

Department of
Primary Industries

Department of Regional NSW



Seasonal Conditions Monitoring Program Using our technology and tools

PIEFA Professional Development – Cultivating Classrooms

Climate Branch | NSW Department of Primary Industries

Kel Langfield

March 2024

Overview

What we do – Seasonal Conditions Monitoring in NSW (Resources and Tools) **1**

State Seasonal Update

Enhanced Drought Information System (EDIS)

Combined Drought Indicator (CDI)

Seasonal Conditions Information Portal (SCIP)

Drought History Charts

Farm Tracker App

Seasonal Conditions – Using the Information **2**

Outlooks **3**

Climate Drivers

Putting it together **4**

Suite of tools

Decisions – Prepare, Respond, Recover

Seasonal Conditions Monitoring Program

Resources and tools available

1

Seasonal Conditions Monitoring Program



Reporting on seasonal conditions and drought across NSW

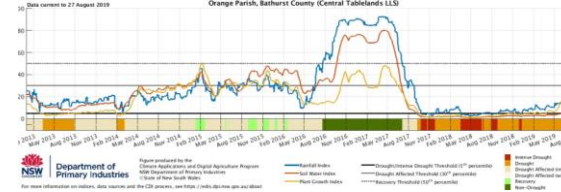
Provide information for farmers & agricultural industries

Sign up to receive the monthly update



Combined Drought Indicator

Use this information to prepare for changing conditions, and to make strategic and tactical decisions reflecting the current season.



Seasonal Conditions Information Portal (SCIP)

Download specific data for your location



FarmTracker App

Complete your own reports

Keep and manage a photo diary of your farm so you can monitor the same paddock over many years

Syncs to the state-wide database

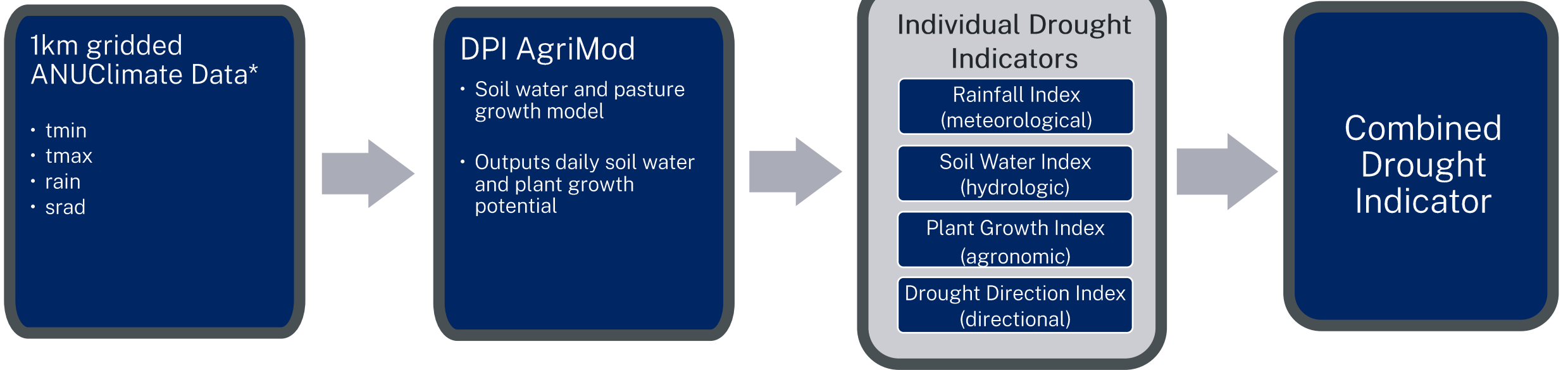


NSW State Seasonal Update

- Reporting on seasonal conditions and drought across NSW
- Monthly report
- Covers drought, the Bureau of Meteorology outlook and climate drivers, regional breakdowns for each LLS region
- Provides information for farmers & agricultural industries
- Available by signing up and on the NSW DPI website



EDIS

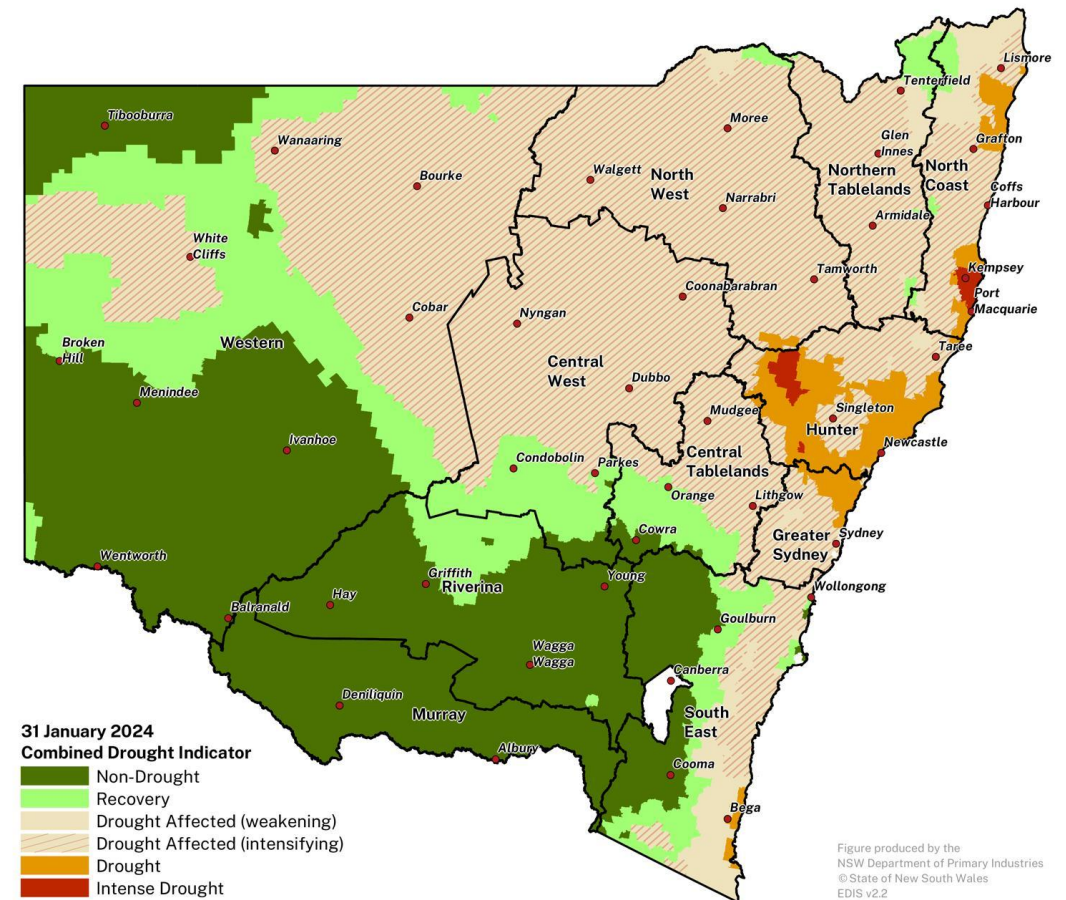


*ANUClimate data has been used since Nov 2022. From 2018–2022, EDIS ingested BoM 5km AWAP data



NSW Combined Drought Indicator

- The CDI tracks against these indicators from EDIS
- Data is collected daily and is at the Parish scale
- Data is at a 1km grid and provides huge improvements in resolution
- Farm-scale information is now a possibility



Whole of NSW

Zoomed In

NSW GOVERNMENT | Department of Primary Industries

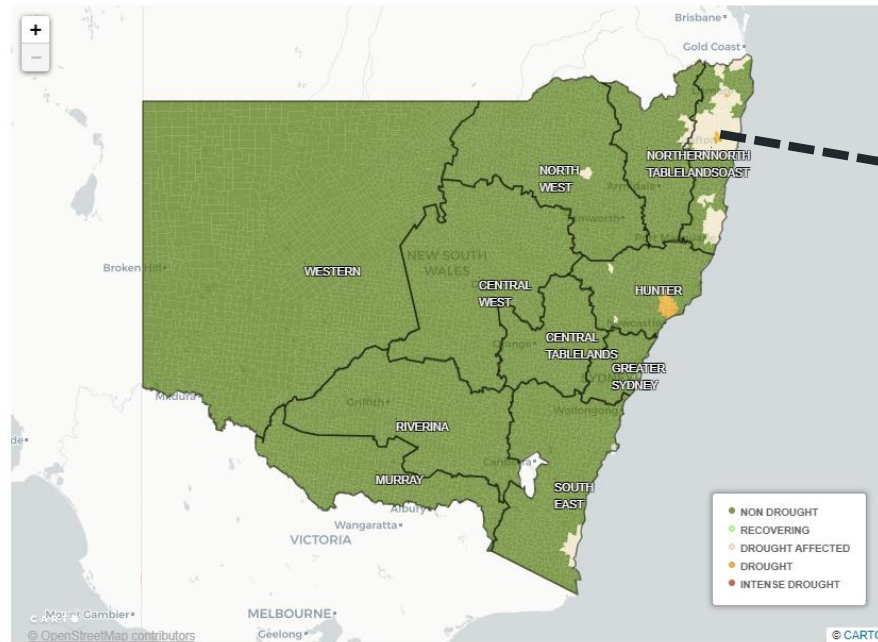
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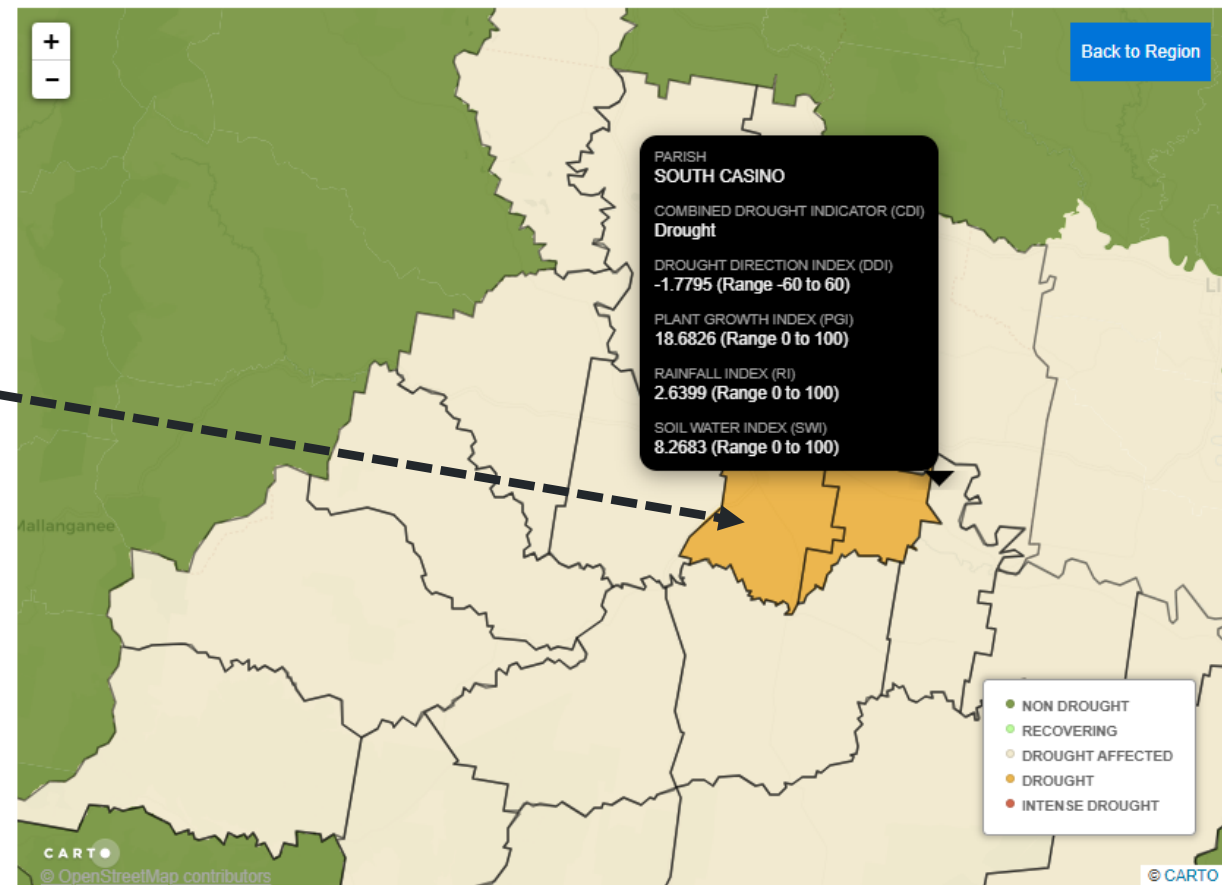
Combined Drought Indicator

- Understanding CDI Phases
- Seasonal Conditions Information Portal (SCIP)
- Learn about the EDIS Project
- Improvements to EDIS and the CDI



Data current to 23/7/2023 (AEST)

CDI = Combined Drought Indicator. RI = Rainfall Index. SWI = Soil Water Index. PGI = Pasture Growth Index. DDI = Drought Direction Index



Data current to 23/7/2023 (AEST)

Coming soon: new ways to interact with the map

Seasonal Conditions Information Portal



Parish-level Drought Histories

Directory Description

This folder contains drought history (time series) figures for every NSW parish with the file name convention X Parish, Y County (Parish ID). This data will be updated once per week so keep checking back for updates for your region.

Use the Filter files bar at the top and start typing the name of your parish/county/ID. This will use a text match to find your region of interest. Click on the file name to open the figure in a new browser tab. Click on the green download arrow next to the filename to download the file. *If you do not receive a dialog box, check your computer's 'Downloads' folder.*

****Need help finding your parish?** Use the map on the [NSW DPI EDIS SCIP page](#) to search your location and determine what parish you are located in and the corresponding parish ID number.

Understanding Drought History Figures

The Combined Drought Indicator uses 3 indices to determine drought category at a given time: **Rainfall Index (RI)**, **Plant Growth Index (PGI)**, and **Soil Water Index (SWI)**

NSW DPI uses the three drought indices to produce the **Combined Drought Indicator**, which classifies each parish in NSW into one of five drought categories.

- **Non drought:** At least one indicator is above the 50th percentile (dotted grey line)
- **Recovering phase:** All indicators are below the 50th percentile but above the 30th percentile
- **Drought Affected:** At least one indicator is below the 30th percentile (solid grey line)
- **Drought:** At least one indicator is below the 5th percentile (solid black line)
- **Intense Drought:** All three indicators (rainfall, soil water, plant growth) are below the 5th percentile

More Information

For a more comprehensive definition of the indices used, their data sources and understanding of the CDI process, detailed information can be found at [Learn about the EDIS Project](#).











Contact Us

For queries or more information, contact seasonal.conditions@dpi.nsw.gov.au.

Information

Show 50 files

Filter Files...

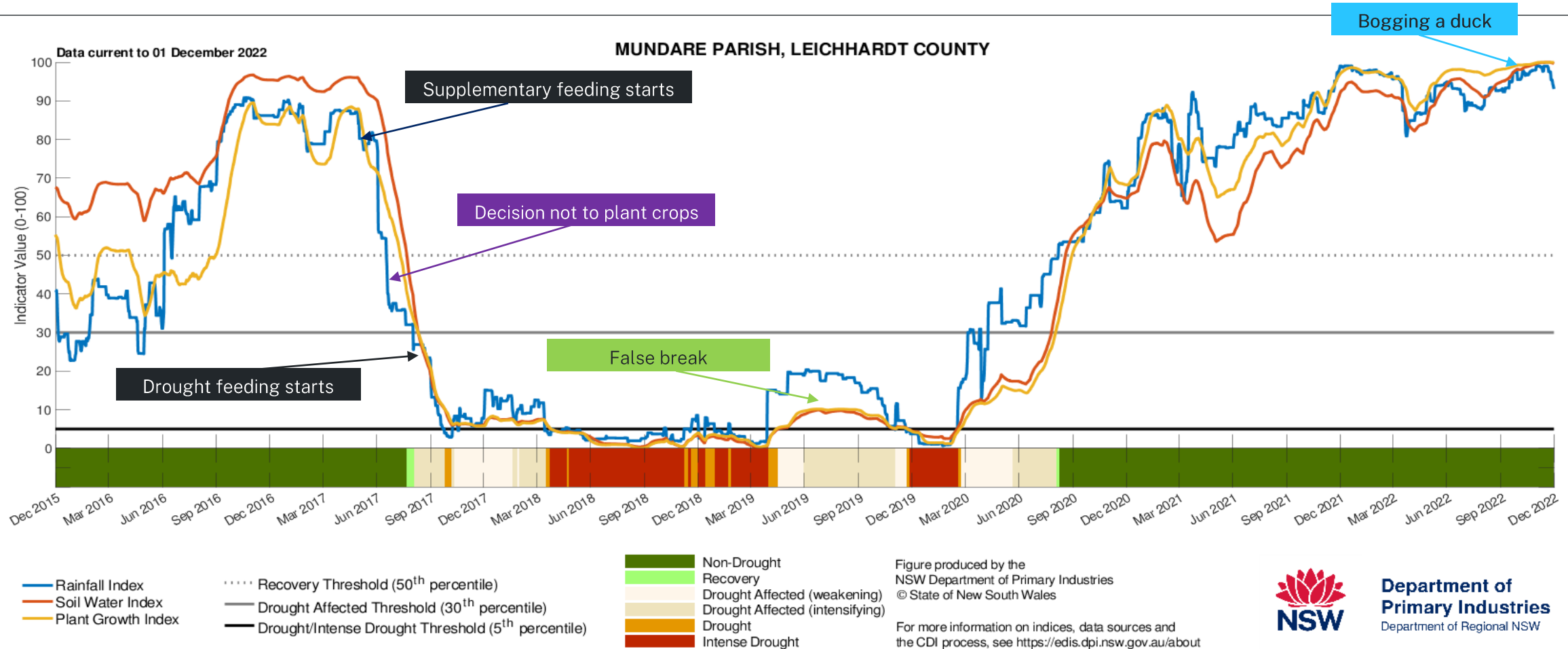
Type	Name	Size	Last Modified
	ABBOTSFORD PARISH, WALJEERS COUNTY (756604).png 	163.65 KB	March 19, 2023 10:48:08 AM
	ABENA PARISH, WINDEYER COUNTY (757129).png 	149.71 KB	March 19, 2023 10:52:28 AM
	ABERBALDIE PARISH, VERNON COUNTY (756462).png 	165.90 KB	March 19, 2023 10:44:53 AM
	ABERCORN PARISH, WESTMORELAND COUNTY (757033).png 	176.60 KB	March 19, 2023 10:43:44 AM
	ABERCROMBIE PARISH, BERESFORD COUNTY (750521).png 	177.84 KB	March 19, 2023 9:16:55 AM

- Download products and data
- All SSU maps and figures
- GIS layers
- Fact sheets
- Drought history charts

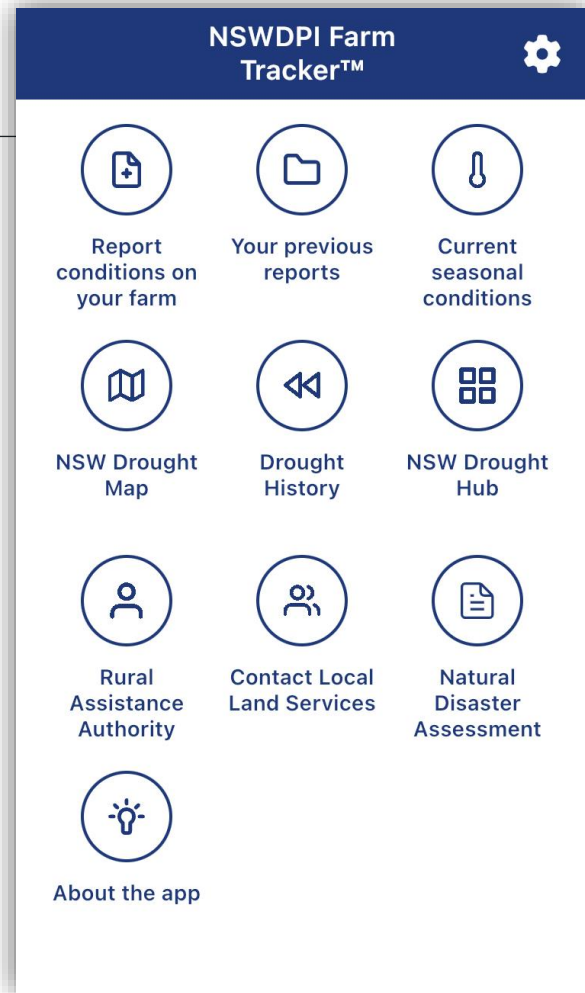
Drought history charts can be a practical tool for farm management



Available for every Parish in NSW



Farm Tracker Mobile App



- Search **NSWDPI Farm Tracker**
- Available for both platforms
- Works on mobile & tablet
- Monitor your own conditions and maintain a report database
- Access your information and reports from the website as well
- Farm survey and photo manager
- Links to other NSW State government agencies
- Cloud data base, web service and mobile application (all free).

Use a suite of tools to help you make better decisions

Improving knowledge and skills in:

- Forecasts (accuracy & limitations)
- Dry periods (duration/severity/frequency)
- Climate variability, atmospheric and regional climate drivers



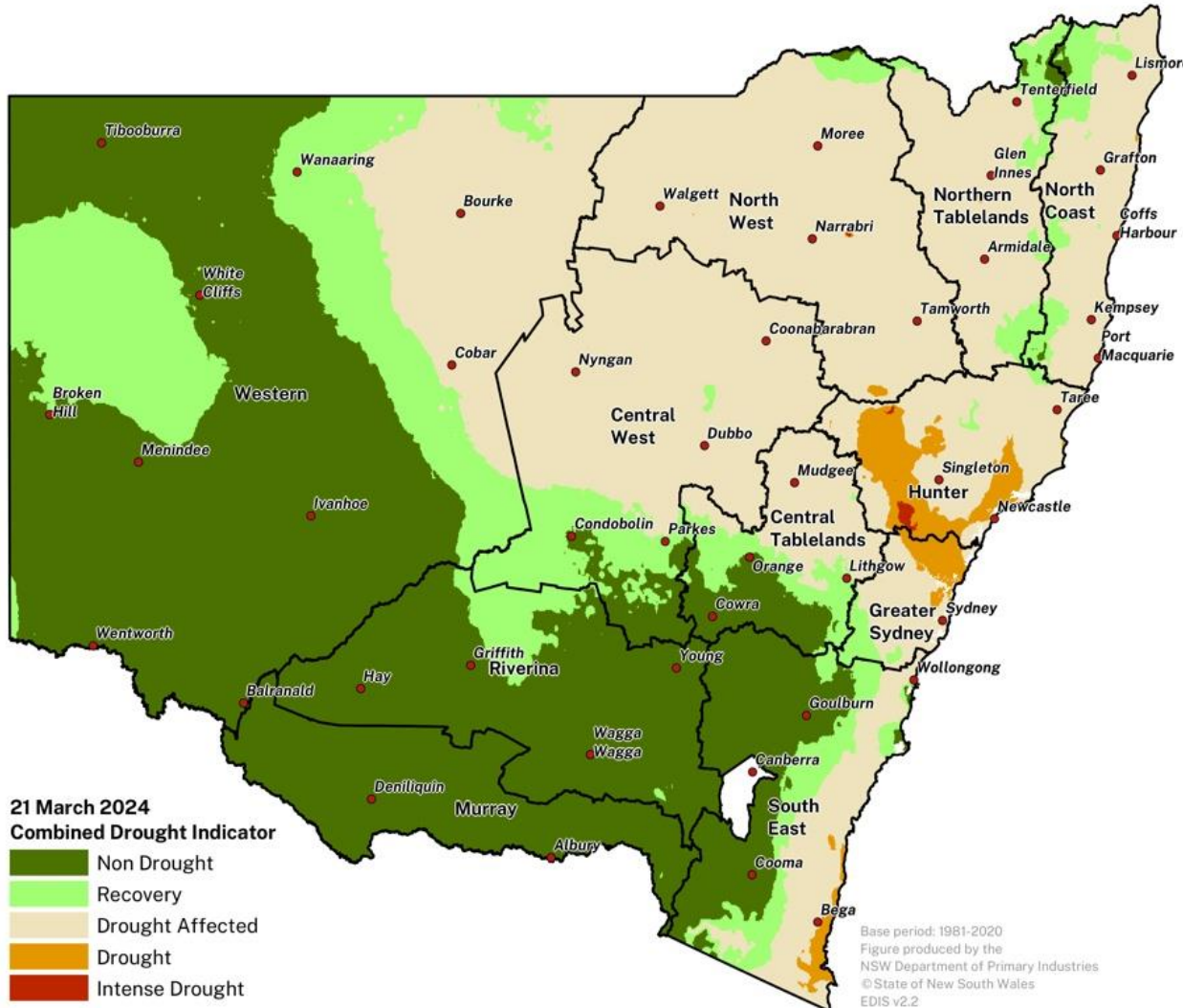
Seasonal Conditions Monitoring Program

Seasonal Conditions & Outlooks

Using the information

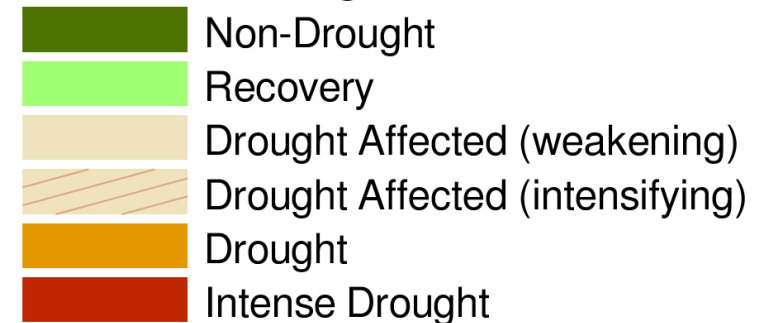
2

Combined Drought Indicator (21 March 2024)



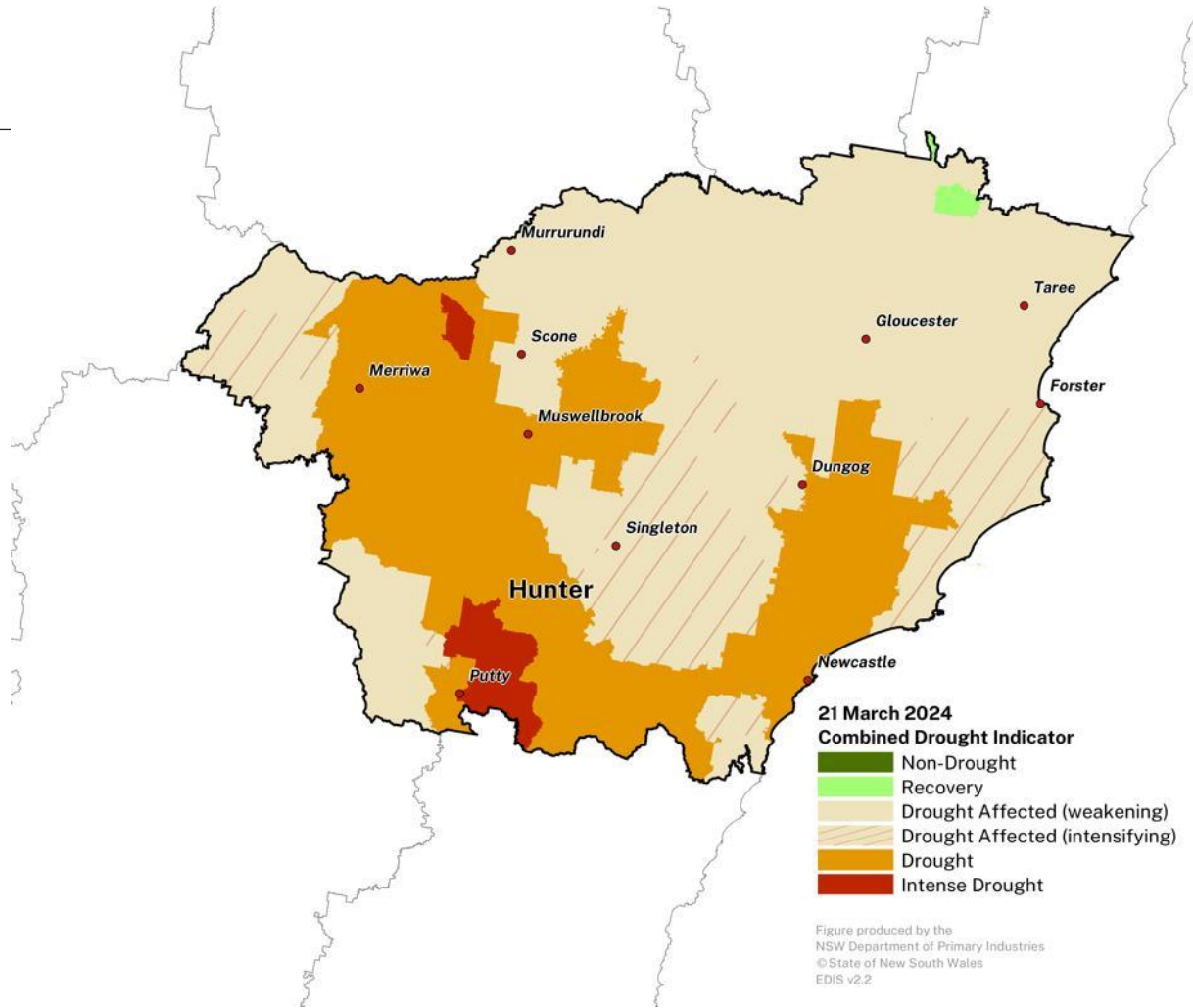
- Daily product on the website
- Monthly product in the SSU and SCIP
- Custom maps available

Combined Drought Indicator

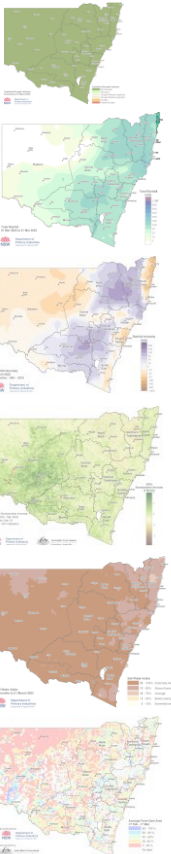
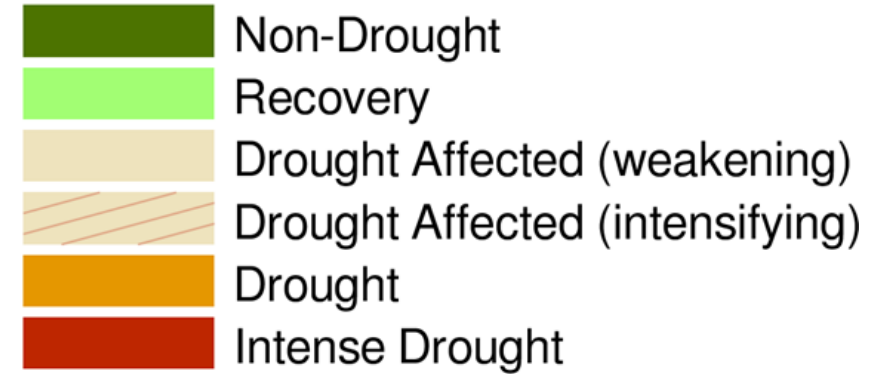


Regional display of CDI (21 March 2024)

- Zoom in to LLS region
- Zoom into LGA and Parish



Combined Drought Indicator

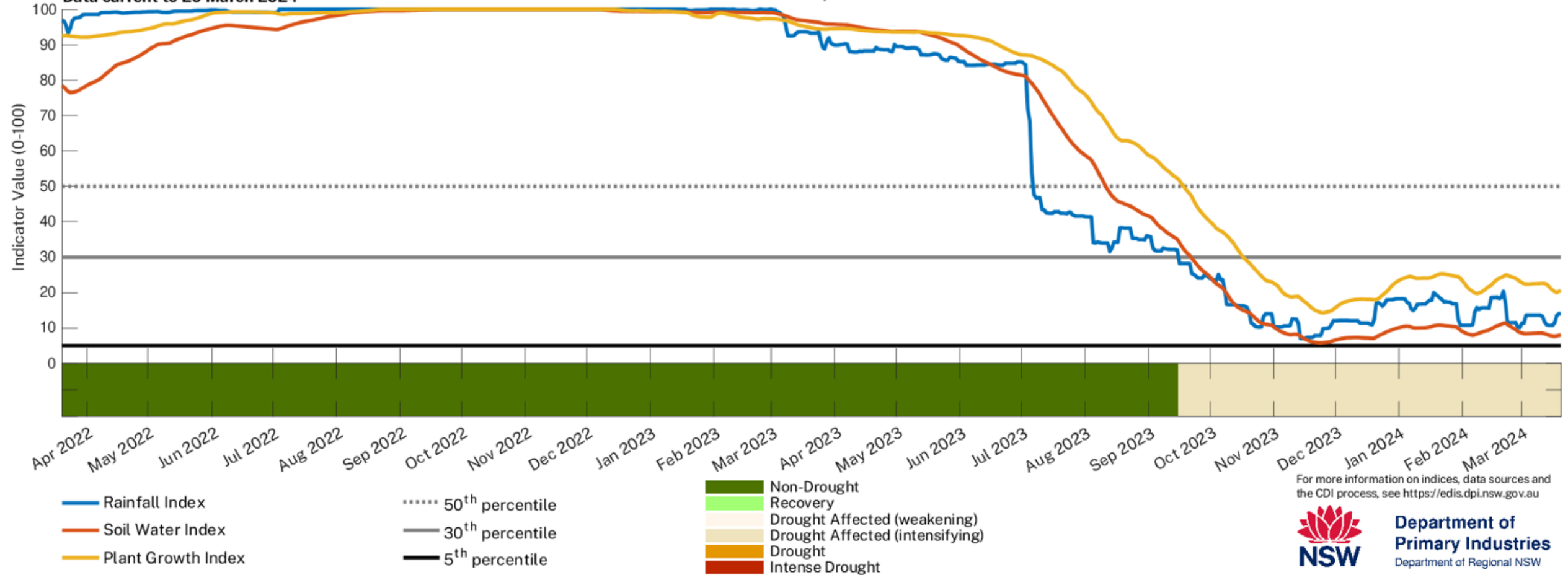


Drought History



DARLINGTON PARISH, DURHAM COUNTY

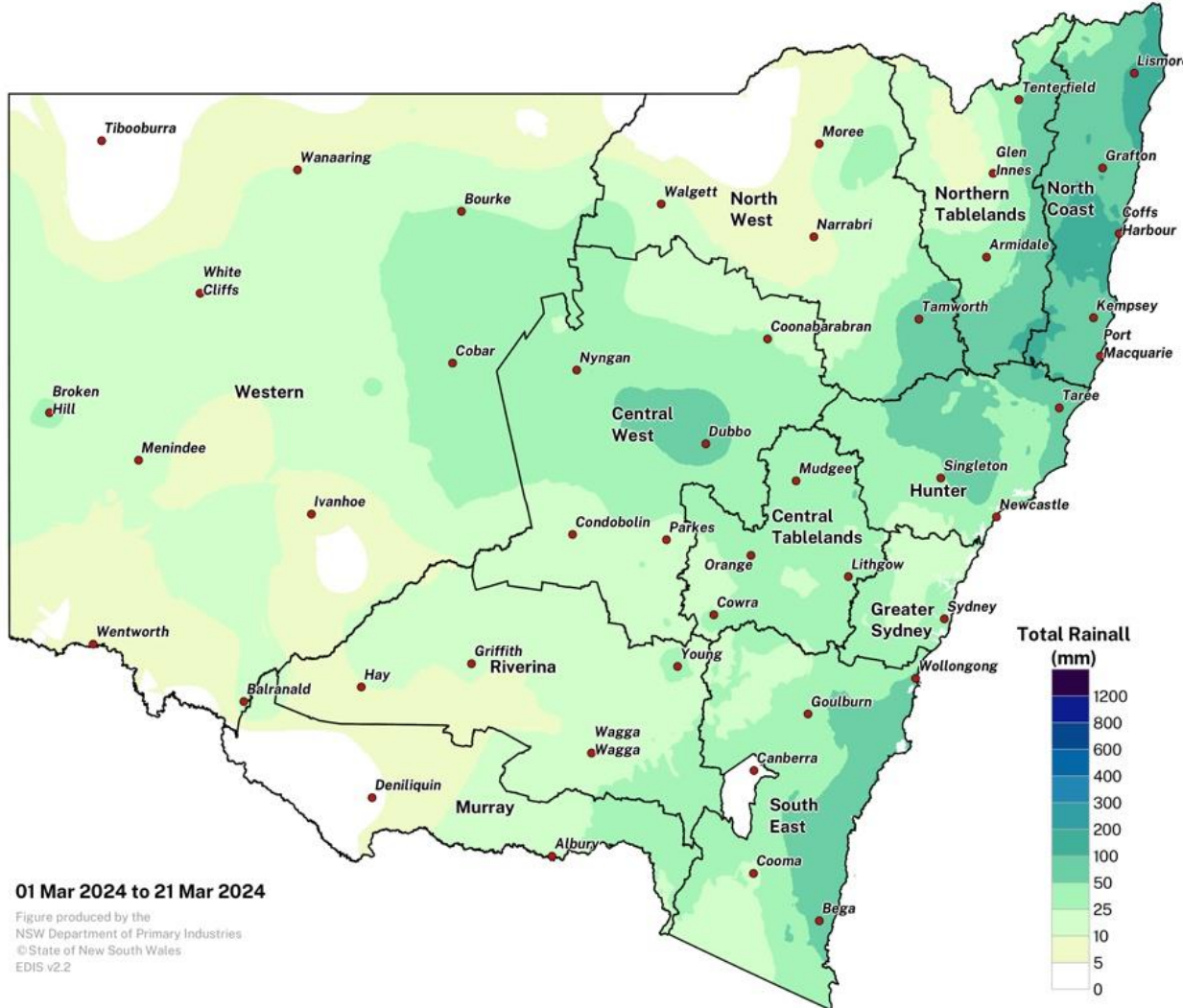
Data current to 20 March 2024



For more information on indices, data sources and the CDI process, see <https://edis.dpi.nsw.gov.au>



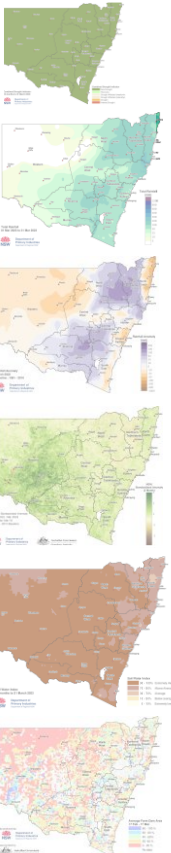
Total Rainfall (March)



01 Mar 2024 to 21 Mar 2024

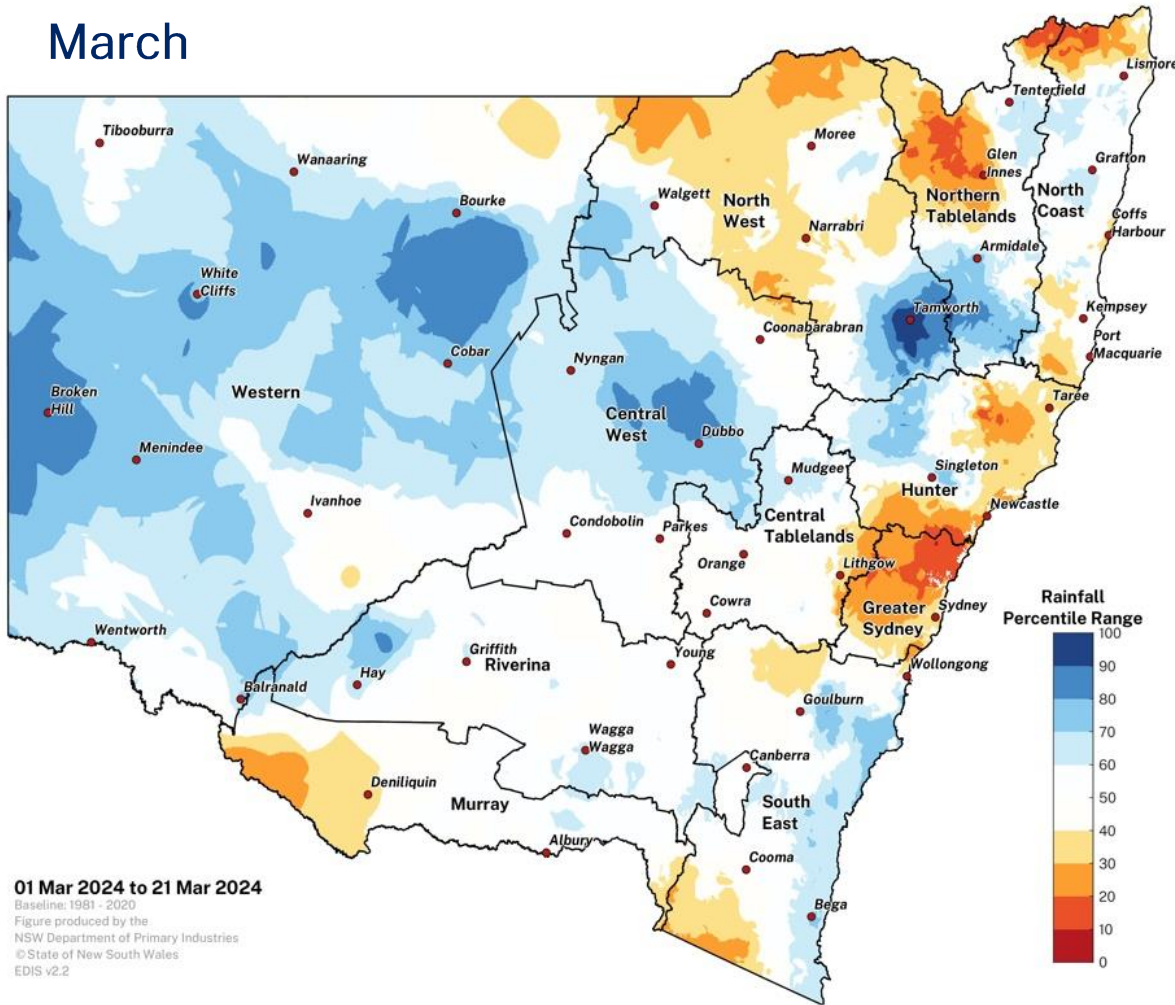
Figure produced by the
NSW Department of Primary Industries
© State of New South Wales
EDIS v2.2

- Monthly product in the SSU and SCIP
- Month and YTD
- Custom maps available

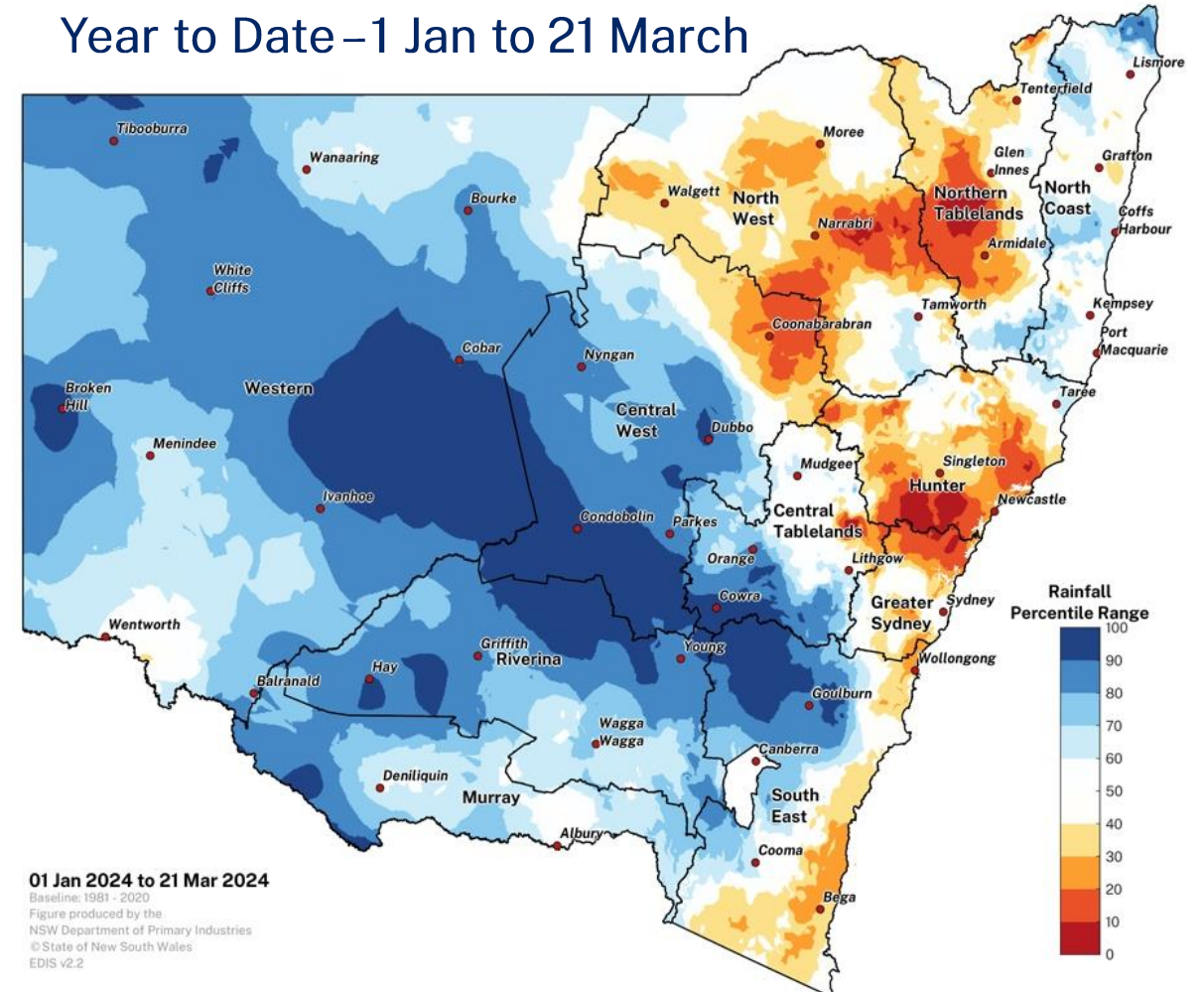


Rainfall Percentiles

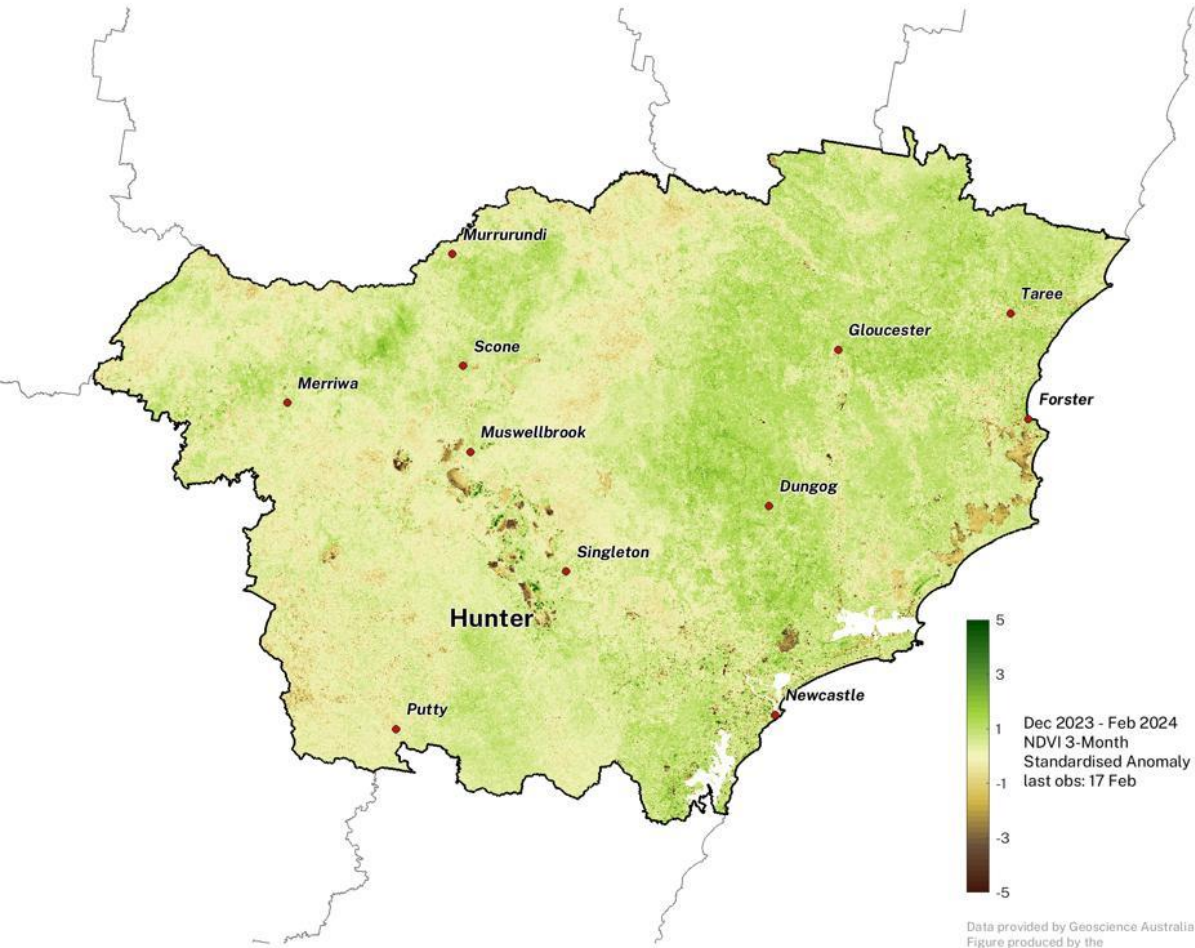
March



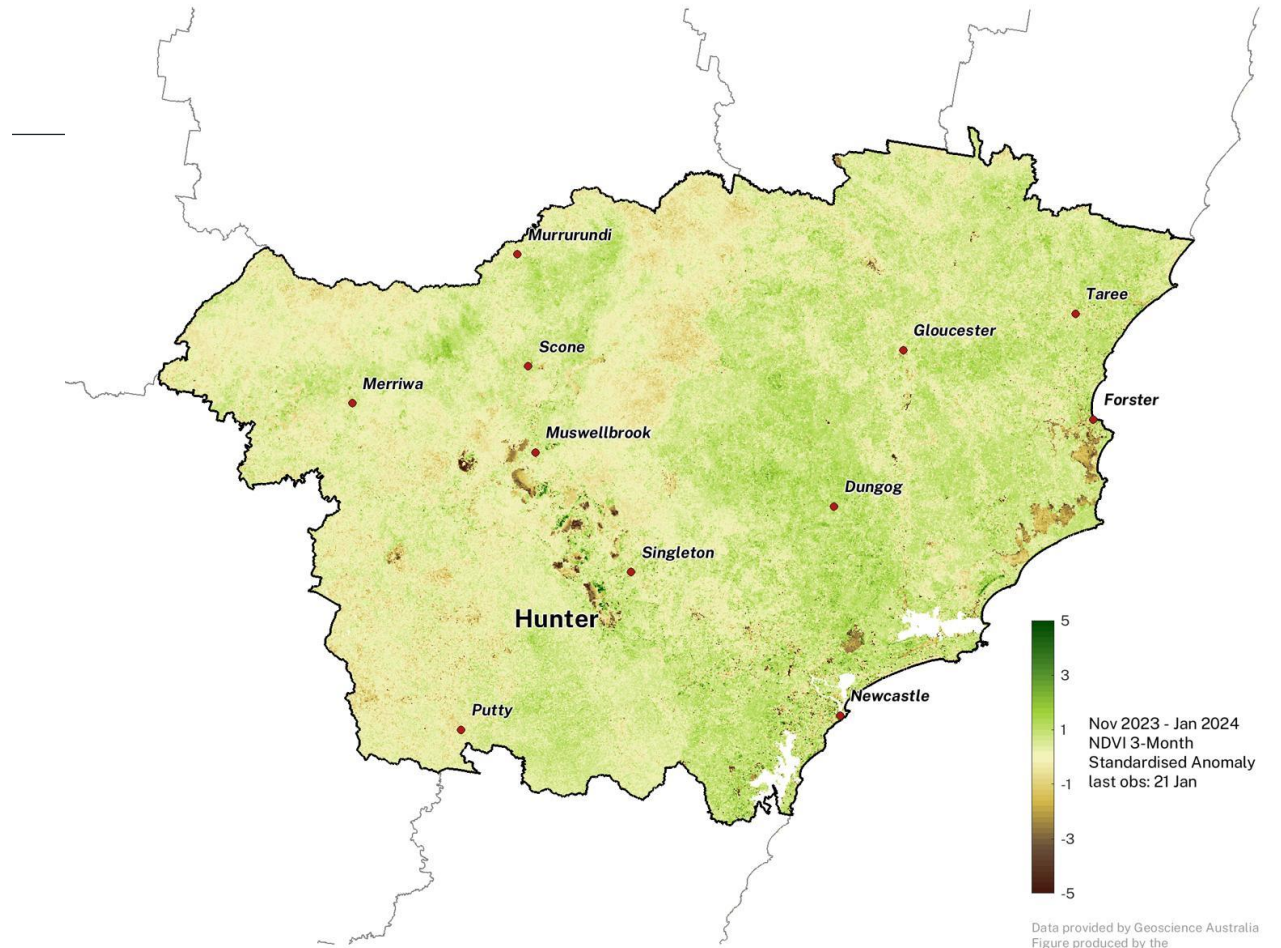
Year to Date – 1 Jan to 21 March



Normalised Difference Vegetation Index (NDVI)

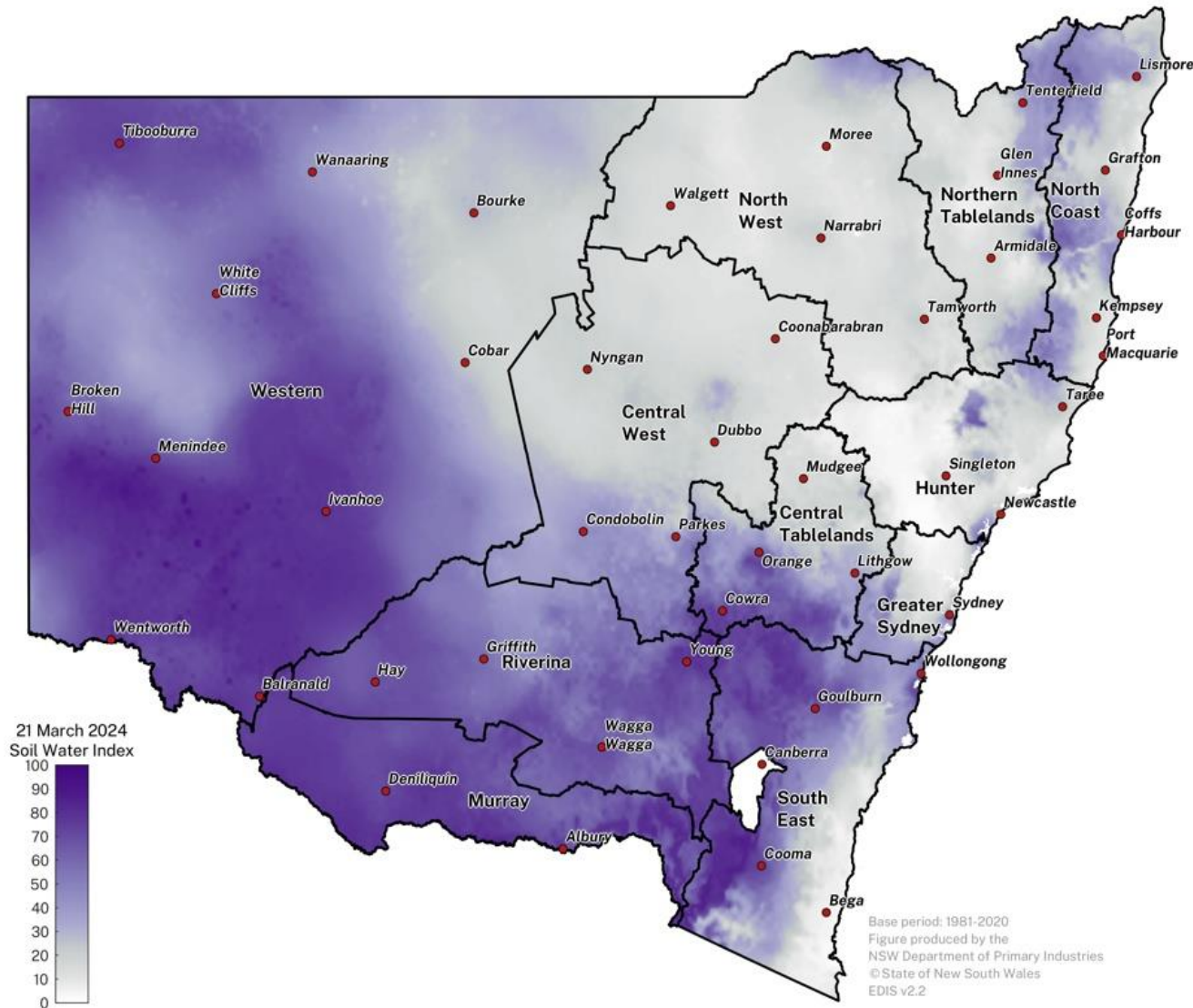


Data provided by Geoscience Australia
Figure produced by the
NSW Department of Primary Industries
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Data provided by Geoscience Australia
Figure produced by the
NSW Department of Primary Industries
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Soil Water Indicator



- Monthly product in the SSU and SCIP
- Daily values for every Parish are available by clicking on the online map

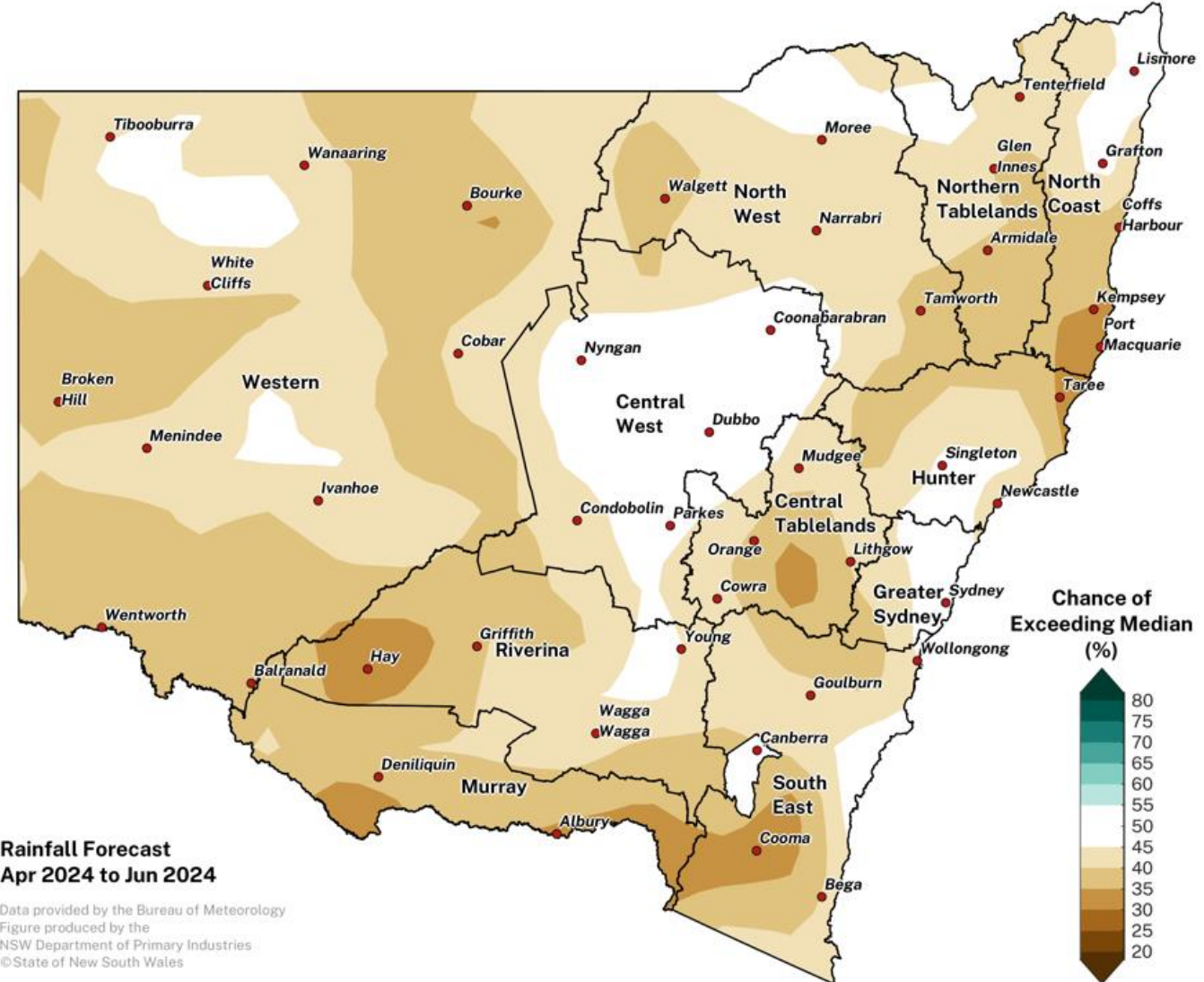
Seasonal Conditions Monitoring Program

Outlooks

3

Climate Outlook – April to June 2024

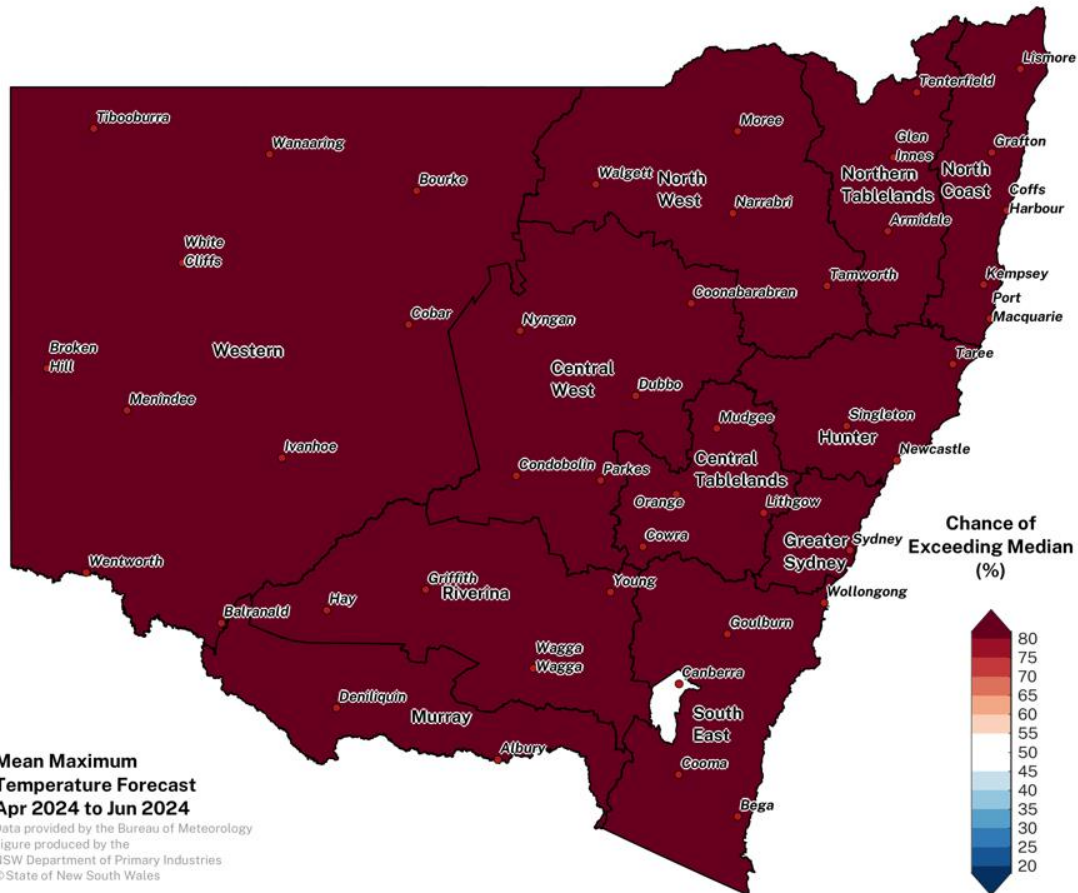
Update – 21 March 2024 (Rainfall)



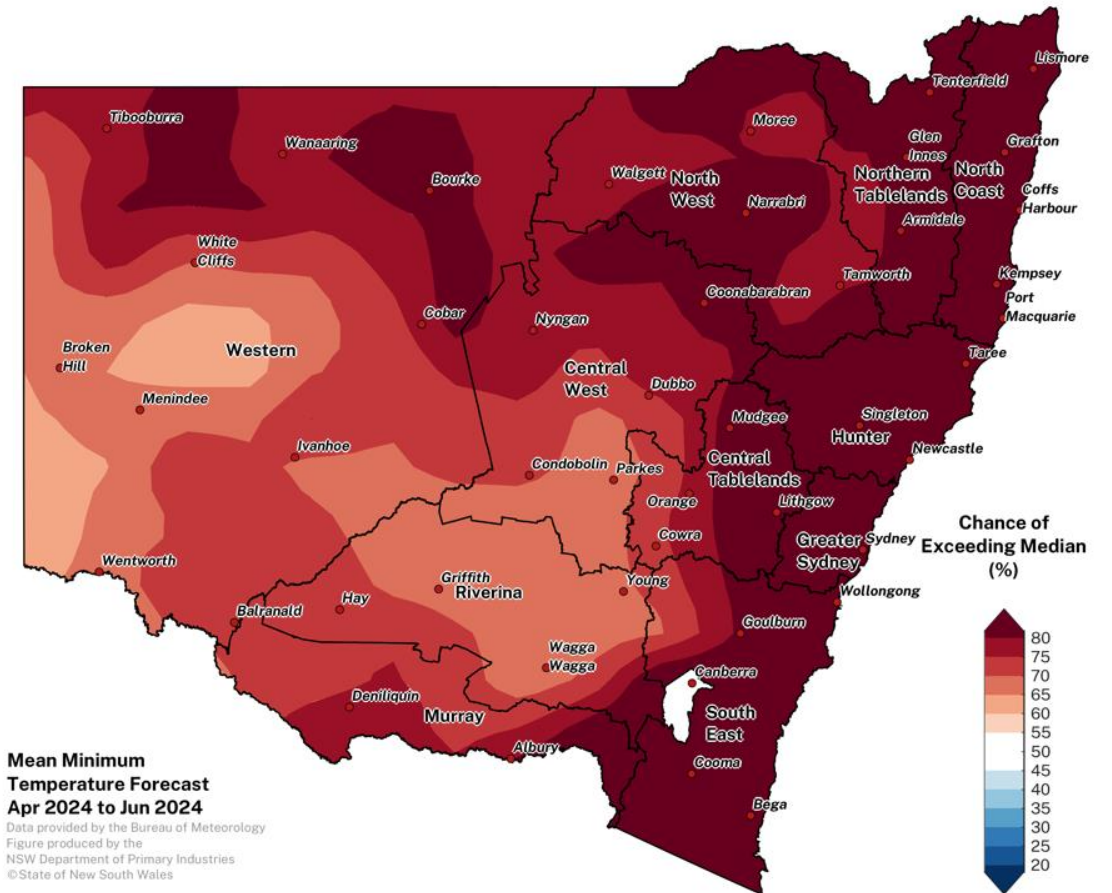
Climate Outlook – April to June

Update – 21 March (Temperature)

Max Temp

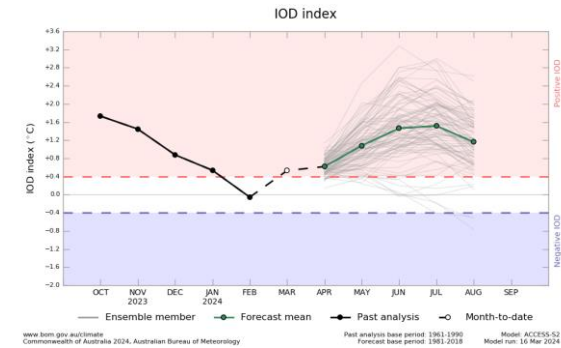
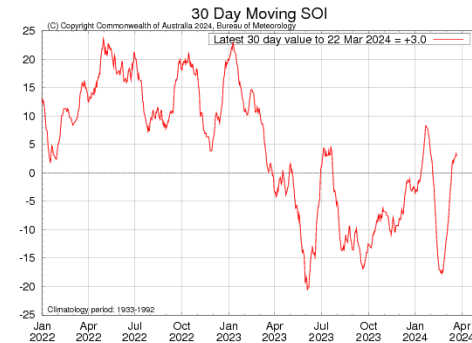
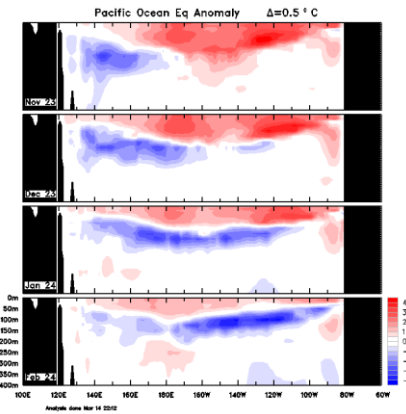
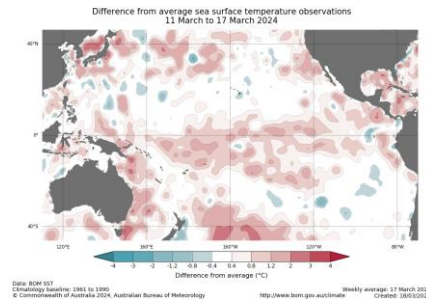
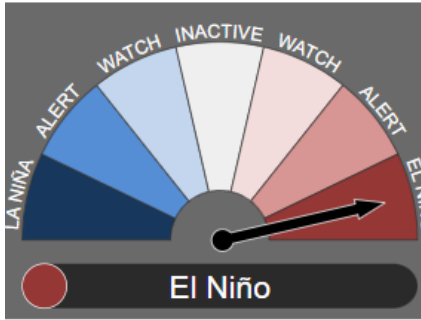


Min Temp



Resources from the Bureau of Meteorology

Climate Drivers to watch: <http://www.bom.gov.au/climate/enso/#tabs=Overview>
 Updated 19 March 2024



ENSO
 El Niño is ending

Sea Surface Temps
 Trending to Neutral
 by late autumn

Sea Sub-surface
 Temps
 Cooler waters
 increasing

Southern Oscillation
 Index
 Currently positive
 but highly
 variable

Indian Ocean Dipole
 Currently neutral

Climate Dogs

<https://www.dpi.nsw.gov.au/dpi/climate/seasonal-conditions-and-drought/climate-and-weather/climate-influences-on-australian-weather>



ENSO

- Understanding what influences Australia's climate at key farm decision making points throughout the year is crucial.
- The NSW Climate Dogs animation series uses sheep dogs to explain complex atmospheric phenomena
- The series has been developed in collaboration with the Australian Bureau of Meteorology and Victorian Department of Primary Industries.

RIDGY



INDY



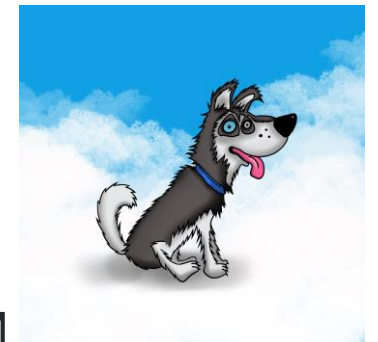
MOJO



EASTIE



SAM



Seasonal Conditions Monitoring Program

Putting it together

4

Use a suite of tools to help you make better decisions



08:43

Report conditions

Latitude -28.809369
Longitude 153.592169
Site Name Property One - One Tree

Rainfall

Rainfall last 12 months

Based on a rain gauge?

Drought Category

Managing drought conditions?

Copy



Australian Government Bureau of Meteorology

Climate outlooks—weeks, months and seasons

Rainfall - Totals that have a 75% chance of occurring for February to April

Overview

1 week 2 week 1 month 3 month

Rainfall

Summary

Chance of above median

Chance of extremes

Outlook scenarios

75% 50% 25%

Chance of at least

Chance of 3-day totals

Historical averages

Past accuracy

Temperature

Outlook for February to April at Bexhill

Rainfall

Historical median 514.2 mm

Chance of unusually dry (< 319.2 mm) 13%

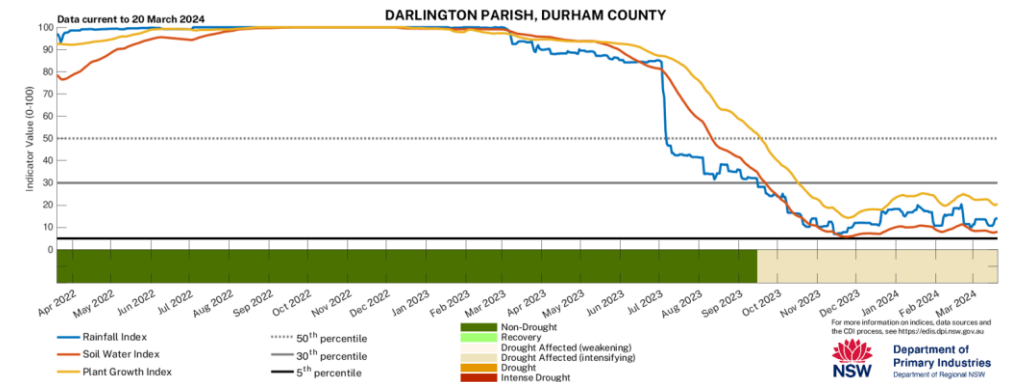
Chance of above median (> 514.2 mm) 0%

Chance of unusually wet (> 745.0 mm) 74%

Rainfall totals (mm)

319.2 486.8 604.1 745.0

Issued: 19 January 2023



Keep a record...and come back to it

Using Farm Tracker as a diary for recording conditions



Sept 2023



Oct 2023



Nov 2023



Jan 2024



Feb 2024

So what does this mean at your place and for your situation?

PREPARE / RESPOND / RECOVER

From now if conditions improve / decline.....

What should you be thinking about now?

What decisions should you need to make?

The information you need to help make those decisions?

When do you need to make those decisions?

Thinking / Planning / Acting...

- Have a plan
- Action
- Review

Information	Situation
CDI map	Monitor for changes ✖
Total rain	Below Average ✖
Rainfall Percentiles	Deficit – YTD ✖
CDI Indicators	Monitor for changes ✔ ✖
CDI History	Refer to regularly – trends ✔ ✖
Outlook	Variable rainfall and hotter conditions expected ✖

So what does this mean at your place and for your situation?

PREPARE / RESPOND / RECOVER

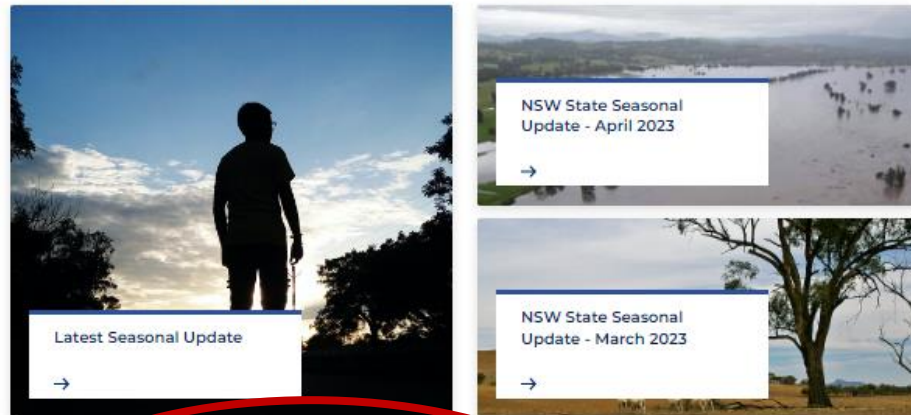
Continue to monitor and assess

- Managing costs and crop inputs
- Pastures, livestock, water and supplementary feed assessment
- Financial capacity
- Risk profile
- Is your bushfire/flood plan up to date?
- What are your pest and disease risks?
- What advice do you need and from where?

Information	Situation
CDI map	Monitor for changes ✘
Total rain	Below Average ✘
Rainfall Percentiles	Deficit – YTD ✘
CDI Indicators	Monitor for changes ✔ ✘
CDI History	Refer to regularly – trends ✔ ✘
Outlook	Variable rainfall and hotter conditions expected ✘



NSW State Seasonal Updates



Sign up for State Seasonal Conditions Newsletter

Email

[Read privacy policy](#)

I have read the information regarding our [privacy policy](#)

Sign up for the SSU

- Receive the update every month in your in box
- Contains information presented today and more
- Historical reports are available
- Up-to-date information about current seasonal conditions.
- Find out about drought, rainfall and temperature over the past month, outlook for the coming three months
- Get a detailed breakdown of conditions for your region

References and Links

State Seasonal Update: <https://www.dpi.nsw.gov.au/dpi/climate/seasonal-conditions-and-drought/nsw-state-seasonal-update>

Have Your Say: <https://www.dpi.nsw.gov.au/dpi/climate/seasonal-conditions-and-drought/have-your-say>

Combined Drought Indicator: <https://edis.dpi.nsw.gov.au/>

Seasonal Conditions Information Portal: <https://edis.spaceport.intersect.org.au/%2F>

FarmTracker App: <https://www.dpi.nsw.gov.au/dpi/climate/seasonal-conditions-and-drought/key-research/climate-on-your-farm/farm-tracker>

Climate Dogs: <https://www.dpi.nsw.gov.au/dpi/climate/seasonal-conditions-and-drought/climate-and-weather/climate-influences-on-australian-weather>

BoM Outlooks: <http://www.bom.gov.au/climate/outlooks/#/overview/summary>

Climate Drivers: <http://www.bom.gov.au/climate/enso/#tabs=Overview>

Seasonal Climate Forecasts in Australian Agriculture Case Studies: <https://www.dpi.nsw.gov.au/climate-and-emergencies/climate-and-weather/research/value-of-forecasts>

**Department of
Primary Industries**
Department of Regional NSW



Seasonal Conditions Monitoring Program

For more information contact:
Seasonal Conditions Team
NSW Department of Primary Industries | Agriculture
Orange Agricultural Institute | 1447 Forest Road | Orange NSW 2800
E: seasonal.conditions@dpi.nsw.gov.au

