



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

# Medical Entomology Quarterly Report

## Midwest Health Region: Jan – Mar 2022



# Ross River virus disease case data summary

## Western Australia: 2021/2022

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

313 RRV cases were notified across WA during this quarter. 239 of these were also notified by doctor. Follow-up surveys can only be requested for cases that have been notified by doctor. Follow-up data is available for 115 cases.

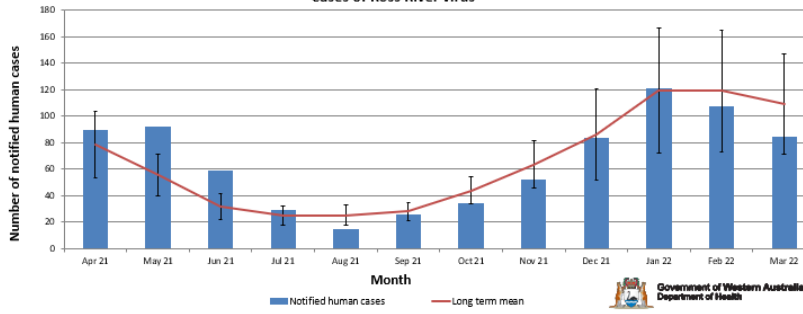
The number of cases across WA was **at the long term mean** for January and **below the long term mean** for February and March 2022.

Serologically confirmed doctor-notified and laboratory reported cases of Ross River virus disease each month in WA, July 2021 - June 2022 #

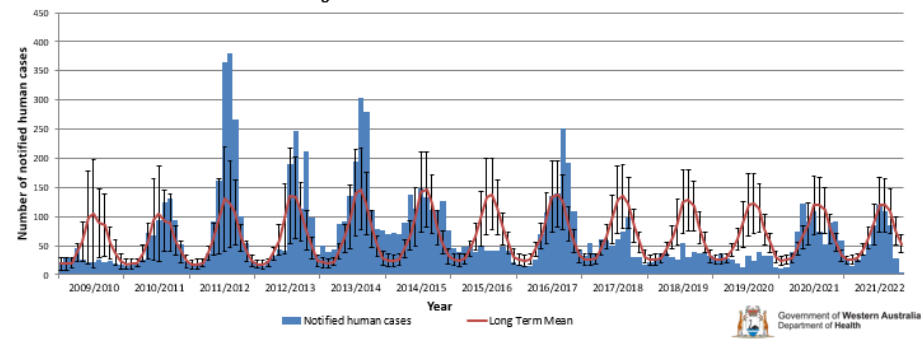
\* Compiled by the Medical Entomology, WA Department of Health

REGION	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total	Crude Rate	Age Std Rate
KIMBERLEY	0	3	1	1	1	0	2	5	14	4	1	0	32	88.8	88.6
PILBARA	1	0	0	1	2	0	2	4	1	1	0	0	12	19.1	15.6
GASCOYNE	11	2	1	0	0	0	0	1	0	0	0	0	15	162.0	161.8
MIDWEST	1	1	8	3	4	3	3	2	0	1	0	0	26	43.4	39.0
WHEATBELT	1	0	2	4	5	3	3	3	2	1	0	0	24	35.1	35.1
METRO	3	3	2	7	11	24	46	70	45	13	1	0	225	12.2	12.0
SW - PEEL	1	3	4	12	15	19	27	6	11	3	1	0	102	36.0	36.5
SW - LESCHENAULT	5	0	1	0	3	10	13	3	4	1	0	0	40	53.7	52.5
SW - Geographe	0	0	1	0	2	3	6	5	3	0	1	0	21	35.8	36.0
SW - ELSEMERE	3	0	1	0	2	5	9	5	2	2	0	0	29	59.8	55.7
SOUTH WEST(Total)	9	3	7	12	22	37	55	19	20	6	2	0	192	41.3	
GREAT SOUTHERN	2	1	2	4	4	14	8	3	2	1	0	0	41	66.8	64.7
GOLDFIELDS-ESPERANCE	0	2	3	1	2	3	2	0	1	1	0	0	15	27.8	25.8
WA UNDETERMINED	0	0	0	0	0	0	0	0	0	0	0	0	0		
INTERSTATE	2	0	1	1	3	1	0	1	0	0	0	0	9		
<b>WA TOTAL (does not include interstate)</b>	<b>28</b>	<b>15</b>	<b>26</b>	<b>33</b>	<b>51</b>	<b>84</b>	<b>121</b>	<b>107</b>	<b>85</b>	<b>28</b>	<b>4</b>	<b>0</b>	<b>582</b>		

Cases of Ross River virus



Long term cases of Ross River virus



Doctor Notification Rate: 76%\*

Follow-up Response Rate for Dr notified cases : 48%\*\*

\*calculated as number of Dr notified cases divided by number of lab notified cases

\*\*calculated as number of follow up surveys (ESD) received divided by number of Dr notified cases.



# Ross River virus disease case data summary

## Midwest Health Region: Jan – Mar 2022



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)

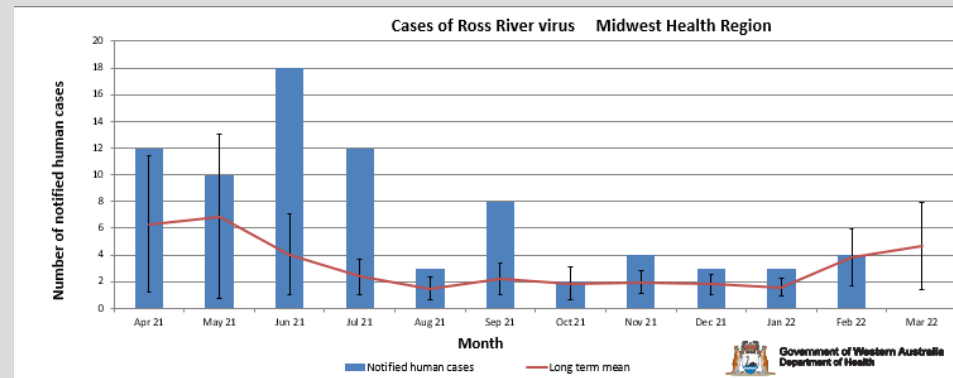
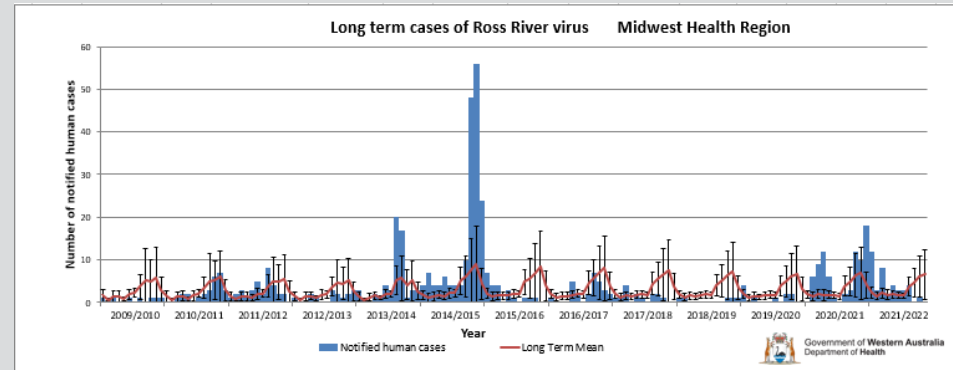
### Midwest Health Region

6 RRV cases were notified by lab. 2 of these were also notified by doctor. Follow-up data is only available for the case from Exmouth.

The number of cases were **significantly above the long term mean** for January, **at the long term mean** for February and **significantly below the long term mean** for March 2022.

The highest number of cases were notified in Greater Geraldton (5) which was **significantly above the long term** for both January and February 2022 in this LG.

RRV 2022	Jan	Feb	Mar	Total
<b>Gascoyne</b>		1		1
Exmouth (S)		1		1
EXMOUTH		1		1
<b>Midwest</b>	<b>3</b>	<b>2</b>		<b>5</b>
Northampton (S)		1		1
KALBARRI		1		1
<b>Greater Geraldton (C)</b>	<b>3</b>	<b>1</b>		<b>4</b>
MOUNT TARCOOLA		1		1
SUNSET BEACH	1			1
WANDINA	2			2
<b>Total</b>	<b>3</b>	<b>3</b>		<b>6</b>



Doctor Notification Rate: 33%\*

Follow-up Response Rate for Dr notified cases: 50%\*\*

\*calculated as number of Dr notified cases divided by number of lab notified cases

\*\*calculated by number of follow up surveys (ESD) received divided by number of Dr notified cases. Follow-up can only be requested for Dr notified cases.

# Barmah Forest virus disease case data summary

## Midwest Health Region and State summary: Jan – Mar 2022

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

8 BFV cases were notified in Western Australia this quarter. 3 were notified by doctor. Follow-up data is available for 3 cases from Coral Bay, Denmark and Stratham.

The number of cases was approximately **at the long term mean** for January and February and **below the long term mean** for March 2022.

### Barmah Forest virus (BFV) Midwest Health Region

One BFV case in Coral Bay was notified by lab only in January 2022. Follow up data is available for this case.

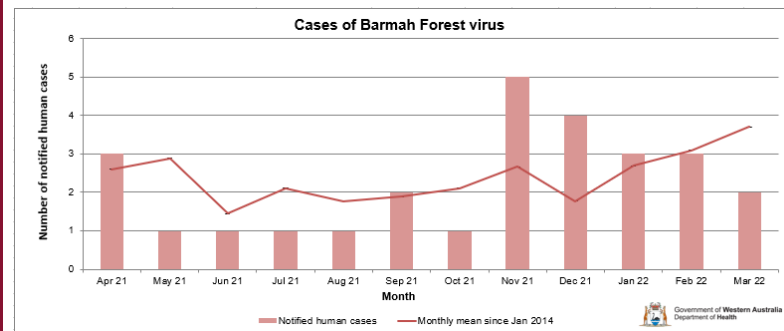
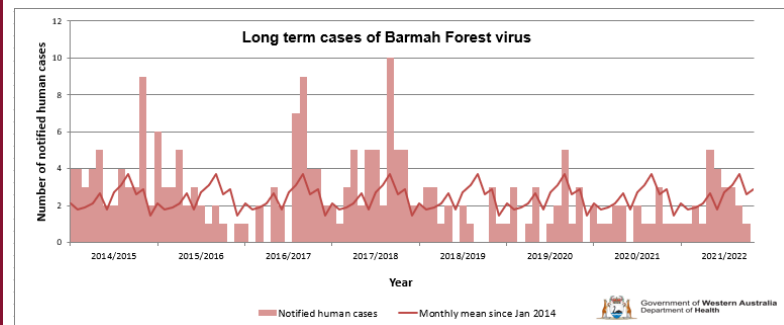
The long term monthly mean is less than one case per month for this region.

BFV 2022	Jan	Feb	Mar	Total
<b>Gascoyne</b>	1			1
Carnarvon (S)	1			1
CORAL BAY	1			1
<b>Goldfields-Esperance</b>		1		1
Kalgoorlie/Boulder (C)		1		1
KALGOORLIE		1		1
<b>Great Southern</b>	1			1
Denmark (S)	1			1
DENMARK	1			1
<b>Kimberley</b>		1	2	3
Broome (S)		1		1
BROOME		1		1
<b>Wyndham-East Kimberley (S)</b>			2	2
KUNUNURRA			2	2
<b>SW - Geographe</b>	1			1
Capel (S)	1			1
STRATHAM	1			1
<b>SW - Peel</b>		1		1
Serpentine-Jarrahdale (S)		1		1
JARRAHDAL		1		1
<b>Total</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>8</b>

Serologically confirmed doctor-notified and laboratory reported cases of Barmah Forest virus disease each month in WA, July 2021 - June 2022 #

\* Compiled by the Medical Entomology, WA Department of Health

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	0	1	2	1	0	0	5	13.9	19.4
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	1	0	0	0	0	0	1	10.8	15.7
MIDWEST	0	0	0	0	3	0	0	0	0	0	0	0	3	5.0	5.5
WHEATBELT	1	0	0	0	0	0	0	0	0	0	0	0	1	1.5	2.1
METRO	0	0	1	0	0	0	0	0	0	0	0	0	1	0.1	0.1
SW - PEEL	0	0	1	0	0	1	0	1	0	0	0	0	3	1.1	0.9
SW - LESCHENAU	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
SW - Geographe	0	0	0	0	1	2	1	0	0	0	0	0	4	6.8	5.7
SW - ELSEWHERE	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
SOUTH WEST (Total)	0	0	1	0	1	3	1	1	0	0	0	0	7	1.5	
GREAT SOUTHERN	0	0	0	0	1	1	1	0	0	0	0	0	3	4.9	4.4
GOLDFIELDS-ESPERANCE	0	0	0	1	0	0	0	1	0	0	0	0	2	3.7	4.5
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		
<b>WA TOTAL (does not include interstate)</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>23</b>		



# Climate outlook for Western Australia Jun - Aug 2022

## Predicted impact of climatic conditions on mosquito breeding

La Niña continues in the tropical Pacific, with little change in strength in the past few weeks. Most models predict a return to neutral ENSO in early winter.

The IOD is currently neutral, although a negative IOD is likely to develop in coming months.

**Impact on mosquito breeding:** Warmer wetter days and nights are more conducive to mosquito breeding and possible mosquito-borne virus activity.

Japanese Encephalitis has not been detected in WA. However MVE and Kunjin virus activity has been detected in sentinel chicken flocks in the Kimberley region in Feb, Mar and April this year.

## 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.

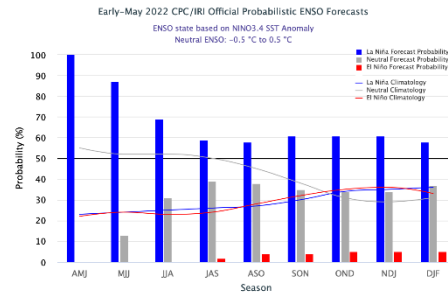
## Indian Ocean Dipole (IOD)

**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.

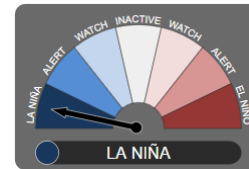
**Negative IOD:** Brings above average winter-spring rainfall, cooler days in the south, and warmer nights in the north with increased chances of flooding.

## International Research Institute for Climate and Society (IRI ENSO) Forecast & BOM

Issued 10 May 2022

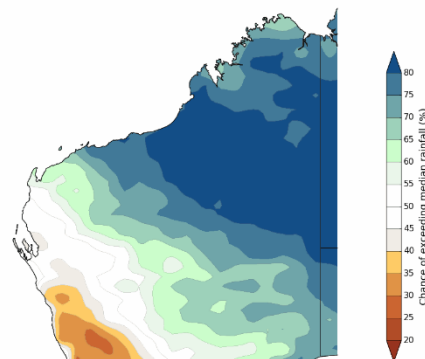


**ENSO Alert Status:**  
La Niña maintains strength and will likely return to neutral early winter



## Australian BOM Rainfall Outlook Issued 12 May 2022

Chance of exceeding the median rainfall for June to August 2022

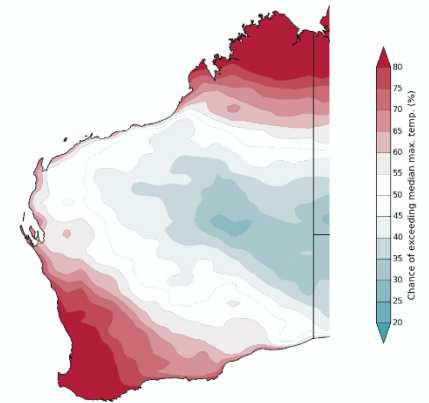


www.bom.gov.au/climate  
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Model: ACCESS-52  
Base period: 1981-2018  
Model run: 09/05/2022  
Issue: 12/05/2022

**Rainfall** is likely to be above median for large parts of the state, and below median for inland south west of WA.

## Australian BOM Temperature Outlook Issued 12 May 2022

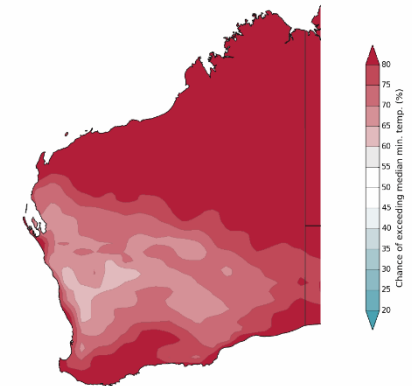
Chance of exceeding the median maximum temperature for June to August 2022



www.bom.gov.au/climate  
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Model: ACCESS-52  
Base period: 1981-2018  
Model run: 09/05/2022  
Issue: 12/05/2022

**Daytime temperatures** are likely to be warmer than median for the tropical north and south west regions, and cooler than median for central WA.

Chance of exceeding the median minimum temperature for June to August 2022



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© Commonwealth of Australia 2022, Australian Bureau of Meteorology  
Model: ACCESS-52  
Base period: 1981-2018  
Model run: 09/05/2022  
Issue: 12/05/2022

**Night-time temperatures** are very likely to be warmer than median across the whole state.