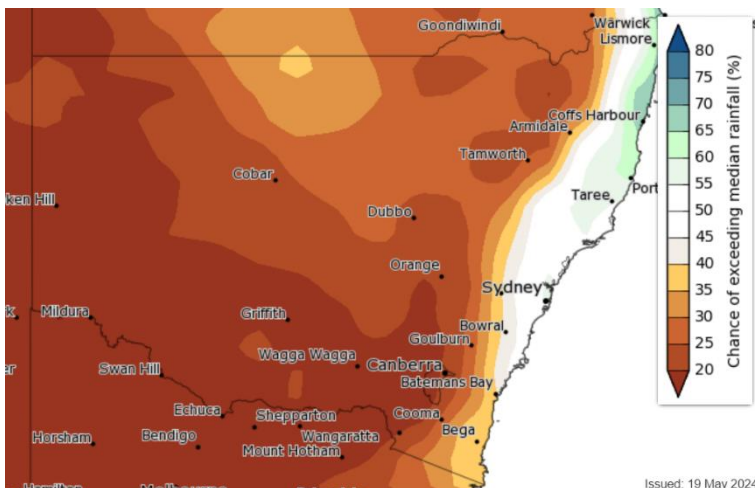
## Rainfall

In the week ending 18 May 2024, rainfall was higher than average along the NSW coastline, especially in the Illawarra Shoalhaven region. Average or lower than average rainfall was recorded across the rest of NSW.

## Upcoming week's rainfall and temperature outlook

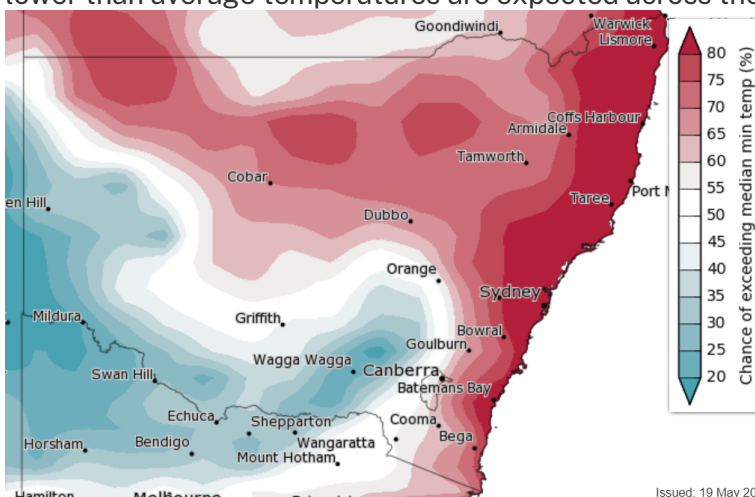
In the coming week, average rainfall is expected along the NSW coastline in Illawarra Shoalhaven, the Sydney region, Central Coast and Hunter New England. Higher than average rainfall is expected along the Mid North Coast and Northern NSW coastline. Lower than average rainfall is expected across the rest of NSW.

### Rainfall 24 May to 30 May, 2024



### Minimum temperature 24 May to 30 May, 2024

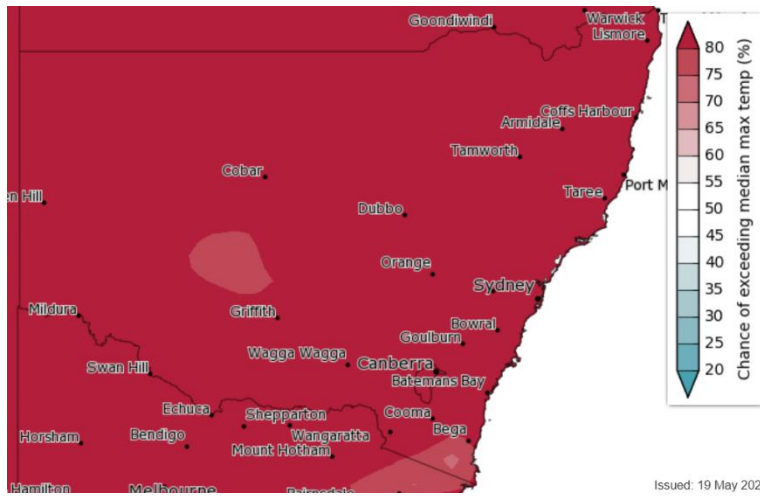
In the upcoming week, minimum temperatures are expected to be higher than average in the eastern part of NSW and the northern regions of Western and Far West NSW. Average or lower than average temperatures are expected across the rest of NSW.





## Maximum temperature 24 May to 30 May, 2024

In the upcoming week, maximum temperatures are expected to be higher than average across NSW.



Source: [Australian Government, Bureau of Meteorology](#).

# Human arboviral disease notifications

Under the *NSW Public Health Act 2010*, human arboviral infections are notifiable in NSW.

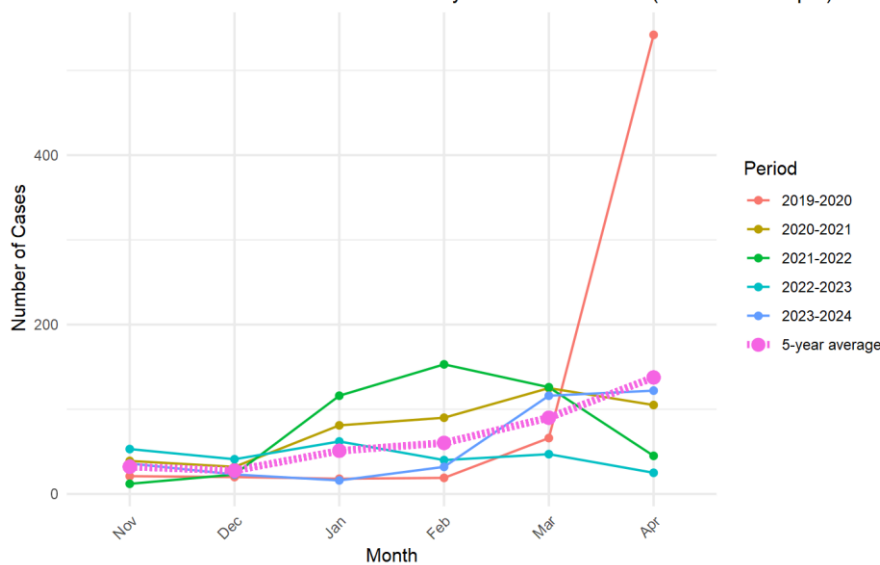
## Recent notifications of Ross River virus and Barmah Forest virus infections in humans (by date of case report received)

Notifications of Ross River virus and Barmah Forest virus infections, by month of disease onset (the earlier of patient-reported onset or specimen collection date), are available online at the [NSW Health website - infectious diseases data](#).

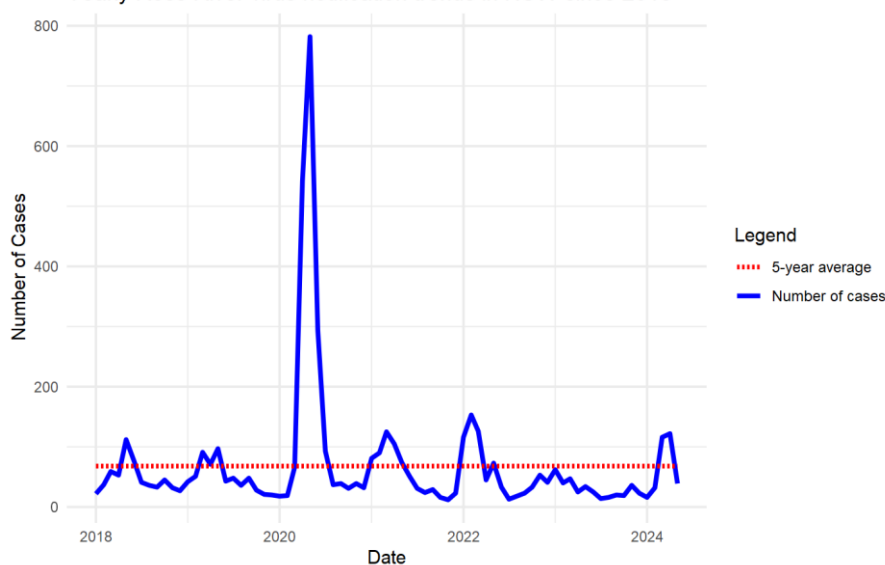
The following figures show notifications for the current NSW Arbovirus Surveillance and Mosquito Monitoring season (2023-2024), and the same period in the previous four years.

### Ross River virus

Ross River virus notifications in NSW by month since 2019 (November - April)

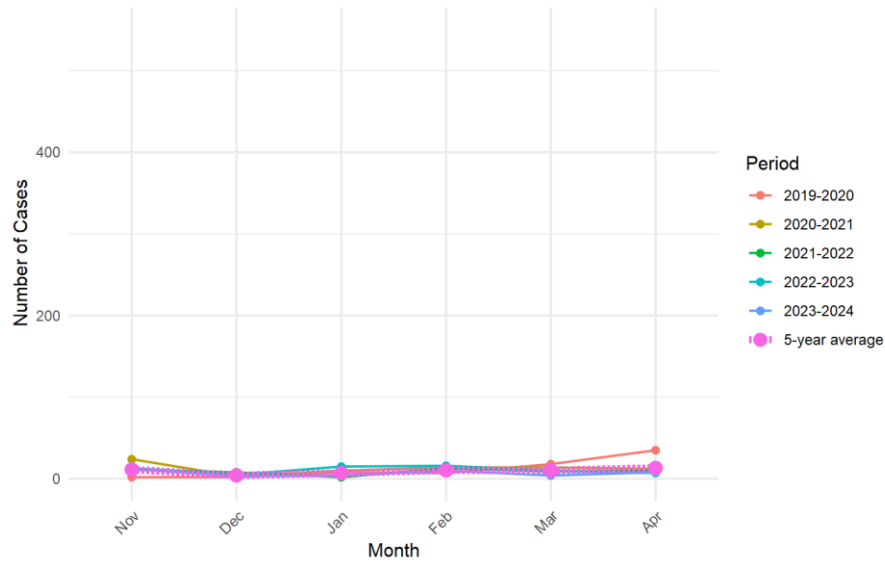


Yearly Ross River virus notification trends in NSW since 2018

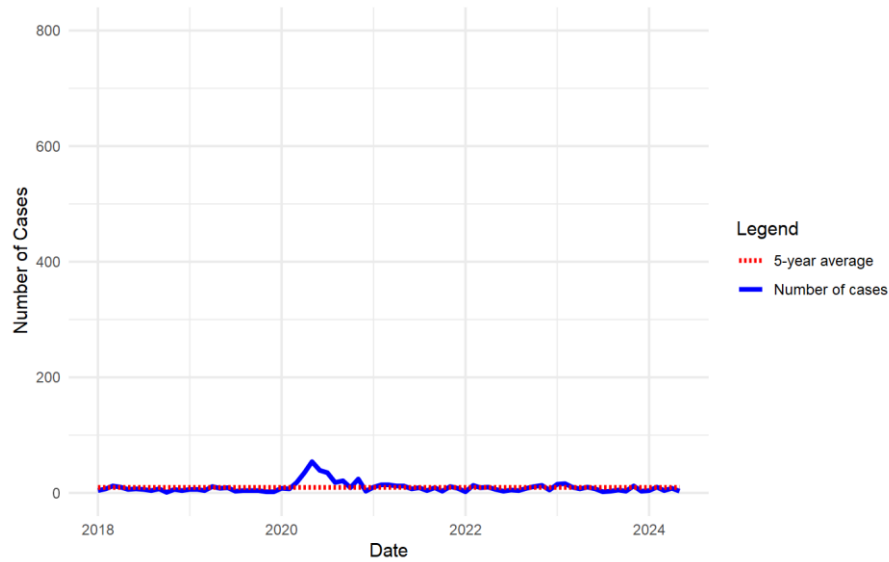


## Barmah Forest virus

Barmah Forest virus notifications in NSW by month since 2019 (November - April)



Yearly Barmah Forest virus notification trends in NSW since 2018



**Note:** Presented human cases include both confirmed and probable cases.