



Government of **Western Australia**
Department of **Health**

Medical Entomology Quarterly Report

Kimberley Region: Apr – Jun 2020



Ross River virus disease case data summary

Kimberley Region: Apr – Jun 2020

Data reflected in this summary of mosquito-borne disease is taken from the Western Australia Notifiable Infectious Disease Database (WANIDD) and includes enhanced surveillance data collected by Population Health Units and local governments (only locations with notified cases of disease are shown in tables and figures).

Ross River virus (RRV) Kimberley Health Region

9 RRV cases this quarter for the Kimberley Health region, 5 cases were notified by Doctor with follow-up data available for 4 cases.

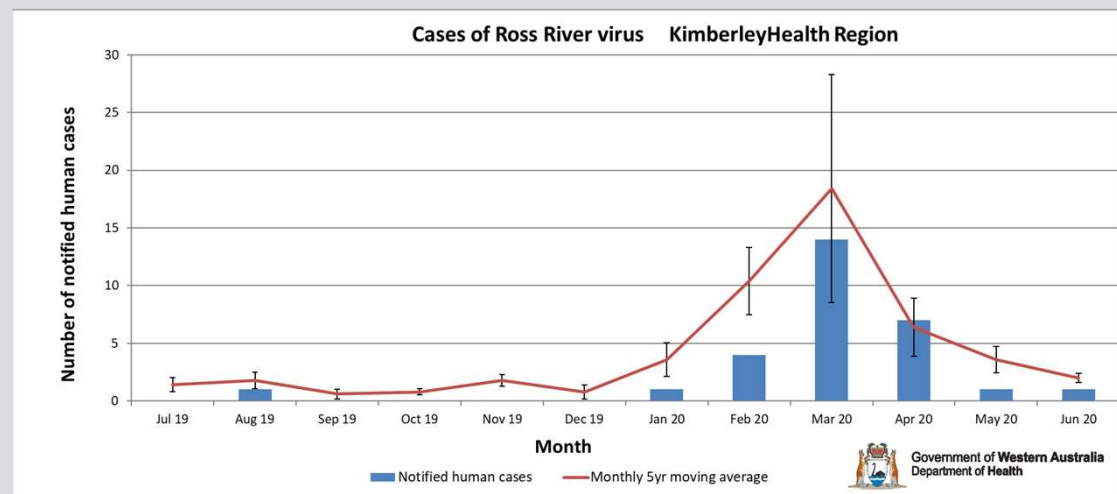
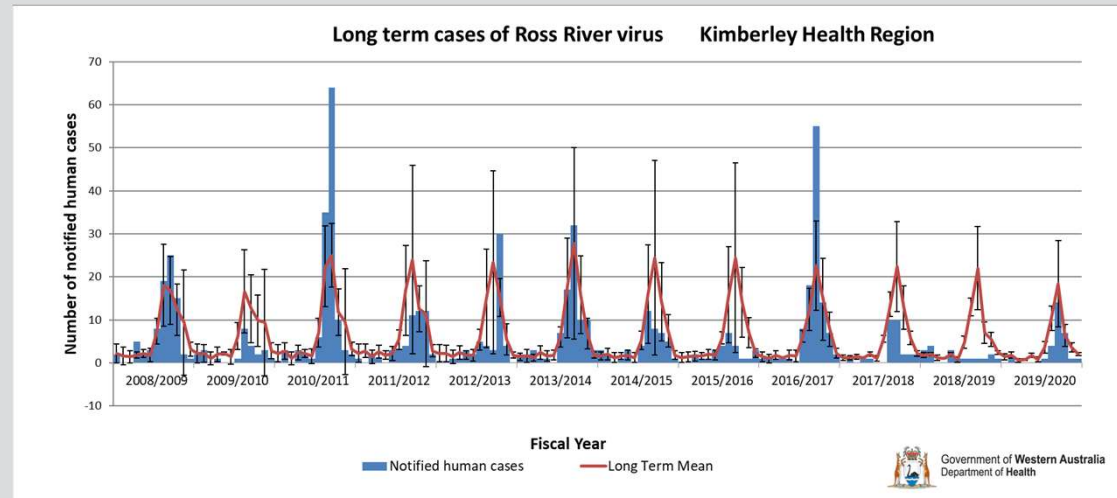
The number of cases has been at or below the 5-year moving average for all months except April.

During 2019/2020 there was a total of 29 cases, 25 of these were Doctor notified with follow-up data available for 7 cases.

Kimberley Health
Region



| RRV 2020 | Apr | May | Jun | Total |
|-----------------------------------|----------|----------|----------|----------|
| Kimberley | 7 | 1 | 1 | 9 |
| Broome (S) | 6 | 1 | 1 | 8 |
| BROOME | 6 | 1 | 1 | 8 |
| Wyndham-East Kimberley (S) | 1 | | | 1 |
| KUNUNURRA | 1 | | | 1 |
| Total | 7 | 1 | 1 | 9 |



Ross River virus disease case data summary

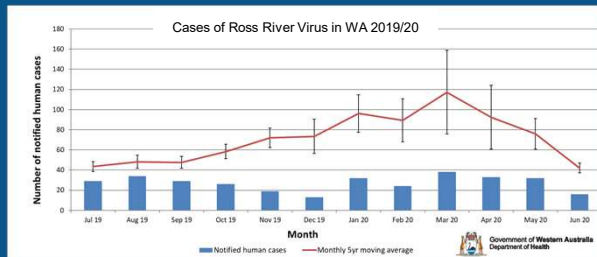
Western Australia: 2019/20

Data reflected in this summary of mosquito-borne disease is taken from the Western Australia Notifiable Infectious Disease Database (WANIDD) and includes enhanced surveillance data collected by Population Health Units and local governments (only locations with notified cases of disease are shown in tables and figures).

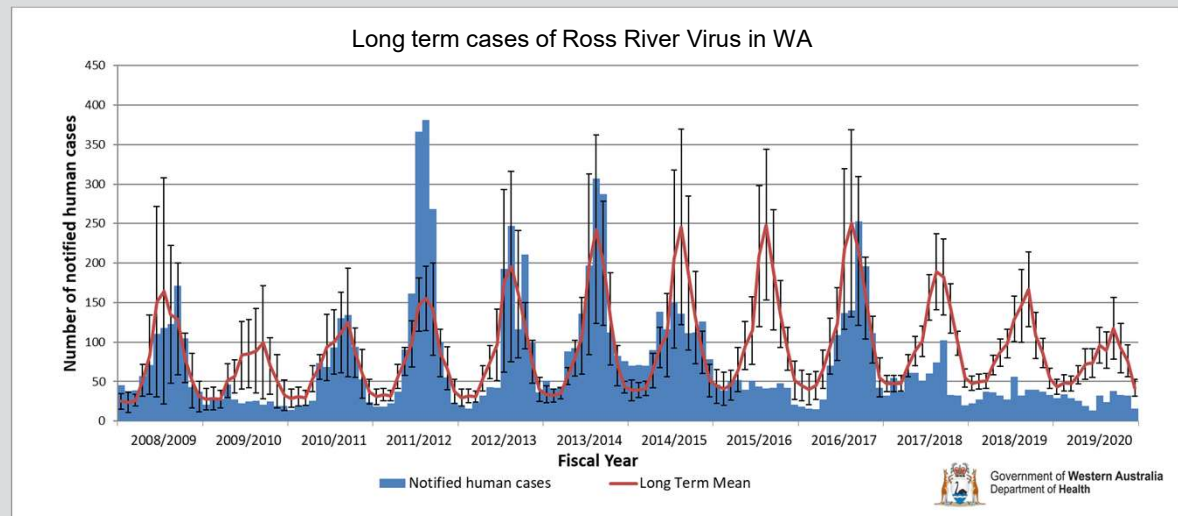
Ross River virus (RRV) Western Australia

A total of 317 cases of RRV have been reported between 1 July 2019 and 30 June 2020 in Western Australia. 179 cases were notified by Doctor and follow-up data is available for 72.

The number of cases was significantly below the 5-year moving average.



| REGION | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Total | Crude Rate | Age Std Rate |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|--------------|
| KIMBERLEY | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 4 | 14 | 7 | 1 | 1 | 29 | 80.5 | 75.7 |
| PILBARA | 4 | 3 | 1 | 1 | 0 | 0 | 2 | 1 | 9 | 3 | 3 | 0 | 27 | 43.8 | 41.8 |
| GASCOYNE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 10.6 | 10.3 |
| MIDWEST | 4 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 9 | 14.8 | 13.8 |
| WHEATBELT | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 0 | 6 | 8.8 | 8.6 |
| METRO | 8 | 13 | 17 | 13 | 9 | 3 | 13 | 10 | 6 | 6 | 0 | 2 | 100 | 5.6 | 5.4 |
| PEEL | 4 | 4 | 5 | 2 | 5 | 3 | 4 | 4 | 4 | 7 | 22 | 10 | 74 | 27.3 | 26.6 |
| LESCHENAULT | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 0 | 0 | 1 | 2 | 0 | 15 | 20.3 | 19.5 |
| GEOGRAPHE | 1 | 4 | 2 | 2 | 3 | 3 | 4 | 2 | 0 | 3 | 0 | 0 | 24 | 42.1 | 47.6 |
| ELSEWHERE SW | 0 | 2 | 0 | 3 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 10 | 21.0 | 22.3 |
| SOUTH WEST | 8 | 12 | 9 | 9 | 10 | 7 | 10 | 6 | 4 | 12 | 25 | 11 | 123 | 27.3 | |
| GREAT SOUTHERN | 0 | 1 | 0 | 2 | 0 | 2 | 5 | 1 | 0 | 2 | 0 | 1 | 14 | 23.0 | 21.1 |
| GOLDFIELDS-ESPERANCE | 2 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 8 | 14.5 | 15.0 |
| WA UNDETERMINED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| INTERSTATE | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 8 | | |
| WA TOTAL (does not include interstate) | 26 | 34 | 28 | 25 | 19 | 13 | 32 | 23 | 38 | 33 | 31 | 15 | 317 | | |



Barmah Forest virus disease case data summary

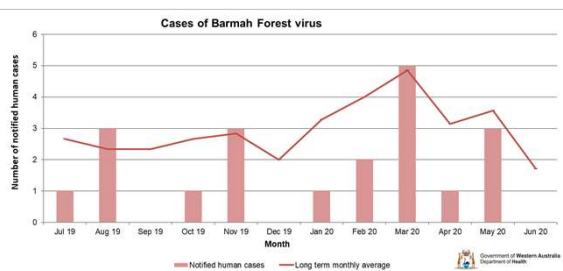
Kimberley and State summary: 2019/20

Data reflected in this summary of mosquito-borne disease is taken from the Western Australia Notifiable Infectious Disease Database (WANIDD) and includes enhanced surveillance data collected by Population Health Units and local governments (only locations with notified cases of disease are shown in tables and figures).

Barmah Forest virus (BFV) Western Australia

A total of 20 cases of BFV have been reported between 1 July 2019 and 30 June 2020 in Western Australia. 12 were notified by Doctor and follow-up data is available for 7 cases.

The number of cases was below the 5-year moving average for all months except August, November and March.



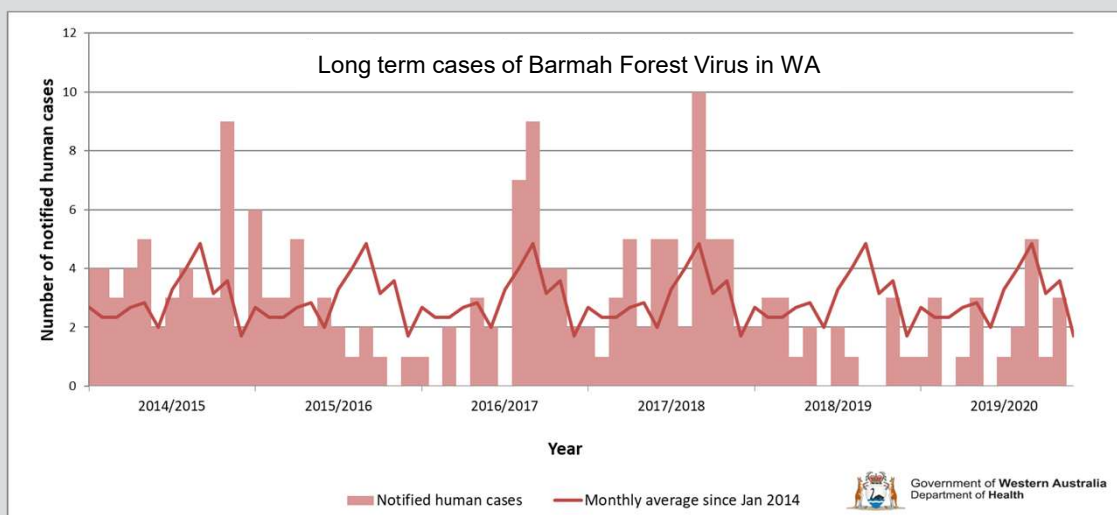
Barmah Forest virus (BFV) Kimberley Health Region

1 BFV case was notified in Derby from Apr-Jun 2020 with follow-up data available.

This brings the total to 5 cases between 1 July 2019 and 30 June 2020 with follow-up data available for 3 cases.

The 5-year moving average is up to one case per month for this region.

| REGION | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Total | Crude Rate | Age Std Rate |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|------------|--------------|
| KIMBERLEY | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 5 | 13.9 | 14.9 |
| PILBARA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1.6 | 1.4 |
| GASCOYNE | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 10.6 | 9.7 |
| MIDWEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 |
| WHEATBELT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 |
| METRO | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0.1 | 0.1 |
| PEEL | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 1.1 | 1.0 |
| LESCHENAULT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1.4 | 1.0 |
| GEOGRAPHE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 |
| ELSEWHERE SW | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2.1 | 1.4 |
| SOUTH WEST | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 5 | 1.1 | |
| GREAT SOUTHERN | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 6.6 | 6.5 |
| GOLDFIELDS-ESPERANCE | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3.6 | 3.2 |
| WA UNDETERMINED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| INTERSTATE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| WA TOTAL (does not include interstate) | 1 | 3 | 0 | 1 | 3 | 0 | 1 | 2 | 5 | 1 | 3 | 0 | 20 | | |



Climate outlook for Western Australia

July – Sept 2020

Predicted impact of climatic conditions on mosquito breeding

ENSO and the Indian Ocean Dipole are neutral and predicted to remain neutral though winter with a 50-55% chance of La Niña developing during Spring. As a result average to above average seasonal rainfall is expected.

Impact on mosquito breeding: Above average rainfall conditions and warmer nights, predicted along the mid-coast and inland, are conducive to mosquito breeding and possible mosquito-borne virus activity. This will be heightened if conditions swing towards La Niña in early spring.

El Niño–Southern Oscillation (ENSO)

A weather forecast based on interaction between the atmosphere and tropical Pacific Ocean. Conditions can be El Niño, La Niña or neutral:

El Niño: Associated with drier conditions, decreased rainfall and tidal activity. Warmer days in south. Late start to northern wet season with less cyclones and less flooding.

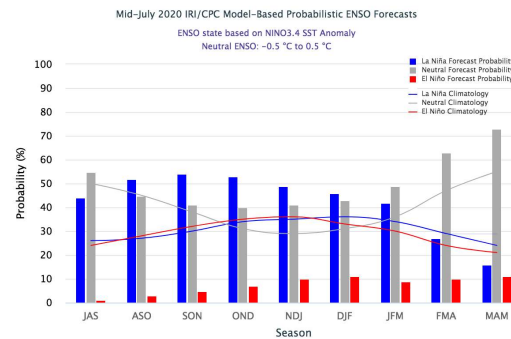
La Niña: Associated with wetter, cooler days and warmer nights (due to increased cloud cover). Earlier start to the northern wet season with more tropical cyclones. More conducive to mosquito breeding and possible mosquito-borne virus activity.

Indian Ocean Dipole (IOD)

Positive IOD: Brings below average winter-spring rainfall, warmer days in the west, warmer nights in the south west, and cooler nights in the north.

Negative IOD: Brings above average winter-spring rainfall, cooler days in the south, and warmer nights in the north with increased chances of flooding.

International Research Institute for Climate and Society (IRI ENSO) Forecast Issued 20 July 2020

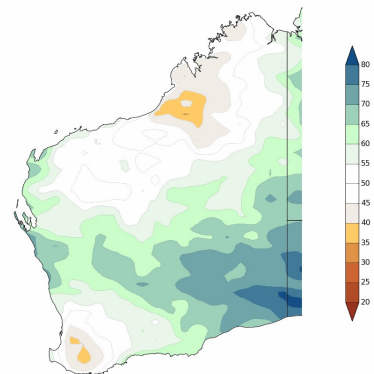


ENSO Alert Status: La Niña WATCH. ENSO-neutral is expected to continue through to Autumn and Winter 2020.



Australian BOM Rainfall Outlook Issued 23 July 2020

Chance of exceeding the median rainfall for August to October 2020

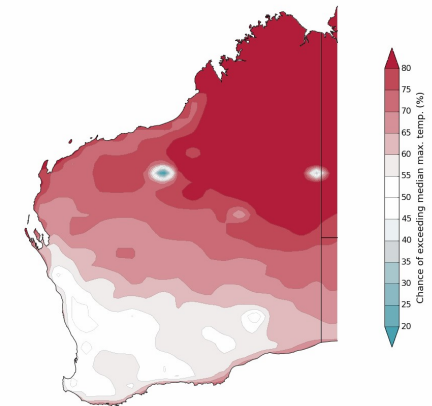


www.bom.gov.au/climate © Commonwealth of Australia 2020, Australian Bureau of Meteorology Model: ACCESS-S1 Model run: 20/07/2020 Base period: 1990-2012 Issued: 23/07/2020

Rainfall is likely to be above average in the mid-coast and central inland of WA.

Australian BOM Temperature Outlook Issued 23 July 2020

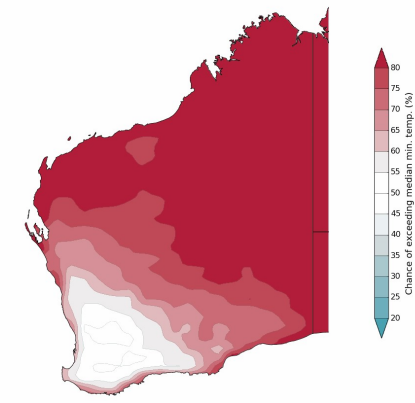
Chance of exceeding the median maximum temperature for August to October 2020



www.bom.gov.au/climate © Commonwealth of Australia 2020, Australian Bureau of Meteorology Model: ACCESS-S1 Model run: 20/07/2020 Base period: 1990-2012 Issued: 23/07/2020

Daytime temperatures for winter are likely to be above average across northern and central Western Australia.

Chance of exceeding the median minimum temperature for August to October 2020



www.bom.gov.au/climate © Commonwealth of Australia 2020, Australian Bureau of Meteorology Model: ACCESS-S1 Model run: 20/07/2020 Base period: 1990-2012 Issued: 23/07/2020

Winter night-time temperatures are likely to be warmer than average across much of the state except the South West.