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

Medical Entomology Quarterly Report
East Metropolitan Health Region: Jan – Mar 2024

Ross River virus disease case data summary
Western Australia State Summary: Jan – Mar 2024

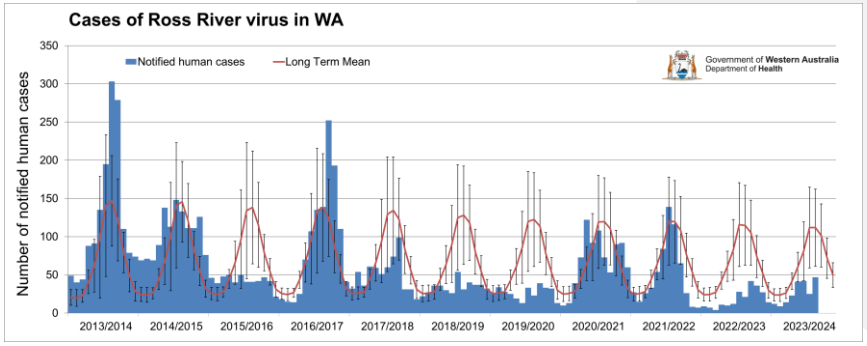
Data reflected in this summary of mosquito-borne disease is taken from the Western Australia Notifiable Infectious Disease Database (WANIDD) and includes enhanced surveillance data (ESD) collected by Population Health Units (PHUs) and local governments (LGs) (Note: only locations with notified cases of disease are shown in tables and figures).
Data current as at 3 May 2024.

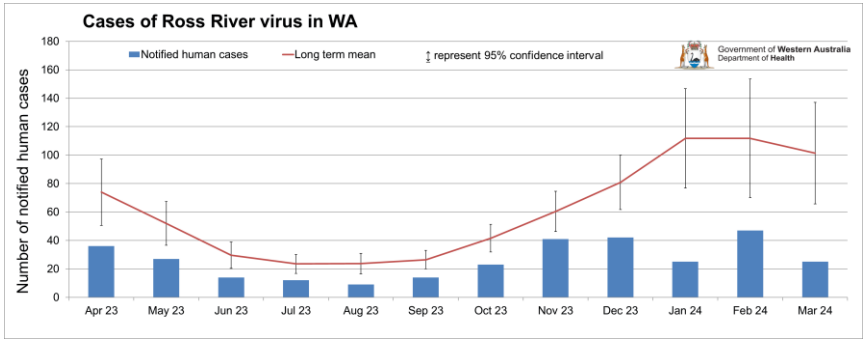
Serologically confirmed doctor-notified and laboratory reported cases of Ross River virus disease each month in WA, July 2023 - June 2024 #

#Compiled by the Medical Entomology, WA Department of Health

MEDICAL ENTOMOLOGY REGION	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total	* Crude Rate	Age Std Rate
KIMBERLEY	2	2	2	1	2	2	1	23	5	3	0	0	43	119.3	122.6
PILBARA	0	0	1	0	0	1	0	0	1	2	0	0	5	8.0	9.5
GASCOYNE	0	0	1	0	0	0	0	0	0	0	0	0	1	10.8	12.3
MIDWEST	1	0	1	0	1	1	0	1	0	1	0	0	6	10.0	9.7
WHEATBELT	2	0	0	1	1	0	0	1	1	0	0	0	6	8.8	11.8
METRO	4	1	1	1	2	3	4	4	5	11	0	0	36	1.9	1.9
SW - PEEL	1	0	6	7	9	16	1	6	1	4	0	0	51	18.0	17.4
SW - LESCHENAULT	0	3	0	1	9	9	3	3	2	3	0	0	33	44.3	46.1
SW - Geographe	1	2	1	9	15	6	11	2	1	0	0	0	48	81.7	75.5
SW - ELSEWHERE	1	0	0	1	2	2	4	5	8	2	0	0	25	51.5	46.8
SOUTH WEST (Total)	3	5	7	18	35	33	19	16	12	9	0	0	157	33.8	
GREAT SOUTHERN	0	1	0	1	0	1	1	2	1	0	0	0	7	11.4	9.4
GOLDFIELDS-ESPERANCE	0	0	1	1	0	1	0	0	0	0	0	0	3	5.6	5.0
WA UNDETERMINED	0	0	0	0	0	0	0	0	0	0	0	0	0		
INTERSTATE	0	0	0	0	1	1	3	2	2	0	0	0	9		
WA TOTAL (does not include interstate)	**12**	**9**	**14**	**23**	**41**	**42**	**25**	**47**	**25**	**26**	**0**	**0**	**264**		

* Crude Rate per 100, 000 and Age Standardised Rate per 100, 000 compared to Australian Standard Population (to eliminate the effect of differences in population age structures between geographic areas)





- In this quarter, **97 RRV cases were notified across WA**, including 42 by lab only
- **The long term mean for RRV cases is 737 per year, and 325 for this quarter**
- For WA, the number of RRV cases was **significantly below the long term mean for all months** this quarter.
- The date and location of exposure will often be different to information provided on notification forms in 90% and 50% of the cases, respectively. Data is more accurate when follow up surveys are completed.
- **ESD/Follow-up Response Rate for RRV cases in this quarter: 38%#**

#calculated as number of follow up surveys received divided by total number of notified cases

Please contact Medical Entomology if more information is required | (08) 9285 5500 | Email: medical.entomology@health.wa.gov.au

Ross River virus disease case data summary
East Metropolitan Health Region Jan – Mar 2024

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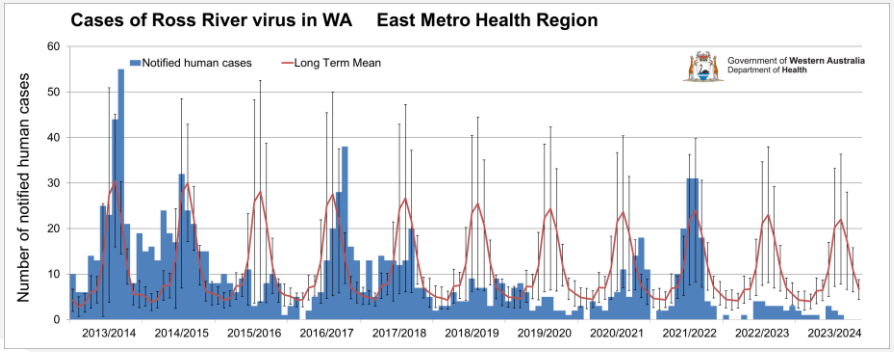
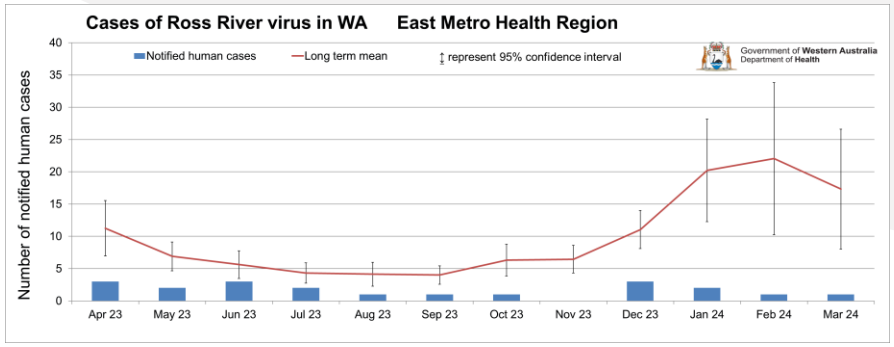
Data current as at 3 May 2024.

- For this region, **4 RRV cases were notified**, including 2 by lab only. **This is significantly below the long term mean for all months** this quarter
- Long term mean for RRV cases is **120 per year, and about 60 cases for this quarter**
- 1 follow-up survey received for this region

RRV East Metro 2024	Jan	Feb	Mar	Total
Metro	**2**		**1**	**3**
Perth (C)			**1**	
PERTH			1	
Swan (C)	**1**			
ELLENBROOK	1			
Kalamunda (C)	**1**			
FORRESTFIELD	1			
SW - Peel		**1**		**1**
Serpentine-Jarrahdale (S)		**1**		
KEYSBROOK		1		
Total	**2**	**1**	**1**	**4**





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Barmah Forest virus disease case data summary Jan – Mar 2024

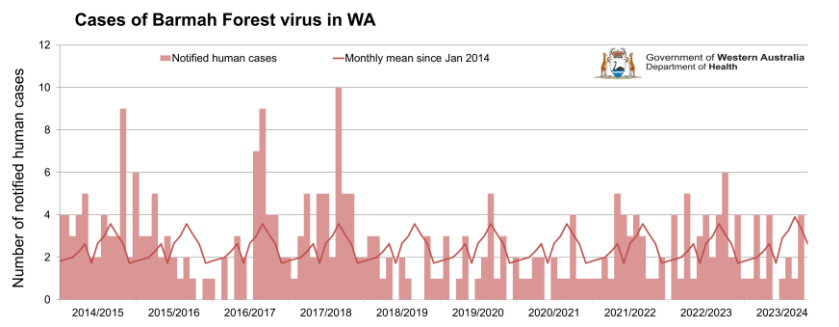
Data reflected in this summary of mosquito-borne disease is taken from the Western Australia Notifiable Infectious Disease Database (WANIDD) and includes enhanced surveillance data (ESD) collected by Population Health Units (PHUs) and local governments (LGs) (Note: only locations with notified cases of disease are shown in tables and figures).
Data current as at 3 May 2024.

Serologically confirmed doctor-notified and laboratory reported cases of Barmah Forest virus disease each month in WA, July 2023 - June 2024 #

#Compiled by the Medical Entomology, WA Department of Health

MEDICAL ENTOMOLOGY REGION	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total	Crude Rate *	Age Std Rate *
KIMBERLEY	1	1	1	1	1	0	0	0	0	0	0	0	5	13.9	19.7
PILBARA	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
GASCOYNE	0	0	0	0	0	0	0	0	0	1	0	0	1	10.8	10.1
MIDWEST	0	0	0	0	0	0	0	1	1	1	0	0	3	5.0	5.0
WHEATBELT	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
METRO	0	0	0	0	0	0	1	0	0	0	0	0	1	0.1	0.1
SW - PEEL	0	0	1	0	1	0	0	0	0	2	0	0	4	1.4	1.3
SW - LESCHENAULT	0	0	0	0	0	0	0	1	0	0	0	0	1	1.3	0.9
SW - Geographe	0	0	1	0	2	0	0	0	0	0	0	0	3	5.1	4.8
SW - ELSEWHERE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
SOUTH WEST (Total)	0	0	2	0	3	0	0	1	0	2	0	0	8	1.7	
GREAT SOUTHERN	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
GOLDFIELDS-ESPERANCE	0	0	1	0	0	0	0	0	0	0	0	0	1	1.9	1.4
WA UNDETERMINED	0	0	0	0	0	0	0	0	0	0	0	0	0		
INTERSTATE	1	0	0	0	0	0	0	0	0	0	0	0	1		
WA TOTAL (does not include interstate)	**1**	**1**	**4**	**1**	**4**	**0**	**1**	**2**	**1**	**4**	**0**	**0**	**19**		

* Crude Rate per 100, 000 and Age Standardised Rate per 100, 000 compared to Australian Standard Population (to eliminate the effect of differences in population age structures between geographic areas)



BFV WA 2024	Jan	Feb	Mar	Total
Metro	**1**			**1**
East Fremantle (T)	**1**			**1**
EAST FREMANTLE	1			1
Midwest			**1**	**1**
Northampton (S)			**1**	**1**
KALBARRI			1	1
SW - Leschenault		**1**		**1**
Bunbury (C)		**1**		**1**
BUNBURY		1		1
Wheatbelt		**1**		**1**
Dandaragan (S)		**1**		**1**
CERVANTES		1		1
Total	**1**	**2**	**1**	**4**

Western Australia State Summary

- In this quarter, **4 BFV cases were notified across WA,** including 1 by lab only.
- For WA, **the long term mean for BFV cases is 29 per year, and 11 for this quarter .** The number of BFV cases was below the monthly mean.
- The date and location of exposure will often be different to information provided on notification forms in 90% and 50% of the cases, respectively. Data is more accurate when follow up surveys are completed.
- **ESD/Follow-up Response Rate for RRV cases in this quarter: 50%#**

#calculated as number of follow up surveys received divided by total number of notified cases

East Metropolitan Health Region

- **No BFV cases were notified this quarter**.
- For this region, the **long term mean for BFV cases is 7 per year and 3 for this quarter.**

Please contact Medical Entomology if more information is required | (08) 9285 5500 | Email: medical.entomology@health.wa.gov.au

Climate Summary for January to March 2024

Links to the Climate Driver Update and Climate summaries for January to March 2024 can be found below:

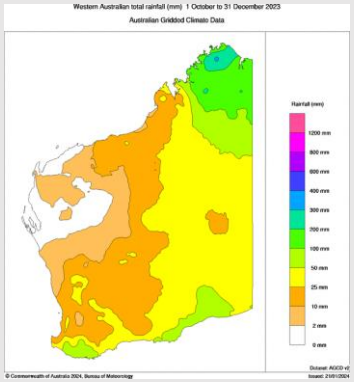
[Climate Driver Update history]

[Climate summary for Western Australia in January 2024]

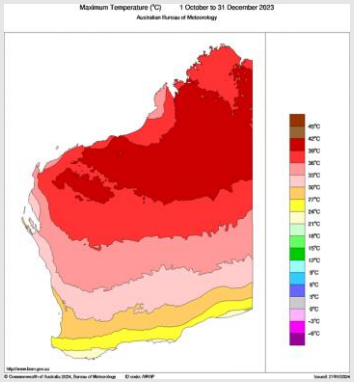
[Climate summary for Western Australia in February 2024]

[Climate summary for Western Australia in March 2024]

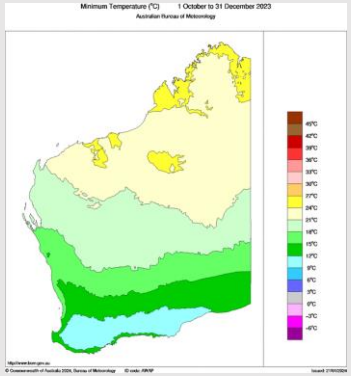
[Actual Rainfall]



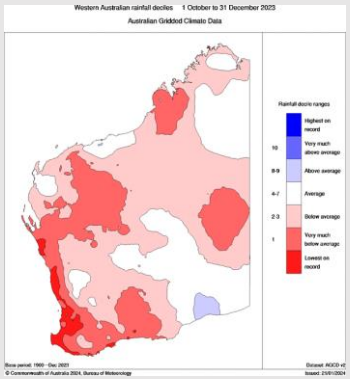
[Actual Maximum Temperatures]



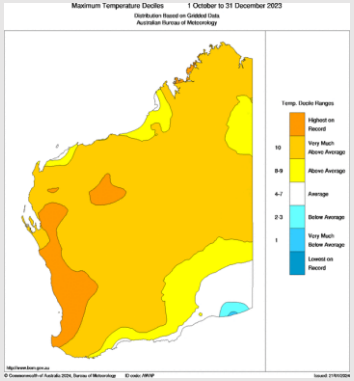
[Actual Minimum Temperatures]



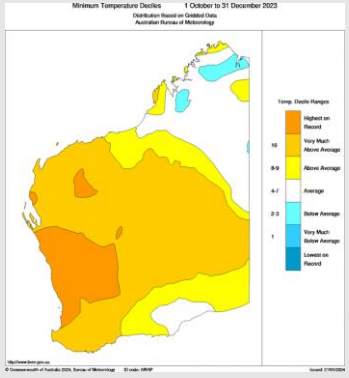
[Rainfall Decile]



[Maximum Temperature Decile]



[Minimum Temperature Decile]



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Mosquito-borne Disease Risk Outlook
Flavivirus activity detected in the northern Western Australia

There has been widespread Flavivirus activity in northern WA over the past 3 months. Activity was first detected in the East Kimberley region in late February with sentinel chickens seroconverting and Murray Valley encephalitis virus (MVEV) detected in mosquitoes near Kununurra. By late March this activity had spread to the Pilbara region, with chickens seroconverting and a number of MVEV detections in mosquito pools. Flavivirus activity has continued with flocks in the Pilbara, East and West Kimberley all seroconverting, and the first human encephalitic flavivirus (probably MVE) infection since July 2023 reported in April. With ongoing evidence of activity it is important to remain vigilant against mosquito bites if residing or visiting the Pilbara and Kimberley regions.

Ross River virus activity has been below average this season, although more cases were reported than last season, which was a record low. Of the 264 cases reported so far this season, 200 have been from the South West (157) or Kimberley (43) regions.

Climate outlook for Western Australia for May 2024 to August 2024 Issued 2 May 2024

Descriptions of Major Climate Drivers in WA

Weather forecasts based on interactions between oceanic and atmospheric conditions.

El Niño/ La Niña (ENSO Pacific Ocean) mainly affects north and east of WA

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

La Niña: Typically 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) mainly affects mid two thirds of WA.

Positive IOD: Typically associated with reduced winter/spring rainfall, warmer conditions in the south, and cooler in the north.

Negative IOD: Typically associated with wetter winter/spring, cooler days in the south, warmer in the north with increased chances of rainfall/flooding.

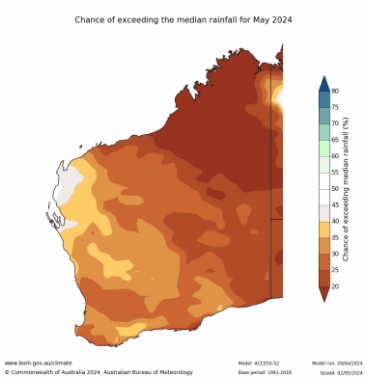
Southern Annular Mode (SAM) mainly affects south of WA, impact varies by season, trending towards a more positive phase in summer - contribution still under research .

Positive SAM: warmer and drier conditions. Boosted by La Nina conditions.

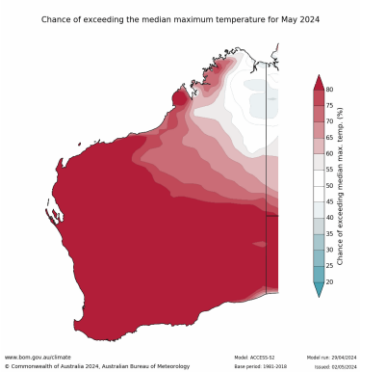
Negative SAM: cooler and wetter conditions.

For more info see Australian Climate Influences

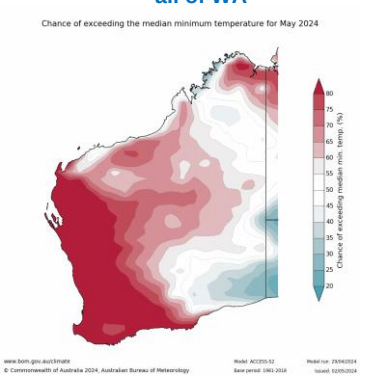
A drier May likely for most of WA



Warmer than average days for all of WA



Warmer than average nights for all of WA



Climate Driver Update

El Niño-Southern Oscillation is currently neutral
IOD is currently neutral tending positive in May
SAM is currently neutral, forecasted to dip into negative values in early May

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