



# Pre Season Preparedness Briefing

2024/2025 Outlook





The Bureau  
of Meteorology

# Pilbara Pre-Season Briefing

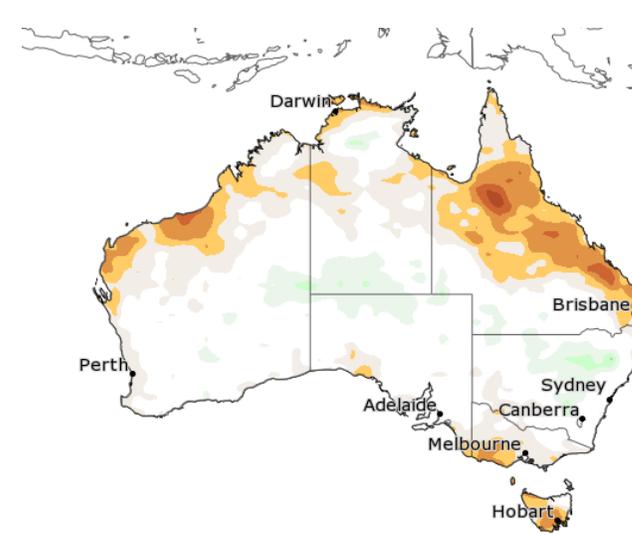
Outlook for the wet season 2024-2025

Joey Rawson  
Bureau of Meteorology, Perth

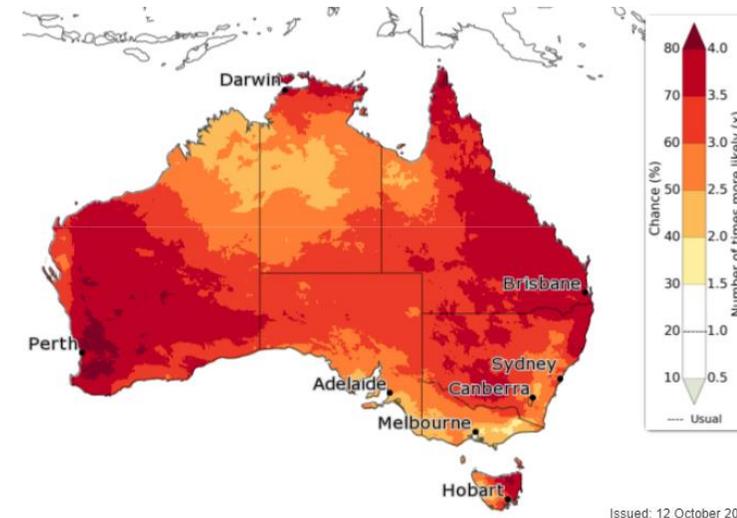
# This time last year...

## Outlook for 2023-2024

- El Nino *and* Positive IOD
- Less cyclone activity than normal and first cyclone to impact the WA coast occurs later.
- Monsoon onset over northern Australia later than normal (late December or into January)
- Lower than normal risk of widespread flooding.
- The fire season can extend to later in the year in the north (due to lack of rains), start earlier in the south (hotter).
- Very high change of extreme heat conditions



Rainfall - Chance of above median for December to February



Issued: 12 October 2023

Temperature - Chance of being in the highest 20% of the historical range for December to February

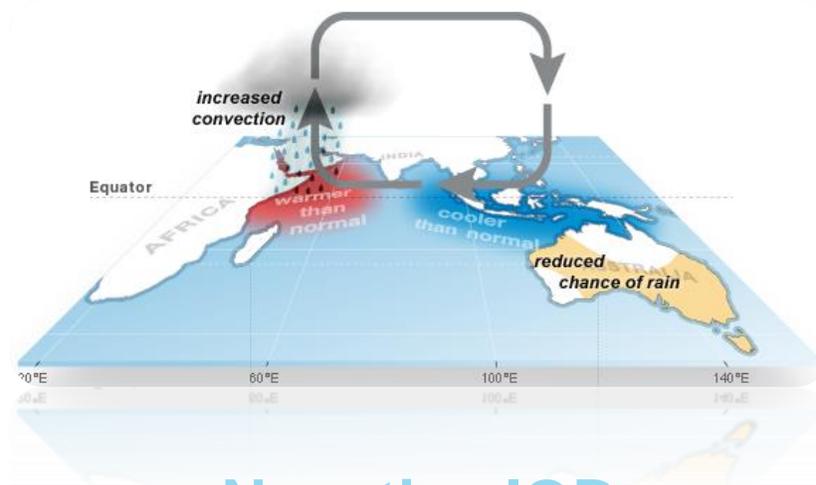


# 2023-2024 Tropical Cyclones

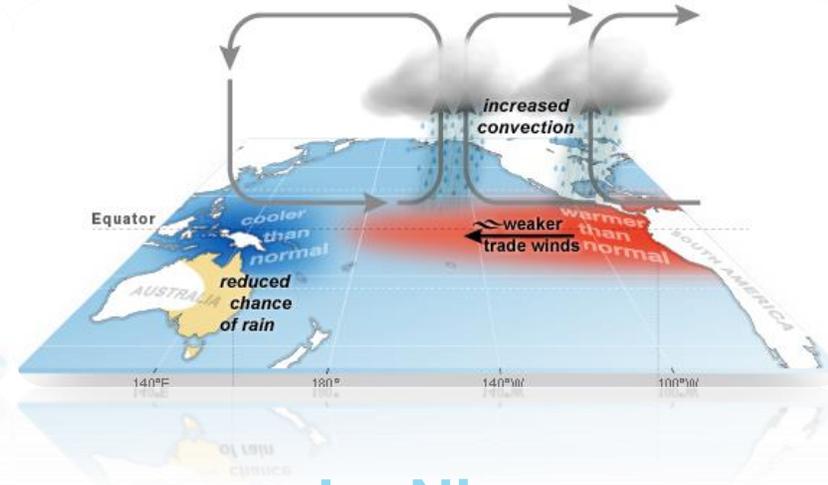


# Seasonal Indicators

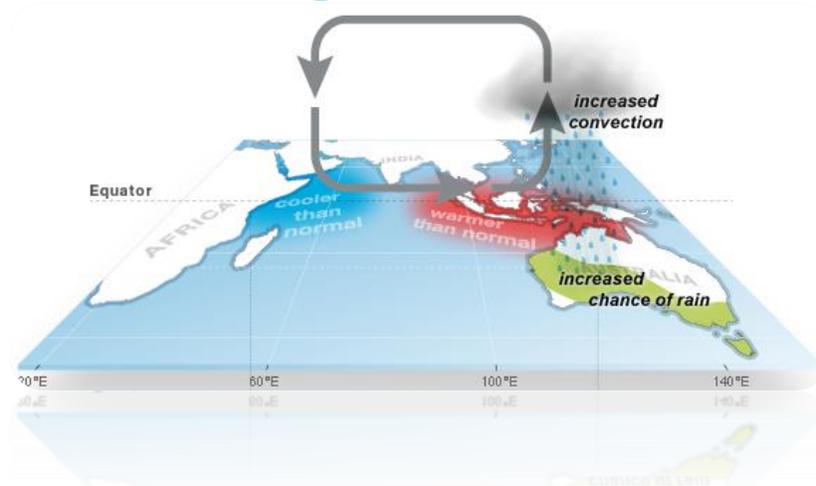
## Positive IOD



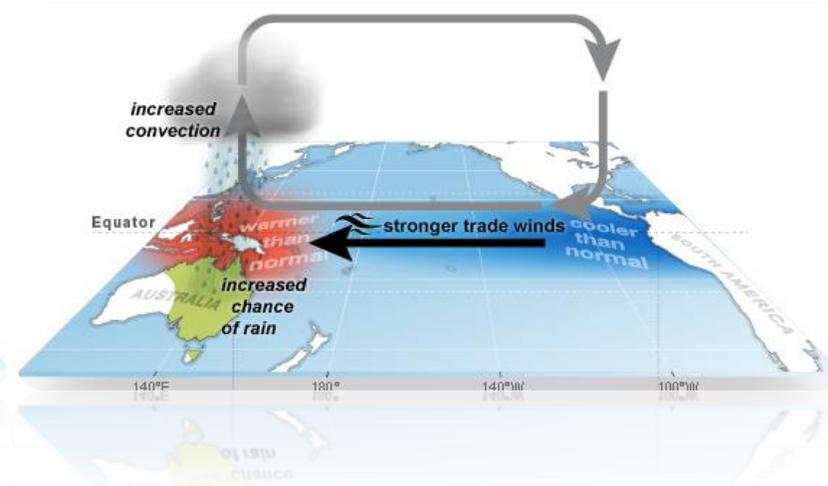
## El Nino



## Negative IOD

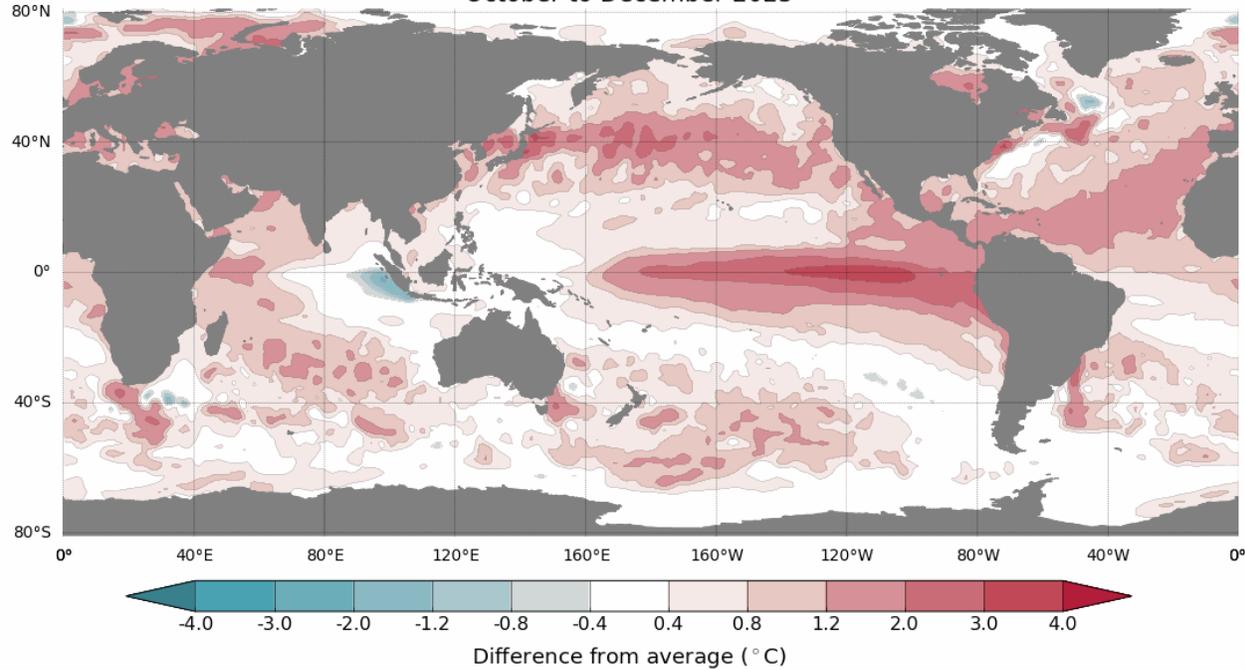


## La Nina



# October to December Forecast Sea Surface Temperature Anomalies 2023 vs 2024

Difference from average sea surface temperature forecast for  
October to December 2023

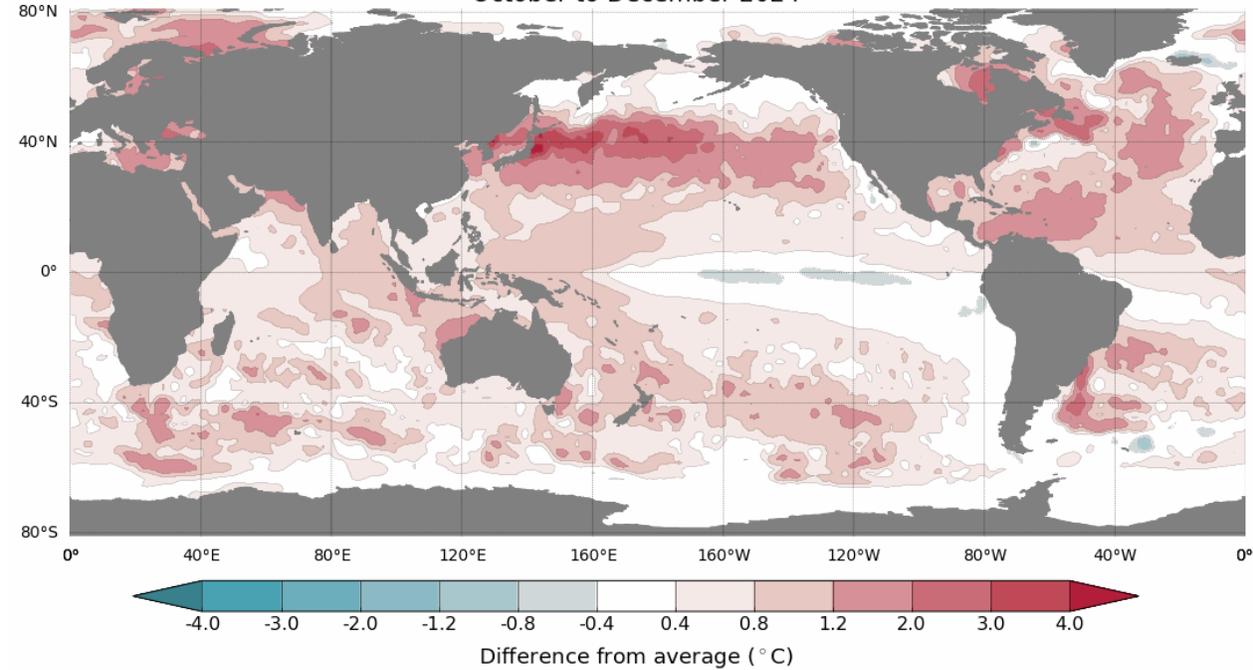


www.bom.gov.au/climate  
© Commonwealth of Australia 2023, Australian Bureau of Meteorology

Model: ACCESS-S2  
Base period: 1981-2018

Model run: 23/09/2023  
Issued: 25/09/2023

Difference from average sea surface temperature forecast for  
October to December 2024



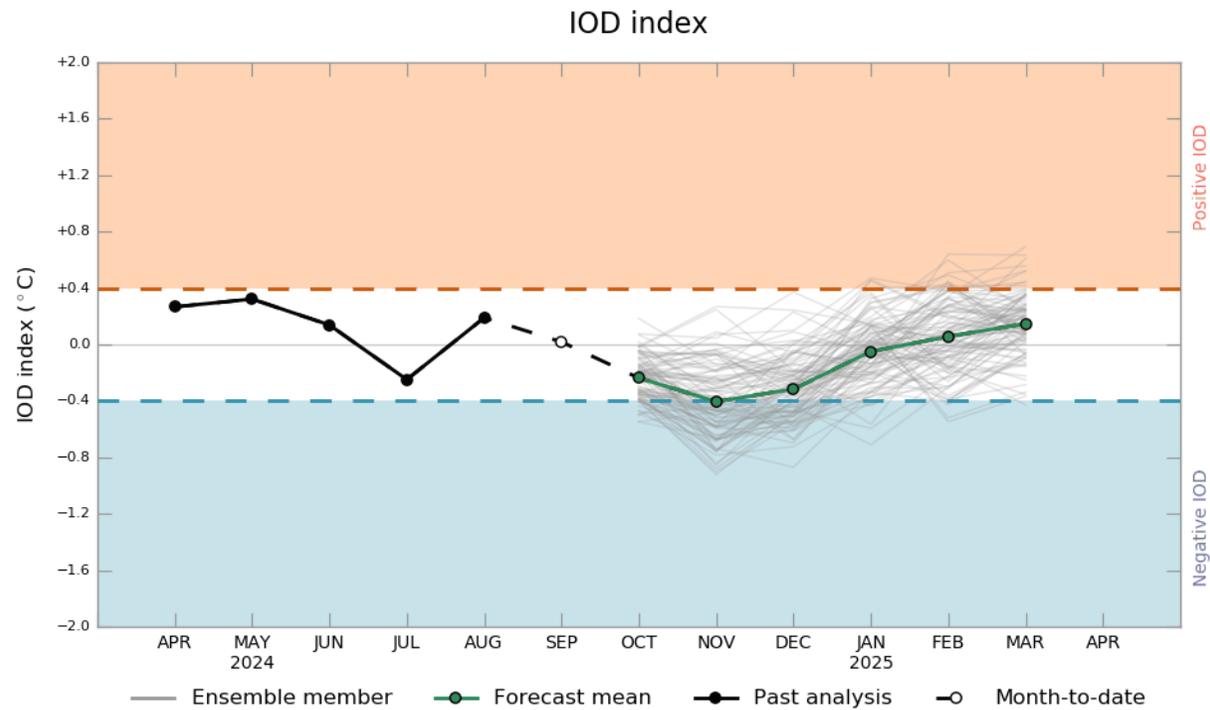
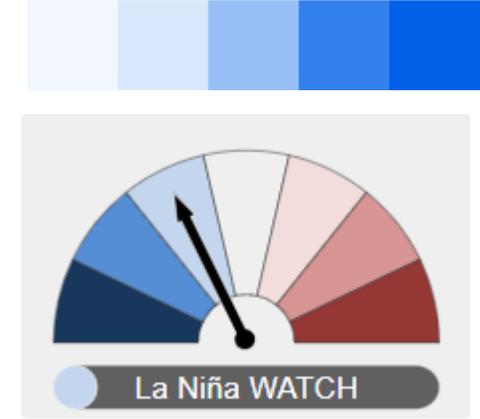
www.bom.gov.au/climate  
© Commonwealth of Australia 2024, Australian Bureau of Meteorology

Model: ACCESS-S2  
Base period: 1981-2018

Model run: 30/09/2024  
Issued: 02/10/2024

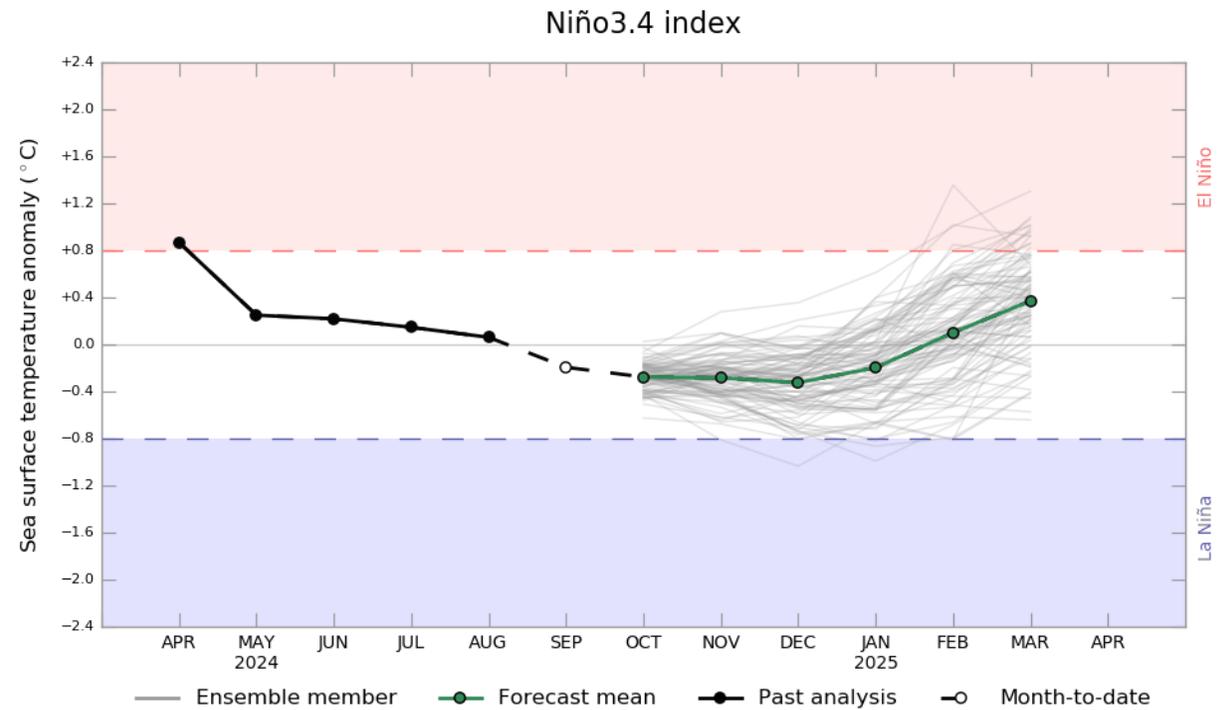


# Ocean Indices – IOD and ENSO



www.bom.gov.au/climate  
Commonwealth of Australia 2024, Australian Bureau of Meteorology

Past analysis base period: 1991-2020  
Forecast base period: 1981-2018  
Model: ACCESS-S2  
Model run: 28 Sep 2024

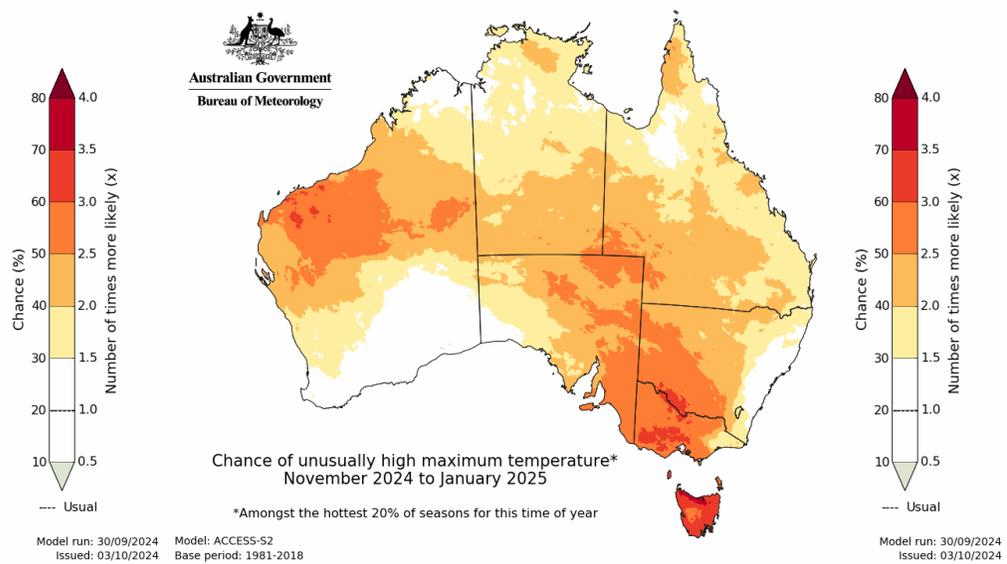
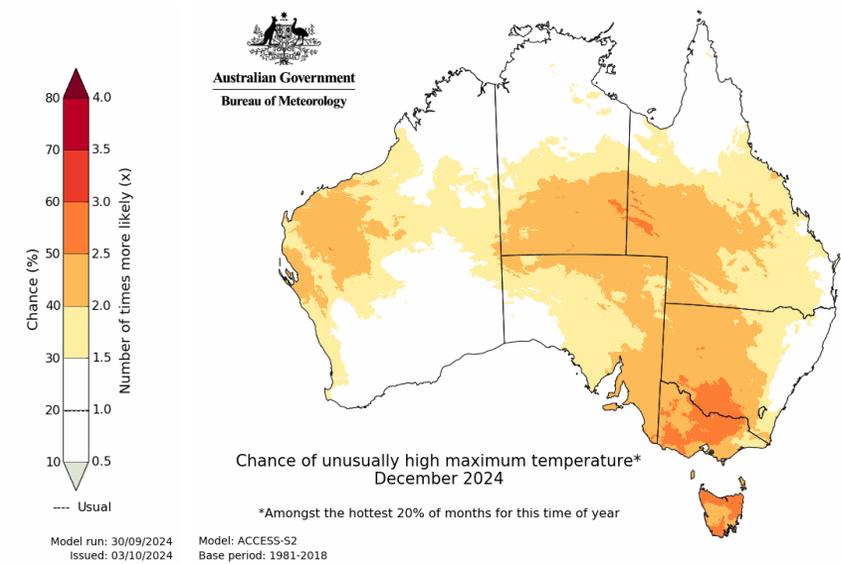
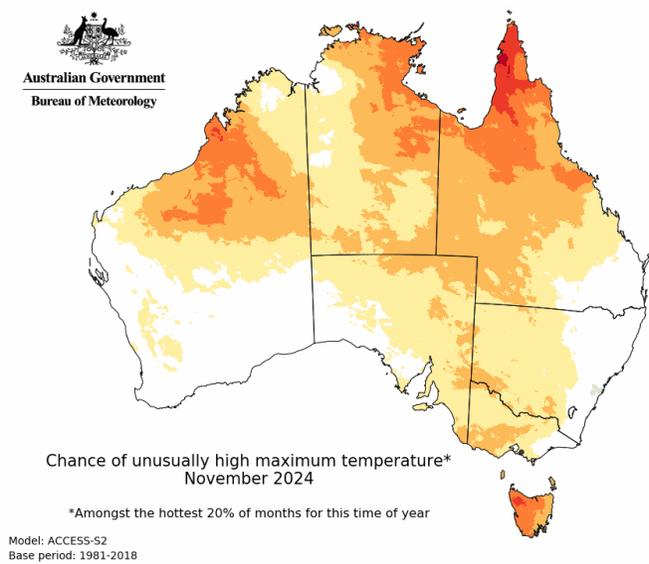
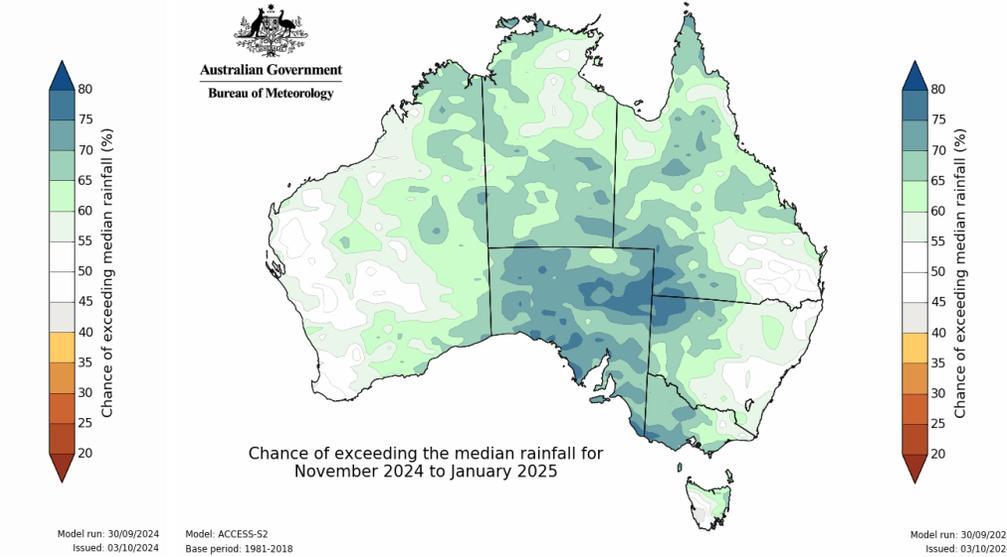
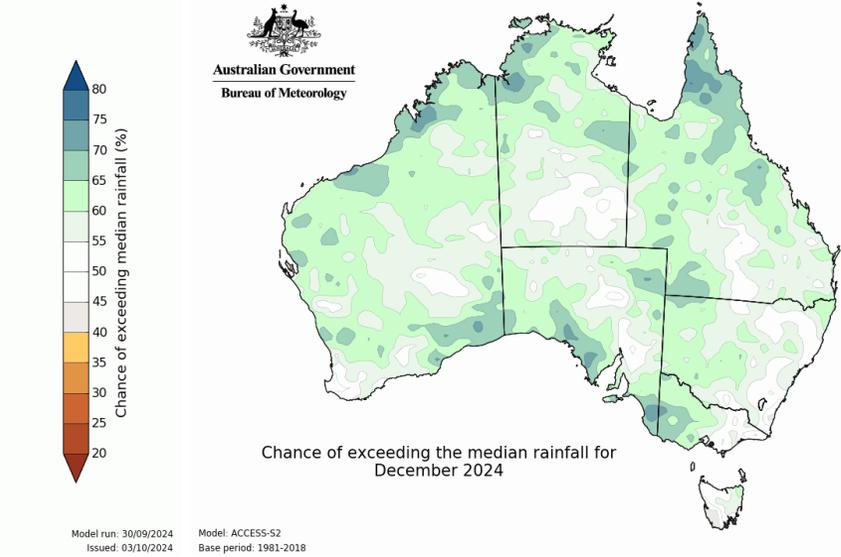
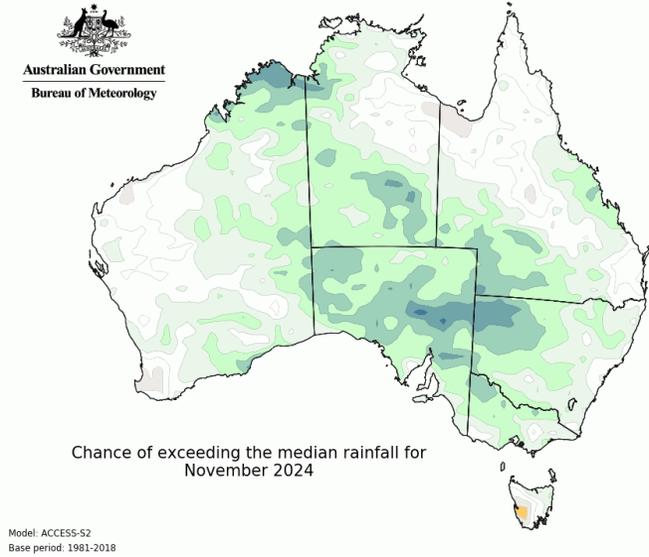


www.bom.gov.au/climate  
Commonwealth of Australia 2024, Australian Bureau of Meteorology

Past analysis base period: 1991-2020  
Forecast base period: 1981-2018  
Model: ACCESS-S2  
Model run: 28 Sep 2024



# 3 Months Rainfall and Temperature Outlook



# 2024-25 Wet Season hazards

## Hazard

## Likelihood compared to recent decades



Bushfire



Near average risk during fire season



Extreme heat



Increased chance



Widespread flooding



Average risk



Storm



Close to average



Tropical cyclone



Close to average



# Tropical Cyclone Web Page 2024-25

Australian Government  
Bureau of Meteorology

HOME | ABOUT | MEDIA | CONTACTS | Enter search terms | Search

NSW VIC QLD WA SA TAS ACT NT AUSTRALIA | ANTARCTICA

TC Jane 02U

## Tropical cyclone

### Current tropical cyclones

COCOS (KEELING) ISLANDS  
INDIAN OCEAN  
WESTERN AUSTRALIA  
SOUTH AUSTRALIA  
NEW SOUTH WALES  
VICTORIA  
QUEENSLAND  
SOUTH PACIFIC OCEAN  
LORD HOWE ISLAND  
NORFOLK ISLAND

TC Jane 02U

About this map

Details for: TC Jane (02U)

- [Forecast Track Map](#)
- [Tropical Cyclone Information Bulletin](#)
- [Ocean Wind Warning](#)

### Related links

- [Tropical cyclones 7 day forecast](#) →
- [Australian seasonal outlooks](#) →
- [Tropical cyclone knowledge centre](#) →

Standard warning banner when TC systems are active

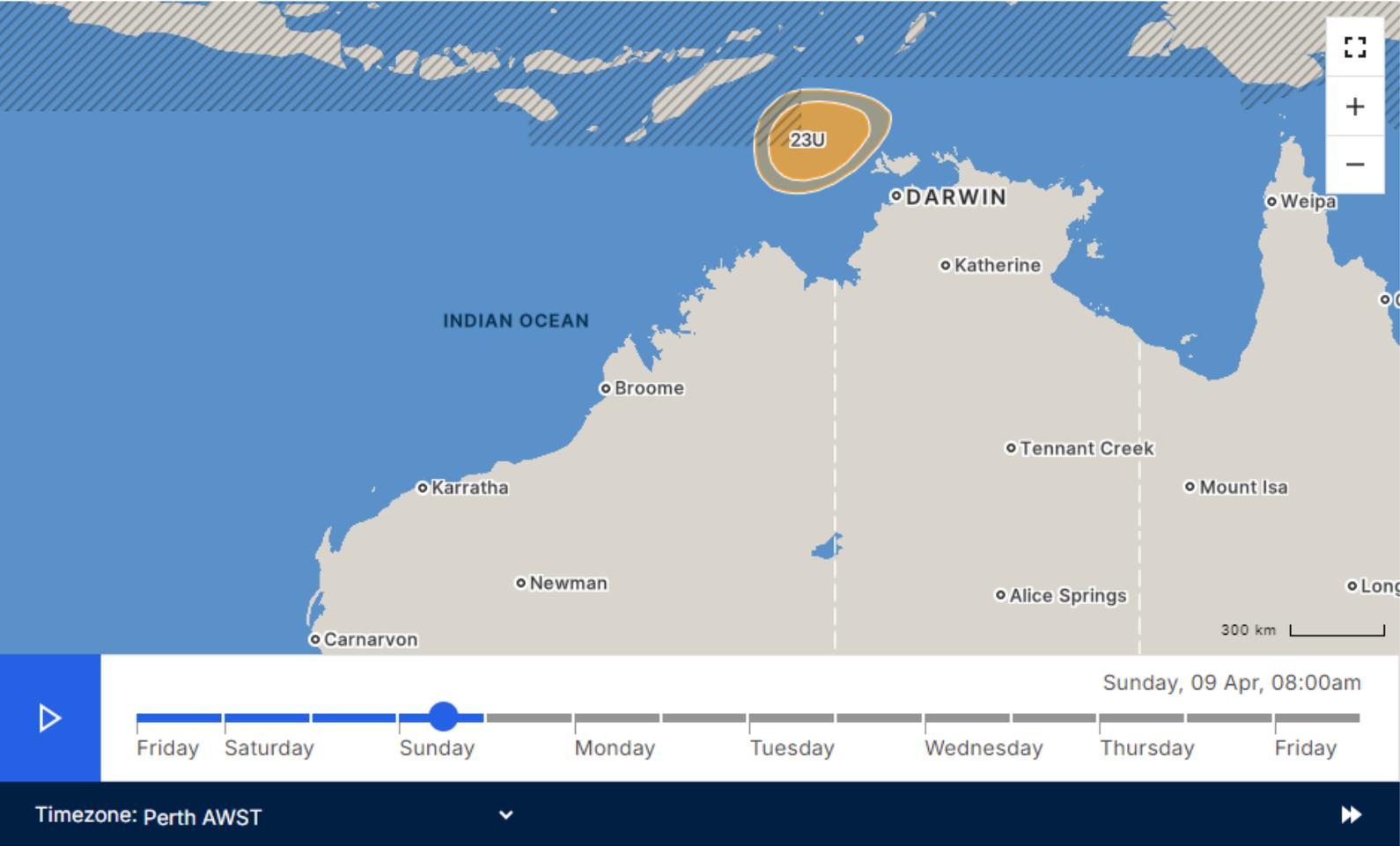
Indication of current system – Link to Track Map

Links to warning products

Link to 7 Day Forecast display

# Tropical Cyclone 7 Day Forecast

## 23U (pre-Ilsa) – Day 2 Forecast

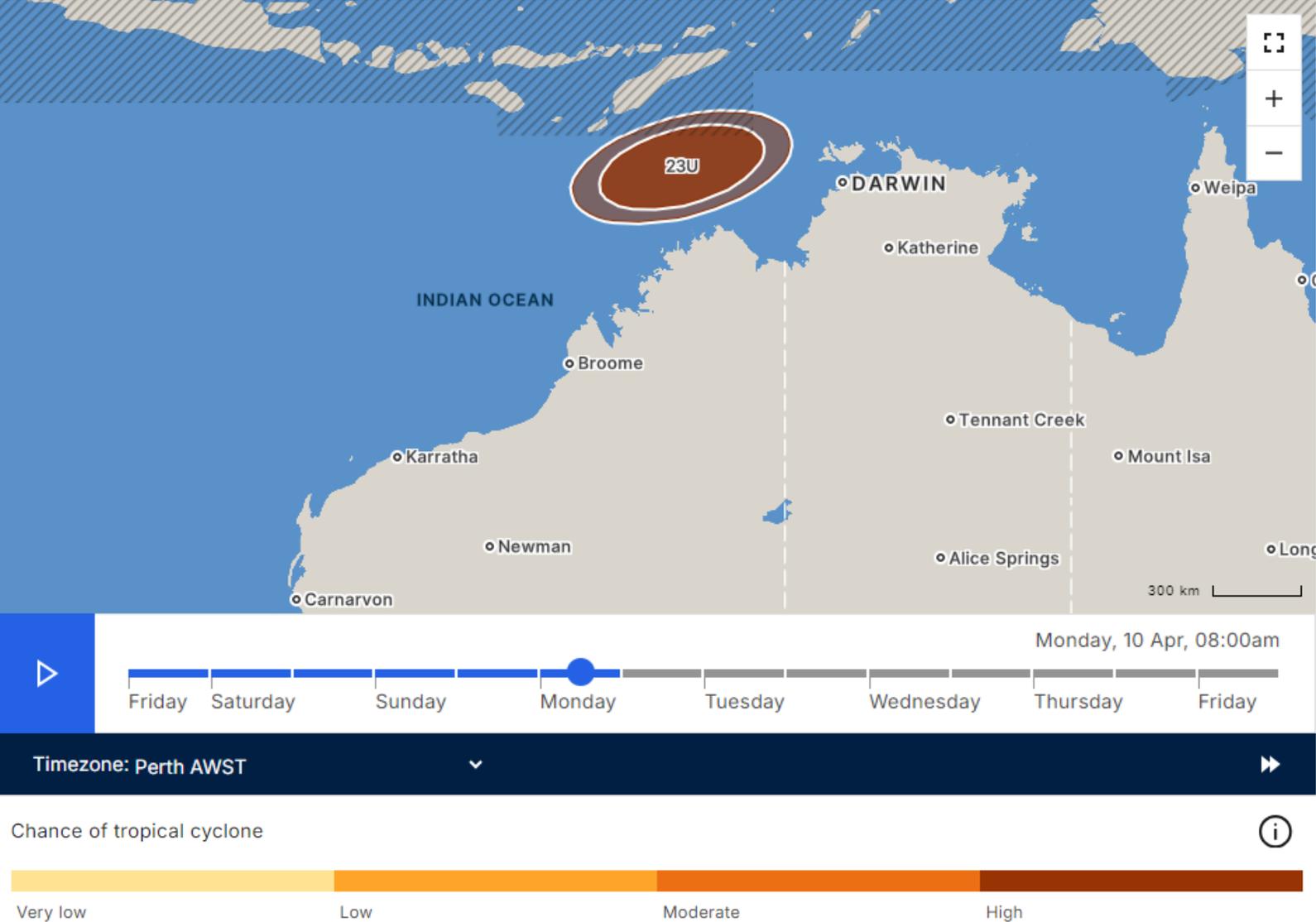


Chance of tropical cyclone



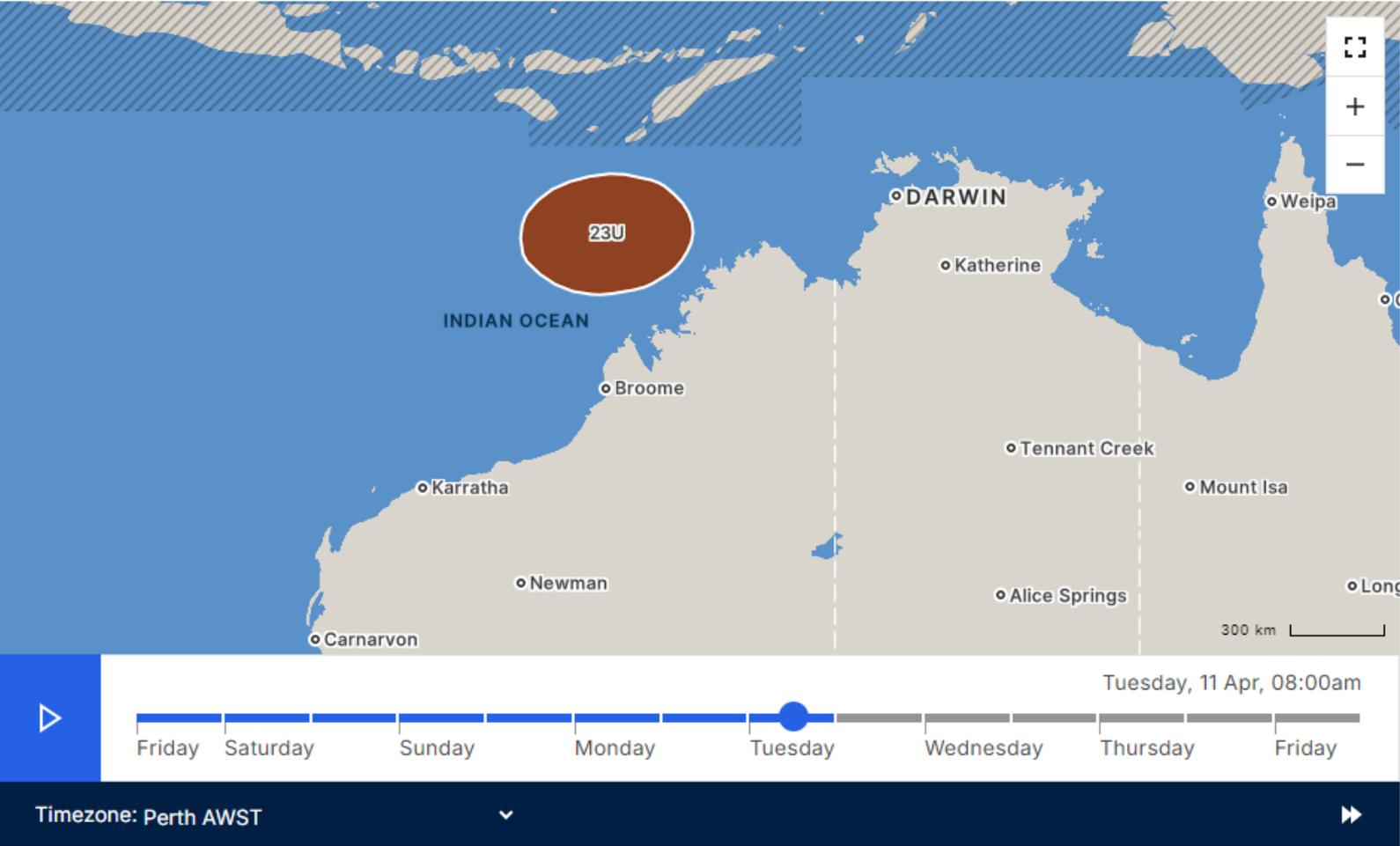
# Tropical Cyclone 7 Day Forecast

## 23U (pre-Ilsa) – Day 3 Forecast



# Tropical Cyclone 7 Day Forecast

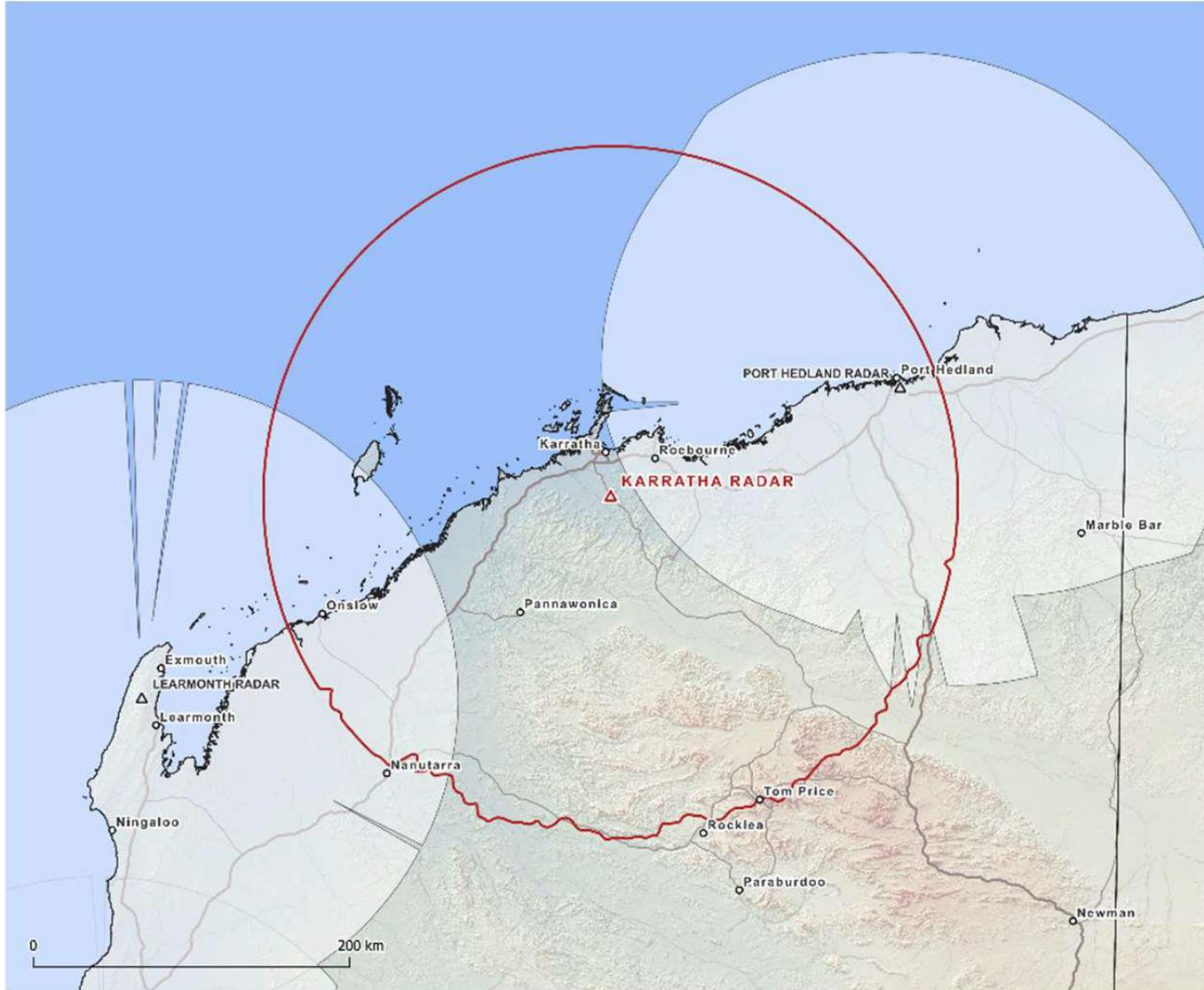
## 23U (pre-Ilsa) – Day 4 Forecast



Chance of tropical cyclone



# New Radar at Karratha replacing Dampier Radar



Go live of the new radar system will be on 17th October 2024.

Located approximately 26 km south of Karratha.





# Thank you

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[www.bom.gov.au](http://www.bom.gov.au)

[wadutyofficer@bom.gov.au](mailto:wadutyofficer@bom.gov.au)

The Bureau of Meteorology



# Australian Warning System changes

For more information: [statepublicinfo@dfes.wa.gov.au](mailto:statepublicinfo@dfes.wa.gov.au)



FOR A SAFER STATE



# The Australian Warning System (AWS)



## What is it?

The **Australian Warning System** is a **national approach** to warnings for natural hazards including bushfire, flood, storm, cyclone and heatwave.

## Why did we do it?

To deliver a more **consistent approach** to warnings, **no matter where you are or what hazards you face.**

## When was it implemented?

The new framework was introduced for cyclone, storm and flood **on 15 July 2024.**

Action statements were also added to the three hazards, as well as bushfire at this time.

# AWS Warning Levels

There are three warning levels with consistent names, colours and triangle icons.

**Advice:** An incident is active. Be aware and keep up to date.

**Watch and Act:** There is a possible threat. Take action now to stay safe.

**Emergency Warning:** There is a threat to lives and homes. Take immediate action.

Fire



Storm



Flood



Cyclone



# AWS warnings escalate and de-escalate

The three levels of warning change to reflect the increasing, or decreasing, risk to life or property.



**CYCLONE IS FORECAST**  
PREPARE AND MONITOR  
CONDITIONS

**DURING THE CYCLONE**  
SHELTER INDOORS NOW

**AFTER THE CYCLONE**  
BEWARE OF HAZARDS  
AND STAY INFORMED





Cyclone warning levels have changed.



New colours.  
New warning levels.

Get to know them



# Western Australia has new cyclone warnings.

We're no longer using the old blue, yellow, red alert system.



**ADVICE**

An incident is active. Be aware and keep up to date.



**WATCH AND ACT**

There is a possible threat. Take action now to stay safe.



**EMERGENCY WARNING**

There is a threat to lives and homes. Take immediate action.

## UNDERSTANDING THE NEW WARNING SYSTEM FOR NATURAL DISASTERS

There are three warning levels which move up and down to reflect the risk to your life or property before, during and after a natural disaster. These are the same warning levels used for bushfires. The warning level will be followed by an action such as "Monitor Conditions" or "Shelter Indoors Now" giving you clear information about how to stay safe. Learning these three levels and how to respond to them could save your life.



For more information visit [EMERGENCY.WA.GOV.AU](https://EMERGENCY.WA.GOV.AU)



# Action Statements

- Each warning level has a set of action statements to give the community clearer advice about what to do.
- Action statements allow us to issue tailored and personalised messages to the community.
- Action statements can be used flexibly across all three warning levels, and contextualised for each hazard within each state or territory.
- Action statements are reviewed annually based on feedback from jurisdictions.

## Advice

- Prepare now
- Stay informed
- Monitor conditions
- Avoid the area
- Return with caution
- Avoid smoke
- Threat is reduced

## Watch and Act

- Prepare to leave
- Leave now (if you are not prepared)
- Prepare to take shelter
- Move/stay indoors
- Stay near shelter
- Walk two or more streets back
- Monitor conditions as they are changing
- Be aware of ember attack
- Move to higher ground (away from creeks/rivers/coast)
- Limit time outside (cyclone, heat, asthma)
- Avoid the area/avoid the flooded area
- Stay away from damaged buildings and other hazards
- **Prepare for isolation**
- Protect yourself against the impacts of extreme heat
- Do not enter flood water
- Not safe to return
- Prepare your property (cyclone/storm)

## Emergency Warning

- Leave (immediately, by am/pm/hazard timing)
- Seek/take shelter now
- Shelter indoors now
- Too late/dangerous to leave

# Cyclone Warnings Triggers

The following action statements have been pre-filtered for Cyclone and are available for use, at the discretion of the RDC/IC.

	ESCALATING			DE-ESCALATING	
Warning Level	Advice 	Watch & Act 	Emergency Warning 	Watch & Act 	Advice 
Description	An incident is active but there is no immediate threat to lives or homes.	There is a possible threat to lives or homes.	There is a threat to lives and homes.	There remains a possible threat to lives and homes.	An incident remains active but there is no immediate threat to lives and homes.
Actions	PREPARE NOW	PREPARE TO LEAVE/ PREPARE TO EVACUATE	SHELTER INDOORS NOW	STAY AWAY FROM DAMAGED BUILDINGS AND OTHER HAZARDS	STAY INFORMED
	STAY INFORMED	LEAVE NOW/ EVACUATE NOW		STAY INDOORS	RETURN WITH CAUTION
	MONITOR CONDITIONS	PREPARE TO TAKE SHELTER		MONITOR CONDITIONS	THREAT IS REDUCED
	AVOID THE AREA	PREPARE FOR ISOLATION  PREPARE YOUR PROPERTY		NOT SAFE TO RETURN	



Both

Map

List



Filters



Find me

Search maps

Warnings 5



Bushfire Advice  
AVOID THE AREA - DALYELLUP

4 hours ago



Bushfire Advice  
MONITOR CONDITIONS - KUNUNURRA

2 hours ago



Bushfire Advice  
PREPARE NOW - DRYSDALE RIVER

4 hours ago



Bushfire Advice  
THREAT IS REDUCED - KUNUNURRA and LAKE ARGYLE

4 hours ago



Storm Advice  
THREAT IS REDUCED - PARTS OF THE PERTH  
METROPOLITAN, MIDWEST GASCOYNE, GOLDFIELDS  
MIDLANDS

6 hours ago



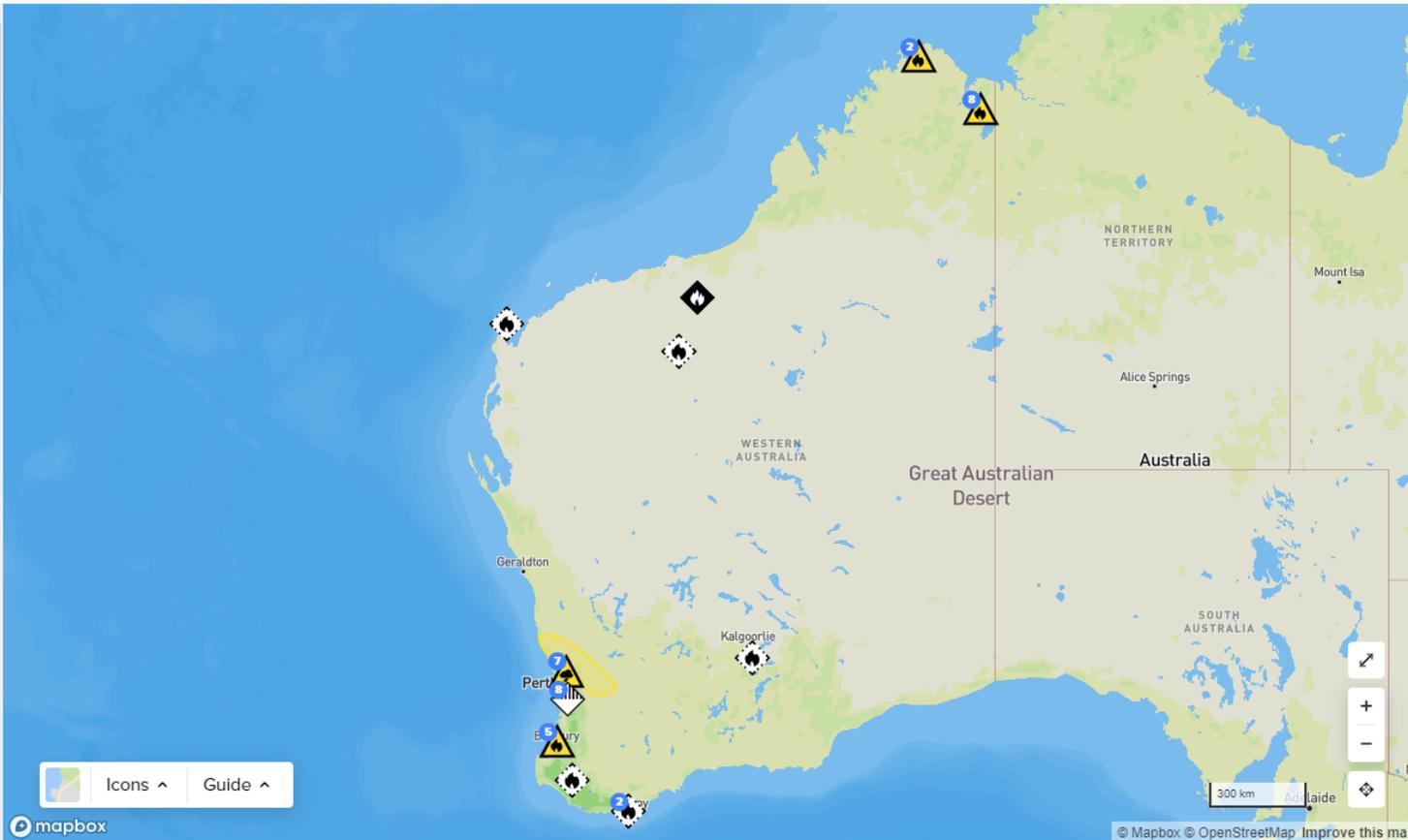
Centres and Closures 0

Incidents 9



Bushfire  
KUNUNURRA, SHIRE OF WYNDHAM-EAST KIMBERLEY

47 minutes ago



Icons ^ Guide ^

mapbox

Mapbox © OpenStreetMap Improve this map

View text version of warnings and incidents

About this site

FAQ

Disclaimer





Both Map List Filters

Warnings 6

- Bushfire Emergency Warning** 17 days ago  
TOO LATE TO LEAVE - MOONYOONOOKA, GEORGINA and MINNENOOKA
- Bushfire Emergency Warning** 17 days ago  
LEAVE NOW - CAPE BURNEY, RUDDS GULLY, GREENOUGH, NARNGULU, BOOTENAL, MERU, GEORGINA, WALKAWAY and GERALDTON AIRPORT
- Bushfire Watch and Act** 17 days ago  
MONITOR CONDITIONS - MOONYOONOOKA, GEORGINA and MINNENOOKA
- Bushfire Watch and Act** 17 days ago  
MONITOR CONDITIONS - RANGEWAY, UTAKARRA, KARLOO, DEEPDALE and MOONYOONOOKA
- Bushfire Watch and Act** 17 days ago  
LEAVE NOW IF YOU ARE NOT PREPARED - CAPE BURNEY, RUDDS GULLY, GREENOUGH, NARNGULU, MERU, KARLOO, DEEPDALE and MOONYOONOOKA

The following alert has been issued by the Department of Fire and Emergency Services (DFES).  
Please note changes to the Watch and Act Warning Area, Centres and closures and Extra Information.  
Issued 18 September 2024 2:14 PM

- Bushfire Emergency Warning** 17 days ago  
TOO LATE TO LEAVE - MOONYOONOOKA, GEORGINA and MINNENOOKA
- Bushfire Emergency Warning** 17 days ago  
LEAVE NOW - CAPE BURNEY, RUDDS GULLY, GREENOUGH, NARNGULU, BOOTENAL, MERU, GEORGINA, WALKAWAY and GERALDTON AIRPORT
- Bushfire Watch and Act** 17 days ago  
MONITOR CONDITIONS - MOONYOONOOKA, GEORGINA and MINNENOOKA



Both Map List



Filters ^

Find me Search maps

Warnings 6

**Bushfire Emergency Warning**  
TOO LATE TO LEAVE - MOONYOO  
MINNENOOKA

**Bushfire Emergency Warning**  
LEAVE NOW - CAPE BURNEY, RUD  
NARNGULU, BOOTENAL, MERU, G  
and GERALDTON AIRPORT

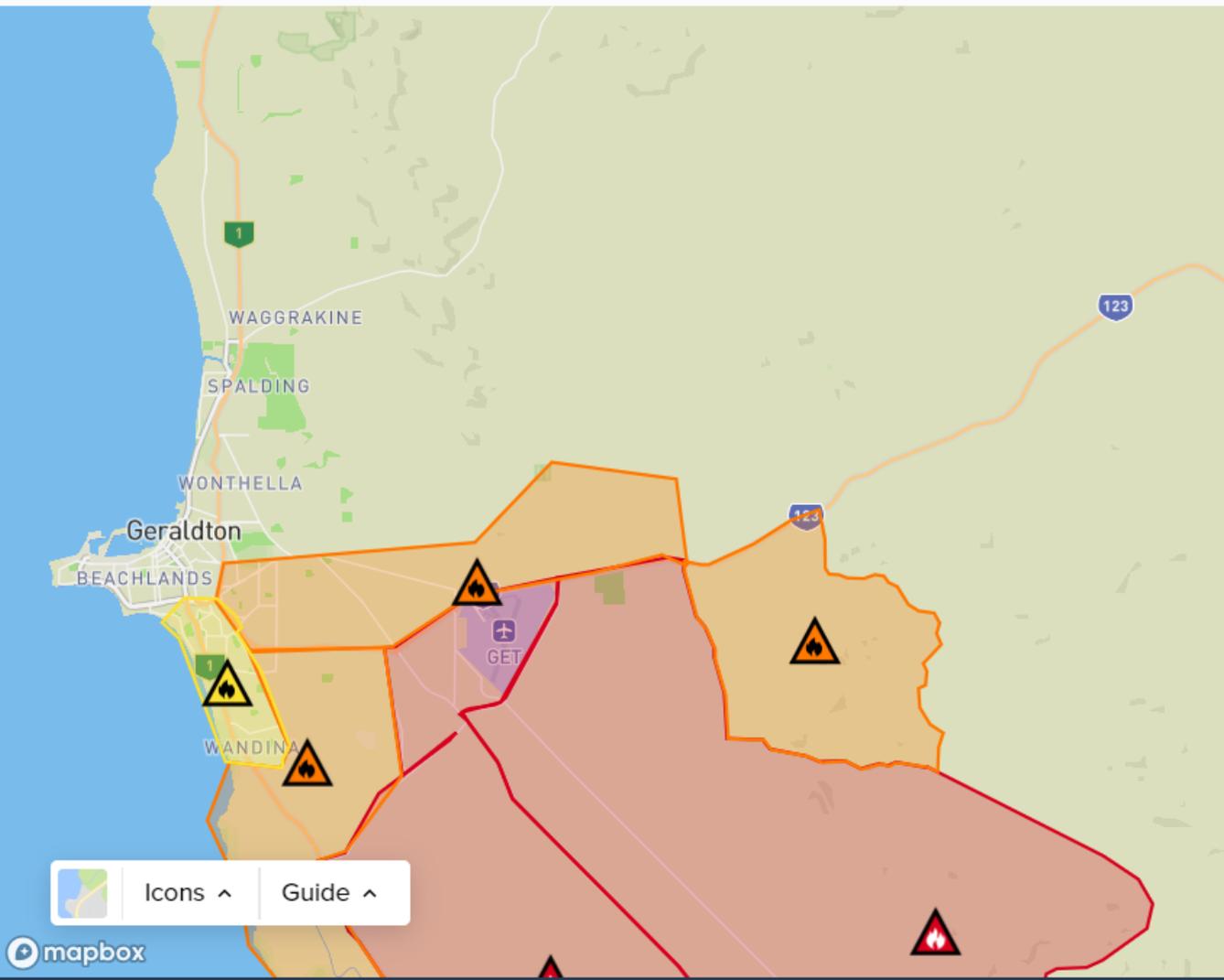
**Bushfire Watch and Act**  
MONITOR CONDITIONS - MOONY  
and MINNENOOKA

**Bushfire Watch and Act** 17 days ago  
MONITOR CONDITIONS - RANGEWAY, UTAKARRA,  
KARLOO, DEEPDALE and MOONYOONOOKA

**Bushfire Watch and Act** 17 days ago  
LEAVE NOW IF YOU ARE NOT PREPARED - CAPE BURNEY,  
BUDDS GULLY, GREENOUGH, NARNGULLU, MERU, KARLOO

Search filters

- Warnings
- Bushfire 68
- Coastal Hazard
- Cyclone 1
- Damaging Winds 1
- Earthquake
- Flood
- Hazardous Materials 2
- Heatwave 1





Both Map List

Warnings 5

- Bushfire Watch and Act**  
MONITOR CONDITIONS - WILLARE
- Bushfire Watch and Act**  
MONITOR CONDITIONS - KUNUNURRA and LA...
- Bushfire Advice**  
STAY INFORMED - KING LEOPOLD RANGES
- Bushfire Advice**  
STAY INFORMED - FITZROY CROSSING, MOUNT HARDMAN and ST GEORGE RANGES
- Cyclone Advice**  
THREAT IS REDUCED - NULLAGINE to NEWMAN 4 hours ago

Centres and Closures 0

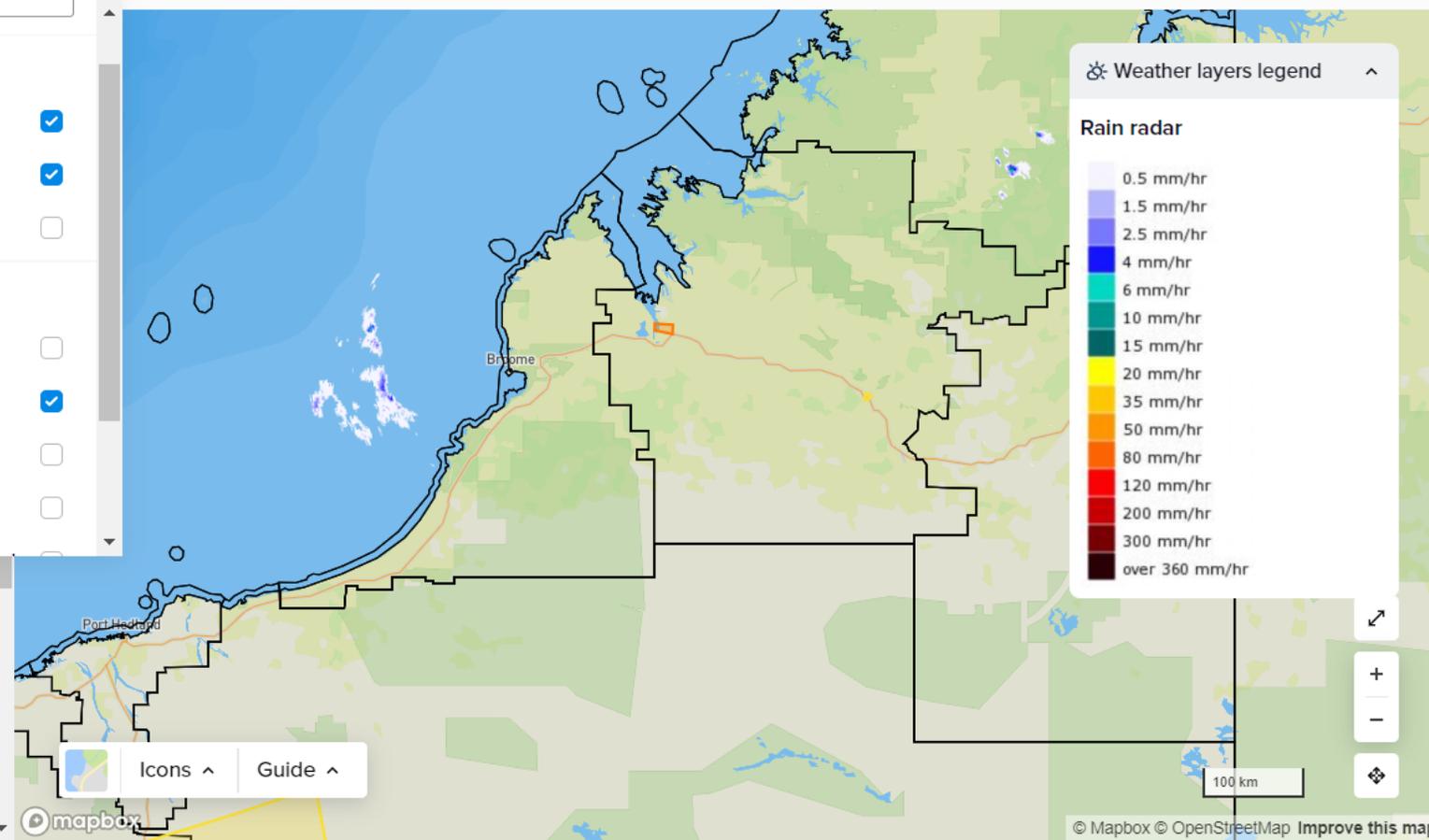
Incidents 0

**^ District boundaries**

- DFES regions
- Local Governments
- Pastoral

**^ Weather**

- Cyclone track
- Rain radar
- Thunderstorm tracker
- Satellite



[View text version of warnings and incidents](#)

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# AWS Training

Two online modules have been developed and are available via DFES' Mobilise Me platform [dfes.mobilise-me.com](https://dfes.mobilise-me.com)

## AWS Awareness

An overview of the Australian Warning System and how it applies in Western Australia. Delivered as a self-paced, e-learning awareness module.

## Applying the AWS

A scenario-based assessment module for decision makers and those who support the issuing of public information.

# What do these changes mean for you?

DFES is asking you to review your policies, procedures, manuals, training materials, signage and other documents and collateral to ensure your agency or business is up to date and understands the AWS.

DFES can assist with providing high-res icons and potentially other graphics that may assist with your updates.

In most cases, particularly for cyclone, it's likely the changes you need to make will be as simple as replacing Blue for Advice, Yellow for Watch and Act and Red for Emergency Warning.

However, depending on how you use these as triggers, some additional consideration may need to be given.

Worth noting, the Bureau of Meteorology's Cyclone Watch and Warning, Flood Watch and Warning and Severe Weather and Severe Thunderstorm products will not be changing.

# Cyclone impact checklist

- Policies and procedures
- Training/on boarding information
- On site light/flag etc cyclone warning signage
- Information available at site accommodation/dongas
- Have you informed all your contractors and subsidiaries?
- Can you utilise intranet etc to promote the changes?
- Encourage and promote the review or development of individual home/family response plans and checklists for the cyclone season.

# AWS Advertising

- Over 28,000 letters explaining the changes were sent to households in cyclone-prone areas
- Campaign (digital, television and radio) has been seen close to 6 million times by over 1.1 million people, with the majority of these located in the North West.
- New cyclone magnets and posters and all hazards poster
- Explainer videos
- Visual infographic with cyclone example
- Explored unique ways to communicate including drink coasters, floor decals at roadhouses/petrol stations/murals



**GET TO KNOW THE WARNING LEVELS**

THE WARNINGS ARE THE SAME FOR:

- CYCLONE**
- STORM**
- BUSHFIRE**
- FLOOD**

**ADVICE**  
THE DANGER ISN'T CLOSE BUT KEEP AN EYE OUT

**WATCH AND ACT**  
THE DANGER IS CLOSE. TAKE ACTION TO STAY SAFE

**EMERGENCY WARNING**  
THE DANGER IS VERY CLOSE. ACT NOW TO SAVE YOUR LIFE

**A CYCLONE EXAMPLE**

THE WARNINGS GO UP AS THINGS GET WORSE

THE WARNINGS GO DOWN AS THINGS GET BETTER

**CYCLONE IS COMING**  
PREPARE AND MONITOR CONDITIONS  
Listen to the radio, get food and supplies and prepare your house

**CYCLONE IS HERE**  
SHELLTER INDOORS NOW  
Stay inside away from windows until the cyclone passes

**CYCLONE HAS PASSED**  
BEWARE OF HAZARDS AND STAY INFORMED  
Start the clean up but keep an eye out for dangers. Things are going back to normal

WARNING INFORMATION IS ON THE EMERGENCY WA WEBSITE  
[EMERGENCY.WA.GOV.AU](http://EMERGENCY.WA.GOV.AU)

EmergencyWA



# AWS Advertising

- AWS advertising has now transitioned to a cyclone “Game Plan” advertising campaign.
- Materials feature a reminder about the new cyclone warning system.

**YOU WOULDN'T PLAY FOOTY WITHOUT A GAME PLAN.**

Preparing for cyclone season is no different.

Have a plan, pack your emergency kit and stay informed via Emergency WA. Make sure you know the new warning levels, too.

**ADVICE**   **WATCH AND ACT**   **EMERGENCY WARNING**

**[WHAT'S YOUR CYCLONE GAME PLAN?]**

DFES Department of Fire & Emergency Services

This advertisement features a man in a blue football jersey standing on a grassy field. The text is in a clean, sans-serif font. At the bottom, there are three warning icons: a yellow triangle with a black eye, an orange triangle with a black eye, and a red triangle with a white eye. Below these is a search bar with the text 'EMERGENCY WA' and a magnifying glass icon. The footer includes the DFES logo and the slogan 'WHAT'S YOUR CYCLONE GAME PLAN?'.

**YOU WOULDN'T GO FISHING WITHOUT A GAME PLAN.**

Preparing for cyclone season is no different.

Have a plan, pack your emergency kit and stay informed via Emergency WA. Make sure you know the new warning levels, too.

**ADVICE**   **WATCH AND ACT**   **EMERGENCY WARNING**

**[WHAT'S YOUR CYCLONE GAME PLAN?]**

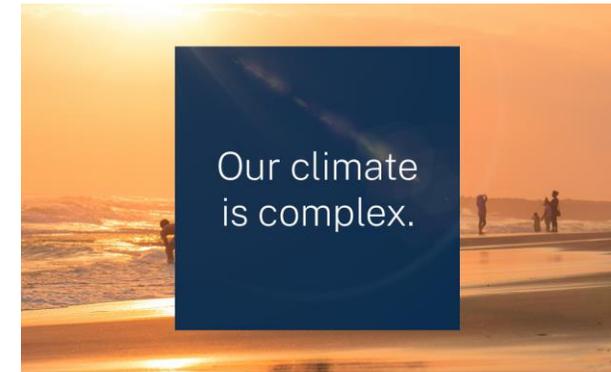
DFES Department of Fire & Emergency Services

This advertisement features a man in a khaki shirt standing on a boat deck. The text is in a clean, sans-serif font. At the bottom, there are three warning icons: a yellow triangle with a black eye, an orange triangle with a black eye, and a red triangle with a white eye. Below these is a search bar with the text 'EMERGENCY WA' and a magnifying glass icon. The footer includes the DFES logo and the slogan 'WHAT'S YOUR CYCLONE GAME PLAN?'.

# AWS Heatwave Warnings

- Department of Health began issuing AWS Heatwave warnings on Emergency WA in 2022.
- Use the filter menu to include or exclude heatwave warnings to make your warning experience easier on Emergency WA.

The screenshot shows the EmergencyWA interface. At the top, there's a dark blue header with the Government of Western Australia logo, a speaker icon, and the text 'EmergencyWA Prepare Warnings and incidents'. Below this is a navigation bar with 'Both', 'Map', 'List', a search icon, a 'Filters' dropdown, and a 'Find me' button. The 'Filters' dropdown is open, showing a list of disaster types with checkboxes: Bushfire (68), Coastal Hazard, Cyclone (1), Damaging Winds (1), Earthquake, Flood, Hazardous Materials (2), Heatwave (1) [checked], Human Pandemic (10), Power Outage, and Smoke (2). On the left side of the interface, there are sections for 'Warnings' (1), 'Centres and Closures' (0), 'Incidents' (0), 'Natural Hazards' (0), and 'Prescribed Burns and Burn Offs' (0). The 'Warnings' section is highlighted, showing a 'Heatwave Advice' warning with a sun icon and the text 'STAY INFORMED - KINGSLEY'.



Now there's a simple warning system for natural disasters.