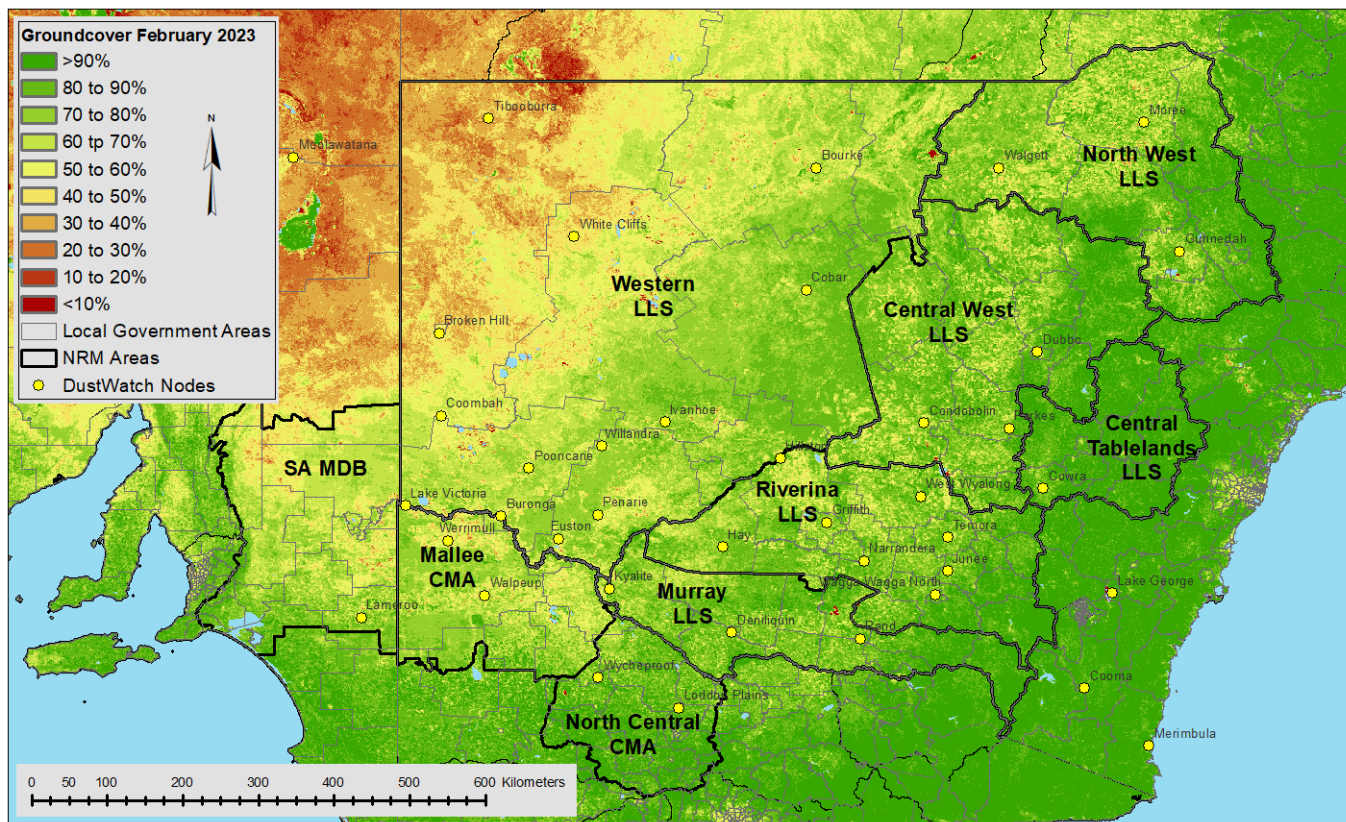




# Groundcover

The area with greater than 50% groundcover (green and yellow colours in Figure 3) has remained relatively unchanged. The Mallee, Murray Darling Basin and Western regions all recorded a slight reduction in groundcover (Table 1) but are likely past the summer groundcover minimum and should increase in groundcover from now on (Figure 4).



**Figure 3** Groundcover for February 2023 as determined from MODIS by CSIRO

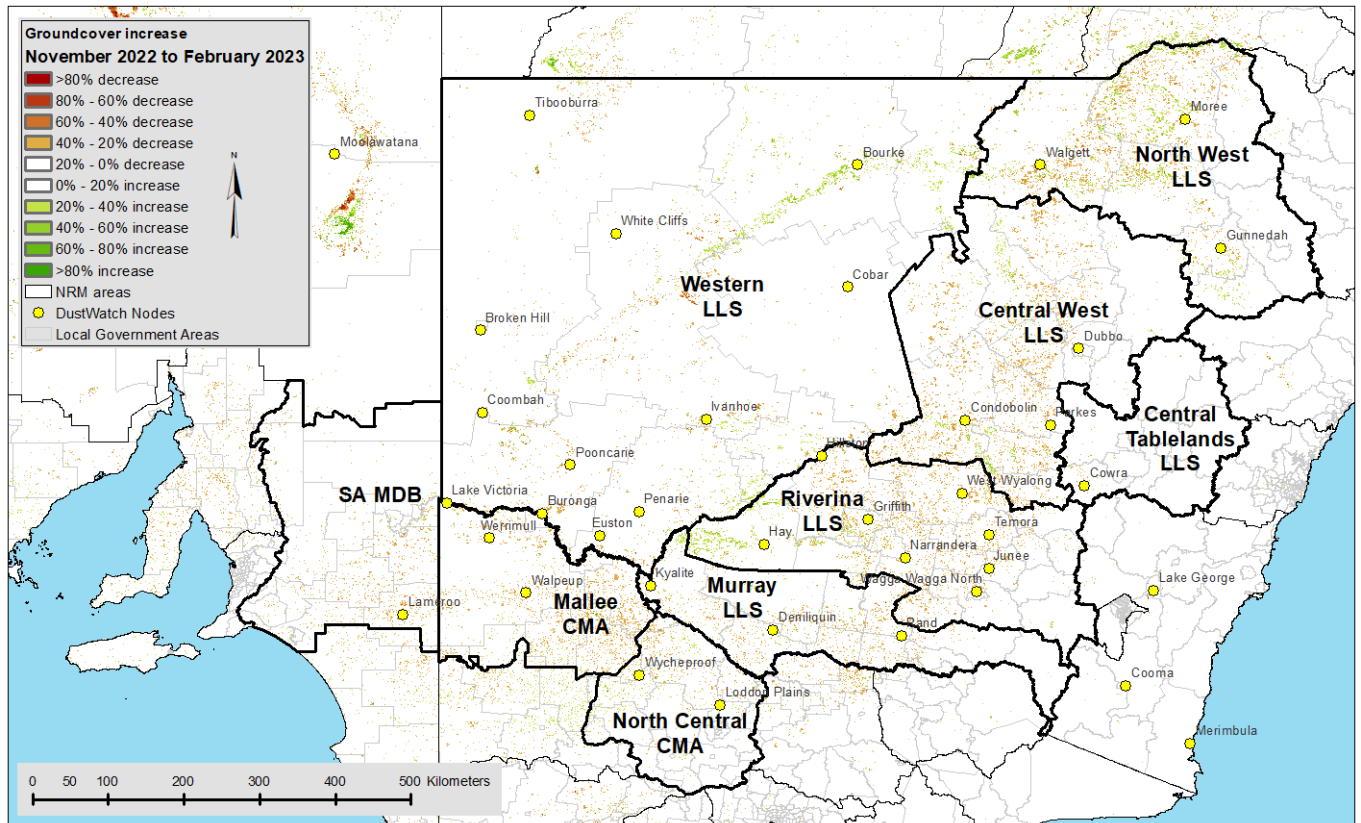
**Table 1** Percentage of each NRM with cover >50% for February 2022 to February 2023

Date	Central West	Mallee	Murray	North Central	North West	Riverina	SA MDB	Western	Central Tablelands
Feb 2022	99	71	95	97	99	97	67	57	100
Mar 2022	98	75	96	98	99	98	71	60	100
Apr 2022	99	89	99	99	98	99	81	70	100
May 2022	100	95	100	100	99	100	88	82	100
Jun 2022	100	99	100	100	99	100	95	92	100
Jul 2022	100	99	100	100	99	100	94	91	100
Aug 2022	100	100	100	100	99	100	92	89	100
Sep 2022	100	99	100	100	99	100	89	82	100
Oct 2022	100	98	100	100	99	100	91	83	100
Nov 2022	99	97	99	100	98	99	93	78	100
Dec 2022	100	97	99	100	98	99	91	73	100
Jan 2023	100	97	100	100	99	100	93	75	100
Feb 2023	99	95	100	100	98	99	91	74	100

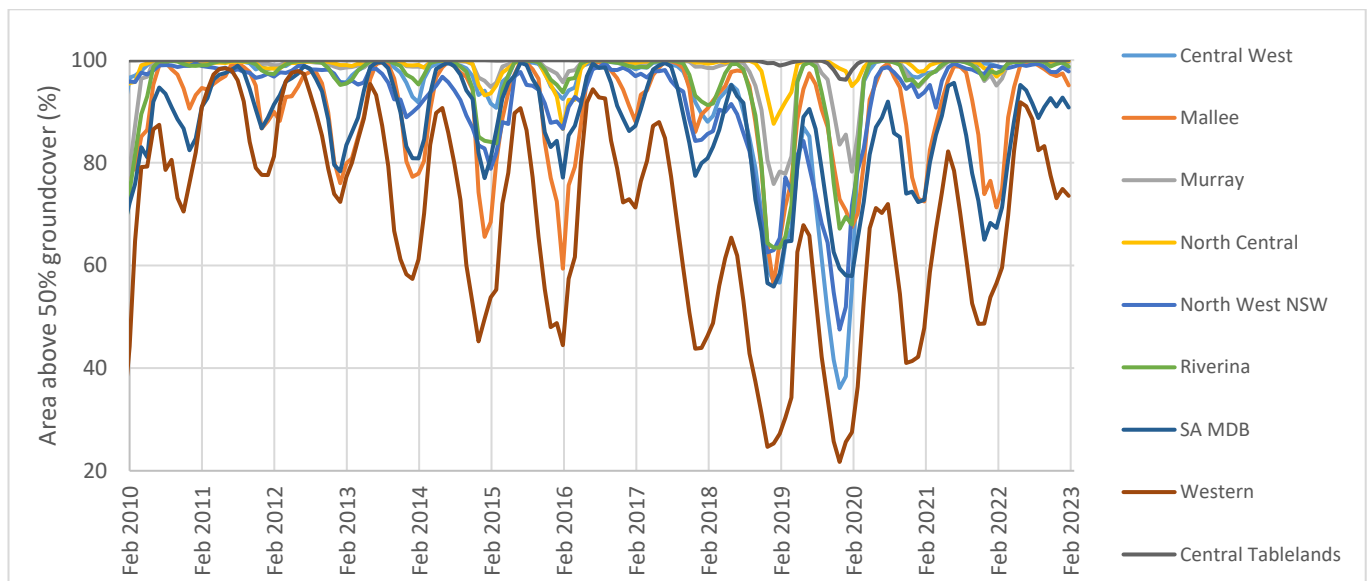
# Groundcover change

Groundcover reductions between October 2022 and February 2023 (orange and red colours in Figure 4) occurred predominantly in the NSW Wheat/Sheep belt and the Mallee (Table 1).

Areas with significant groundcover improvement (green colours in Figure 4) are visible in isolated paddocks in the Local Land Services North West Region, west of Hay and along the Darling River corridor downstream of Bourke.



**Figure 4** Groundcover difference between November 2022 and February 2023



**Figure 5** Area (%) of NRM with more than 50% cover since February 2010

# Rainfall

No significant rainfall was recorded in central and western New South Wales in February 2023, with most areas west of a line from Walgett to Wagga Wagga not receiving any rain at all. Some good falls between 25 mm and 100 mm were recorded east of this line (Figure 6).

The February rainfall was unusually low, with most of western New South Wales in the driest 10% of rainfall records (Figure 7a). This pushed most of the state back into average or below-average conditions for the last 3 months (Figure 7b).

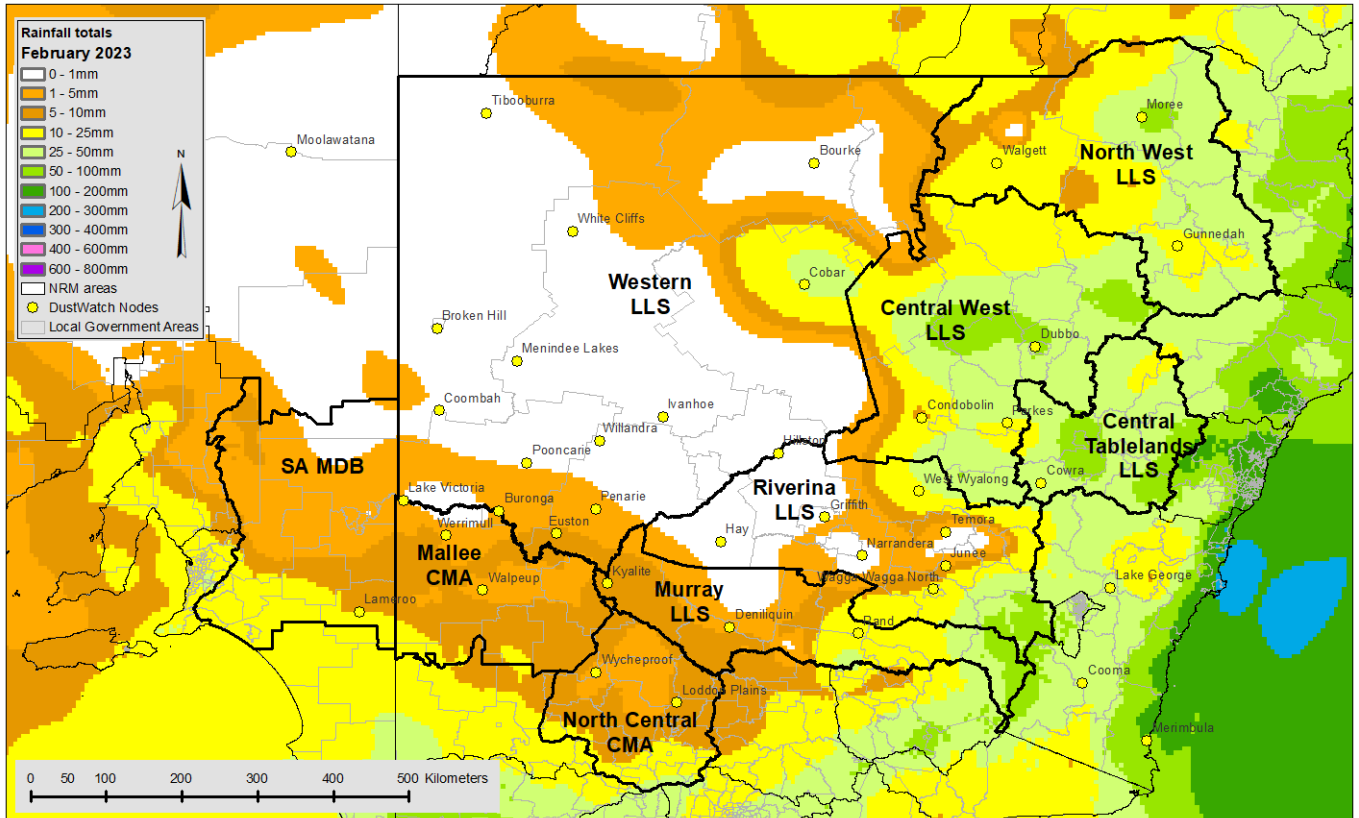


Figure 6 Rainfall totals for February 2023 (source: Bureau of Meteorology)

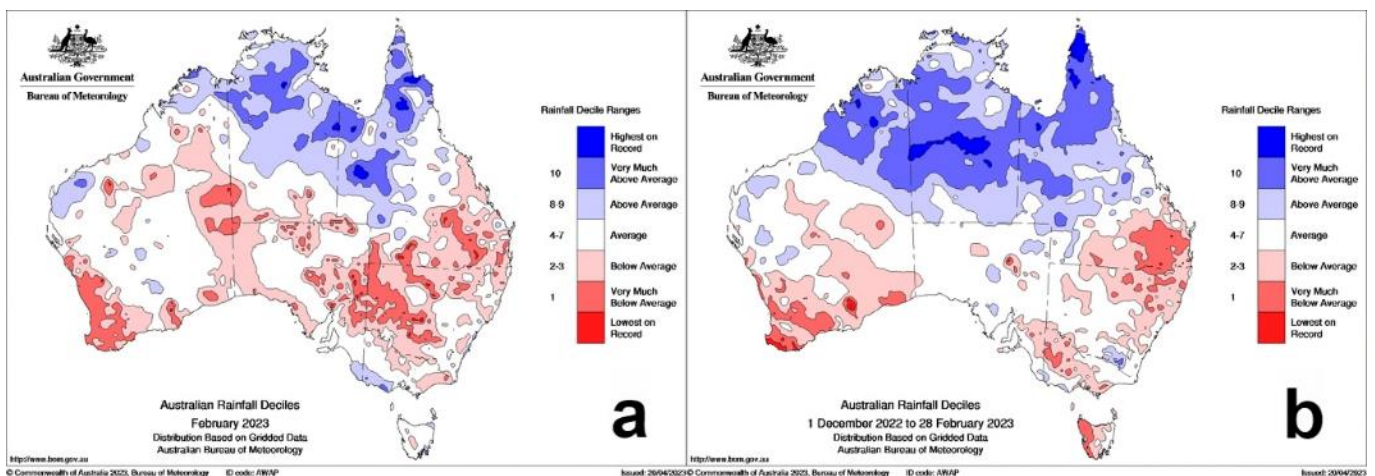
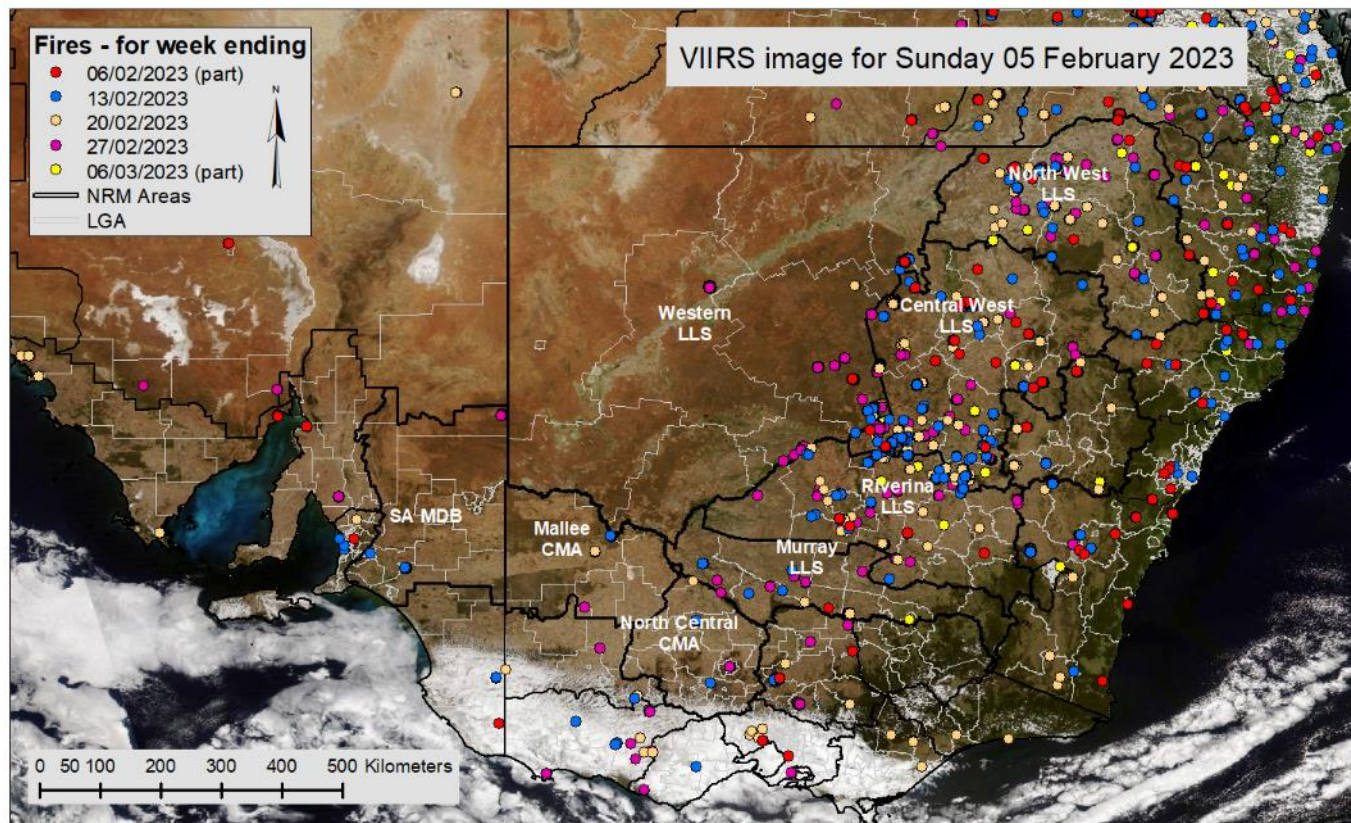


Figure 7 Rainfall deciles for February 2023 (a) and 1 December 2022 to 28 February 2023 (b)

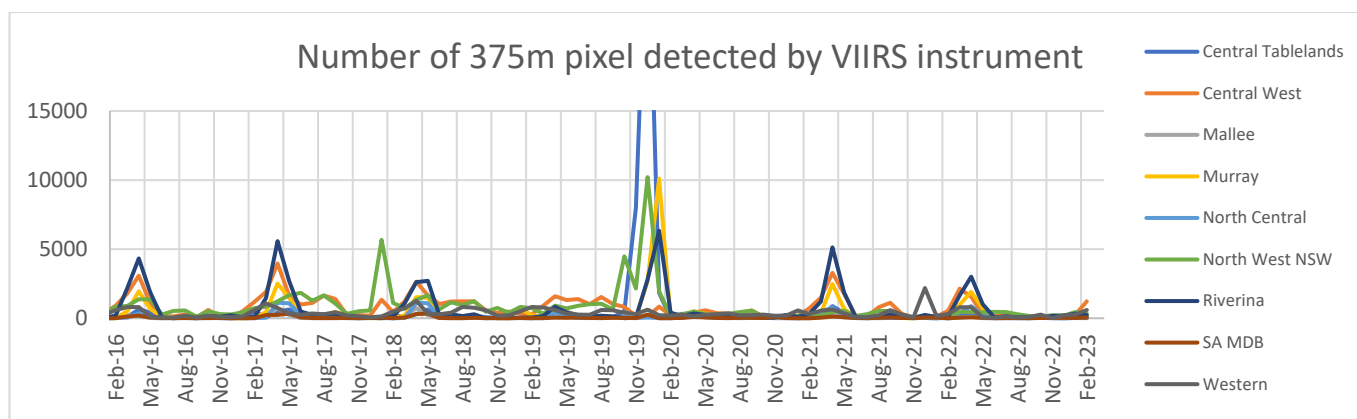
# VIIRS fires and satellite image

Haze from smoke and dust is difficult to separate. We use satellite imagery to manually classify every measurement into dust or smoke. The satellite detected 2598 hot spots (375m pixel with temperature anomalies) in February 2023 (Figures 8 and 9), almost double the 1444 hot spots detected in January 2023. Fires occurred mostly in central New South Wales.

**Note: The number of hot spots is not equal to the number of fires.** Large fires have multiple hot spots thereby increasing the number of detections. Cloud or fog can obscure hot spots thereby reducing the number of detections.



**Figure 8** Pixels (375m) with active burning fires in February 2023 as determined from VIIRS satellite



**Figure 9** Number of 375m pixels with active burning fires between February 2016 and February 2023

## The DustWatch team

Dust data supplied by the Department of Planning and Environment Rural Air Quality network. The MODIS image is courtesy of MODIS Rapid Response Project at NASA/GSFC; the VIIRS fire data is courtesy of the Fire Information for Resource Management System (FIRMS) and the rainfall maps are from the Australian Bureau of Meteorology. This project would not be possible without funding from: The National Landcare Program, Western and Murray Local Land Services (LLS) in NSW; the NSW EPA; the Mallee and North Central CMAs in Victoria and Murray Darling Basin NRM in South Australia; CSIRO, TERN and the Australian National University. We particularly thank our many DustWatch volunteers who provide observations and help maintain the instruments.

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Community-based wind erosion monitoring across Australia

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