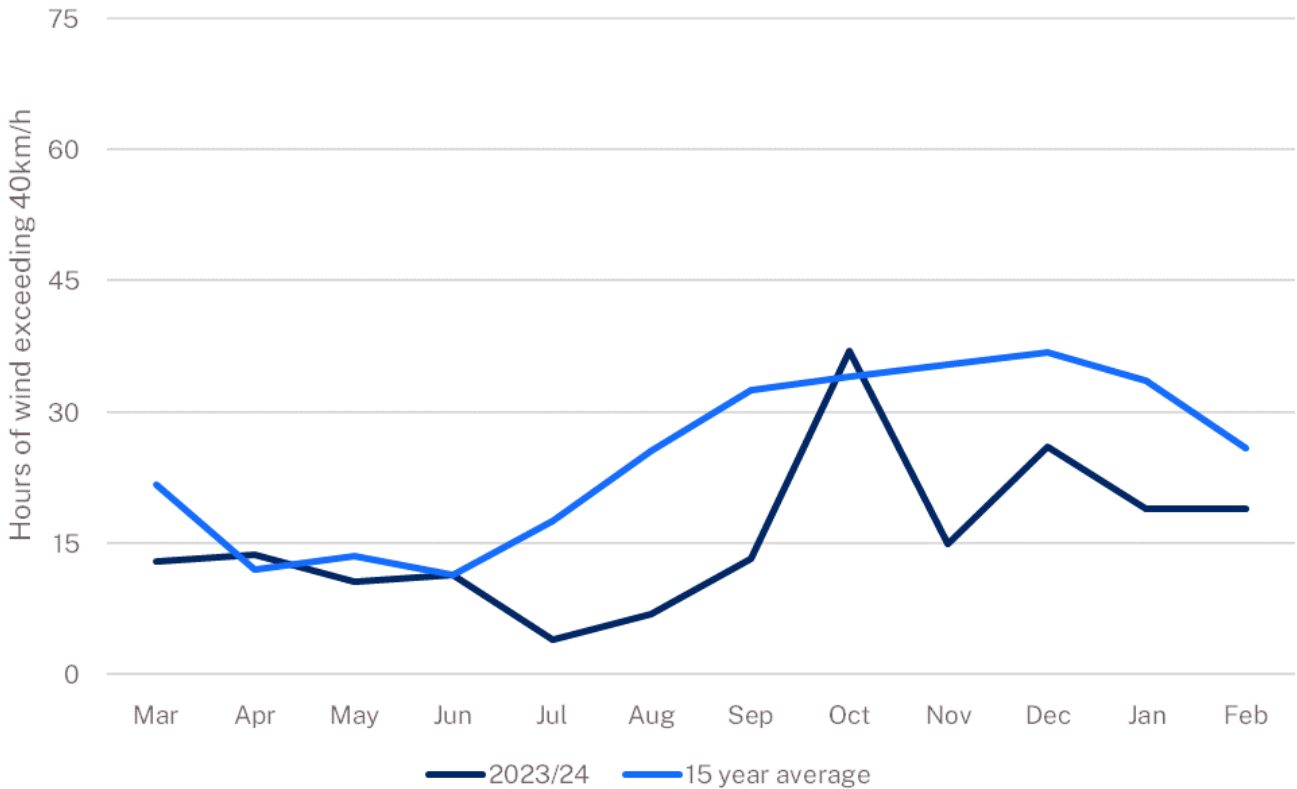


## Community-based wind erosion monitoring across Australia

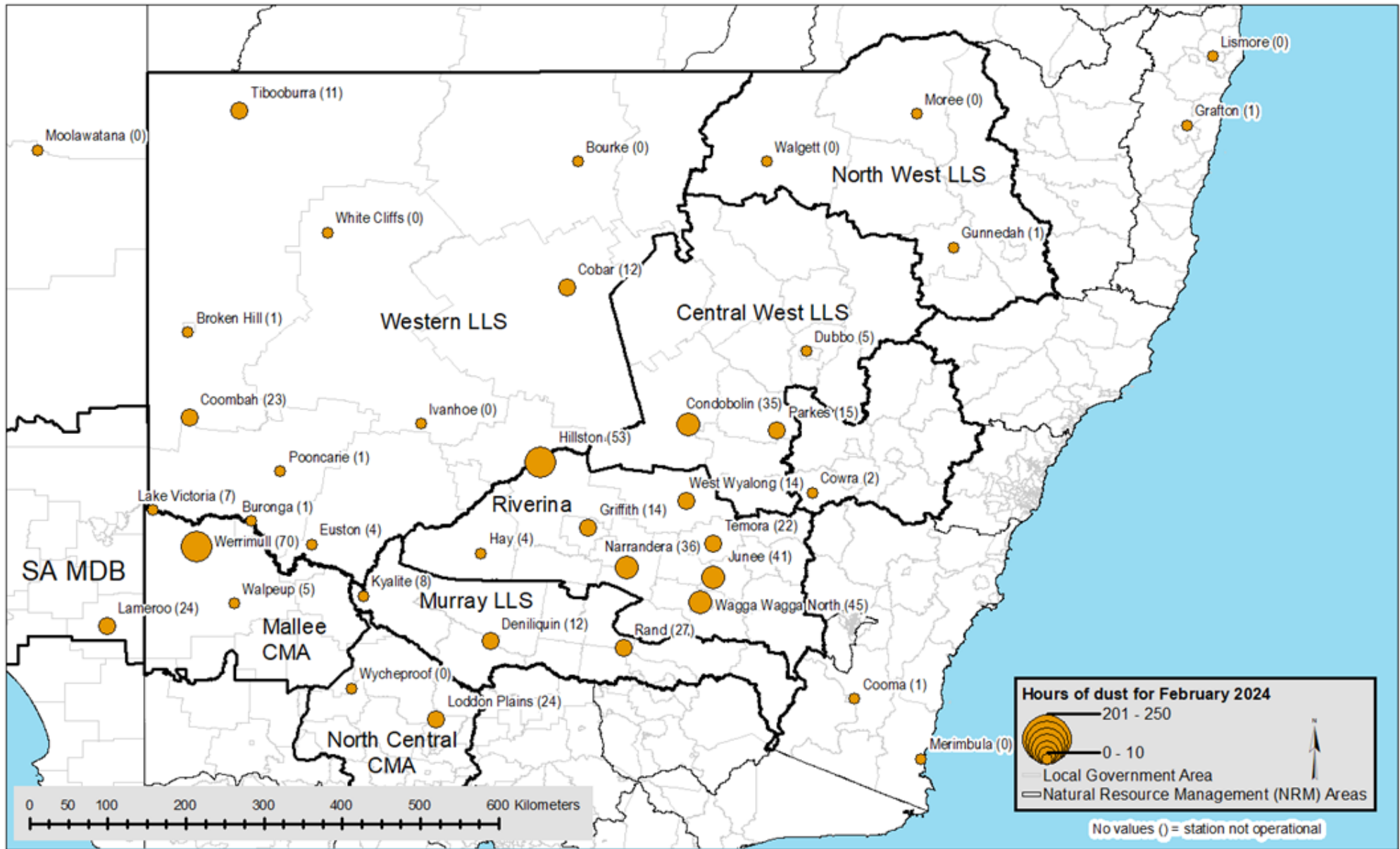
<b>Dust activity</b>	Increase in dust at long-term sites; average for February
<b>Wind strength</b>	Same as January; below long-term average
<b>Groundcover</b>	Decrease in the west; generally stable elsewhere
<b>Rainfall</b>	Decrease in rainfall, average to above average

## Dust activity

Dust activity at long-term sites doubled from January to February, averaging 10.5 hours. This is normal for February (Figure 2). The increase was significant in southern New South Wales and northwestern Victoria due to low rainfall (Figure 7a). Groundcover values remained generally stable, with increases in the Western Local Land Services likely due to higher than average rainfall in the state's far north-west (Table 1 and Figure 7a). Below-average wind speeds likely suppressed the transport of dust (Figure 1).



**Figure 1** Hours of wind exceeding 40km/h – average across all sites



**Figure 2** Hours of dust activity (number in brackets) at each DustWatch site in February 2024

# Groundcover

The area with greater than 50% groundcover (yellow and green colours in Figure 3) has increased in national park areas around Tibooburra, at Narran Lake and along the Darling (Barka) River Corridor in the Western Local Land Services. Groundcover increases also occurred in south-west Queensland and around Werrimull in the Mallee Catchment Management Authority (Table 1 and Figure 3). Groundcover values elsewhere were generally stable during February (Table 1).

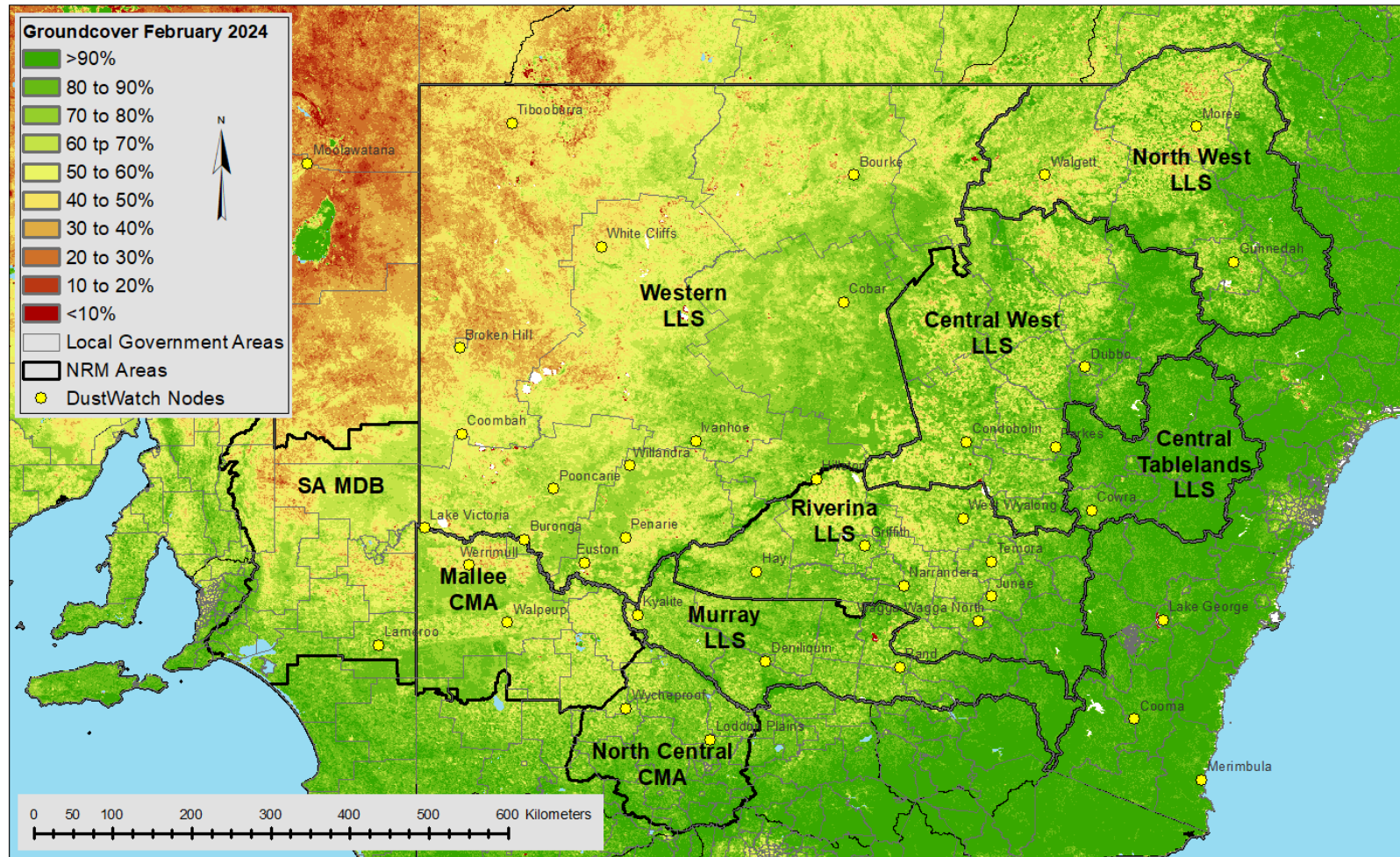


Figure 3 Groundcover for February 2024 as determined from MODIS by CSIRO



**Table 1 Percentage of each NRM with cover >50% for March 2023 to February 2024**

Date	Central West	Mallee	Murray	North Central	North West	Riverina	SA MDB	Western	Central Tablelands
Mar 2023	98	98	99	100	98	99	93	76	100
Apr 2023	98	97	100	100	97	100	95	83	100
May 2023	99	97	100	100	98	100	97	86	100
Jun 2023	100	99	100	100	99	100	98	90	100
Jul 2023	100	100	100	100	98	100	98	90	100
Aug 2023	99	100	100	100	97	100	97	87	100
Sep 2023	99	100	100	100	96	100	95	78	100
Oct 2023	98	99	100	100	95	100	92	71	100
Nov 2023	98	99	100	100	96	100	92	71	100
Dec 2023	96	95	100	100	94	99	81	64	100
Jan 2024	97	90	99	100	93	99	81	66	100
Feb 2024	96	92	99	100	93	98	81	73	100

## Groundcover change

Despite month-on-month increases in groundcover evident in Figure 3, the groundcover changes in the 4 months to the end of February 2024 continue to show decreases along much of the wheat/sheep belt and the Darling River Corridor. Decreases along the wheat/sheep belt are likely due to the late harvest in 2023, while groundcover changes along the Darling are yet to reflect the good rainfall observed in early February (Figure 7a). The improvements around Tibooburra, however, do reflect this rainfall. Despite drier-than-average conditions in February, lakes around Moolawatana also show groundcover increases.

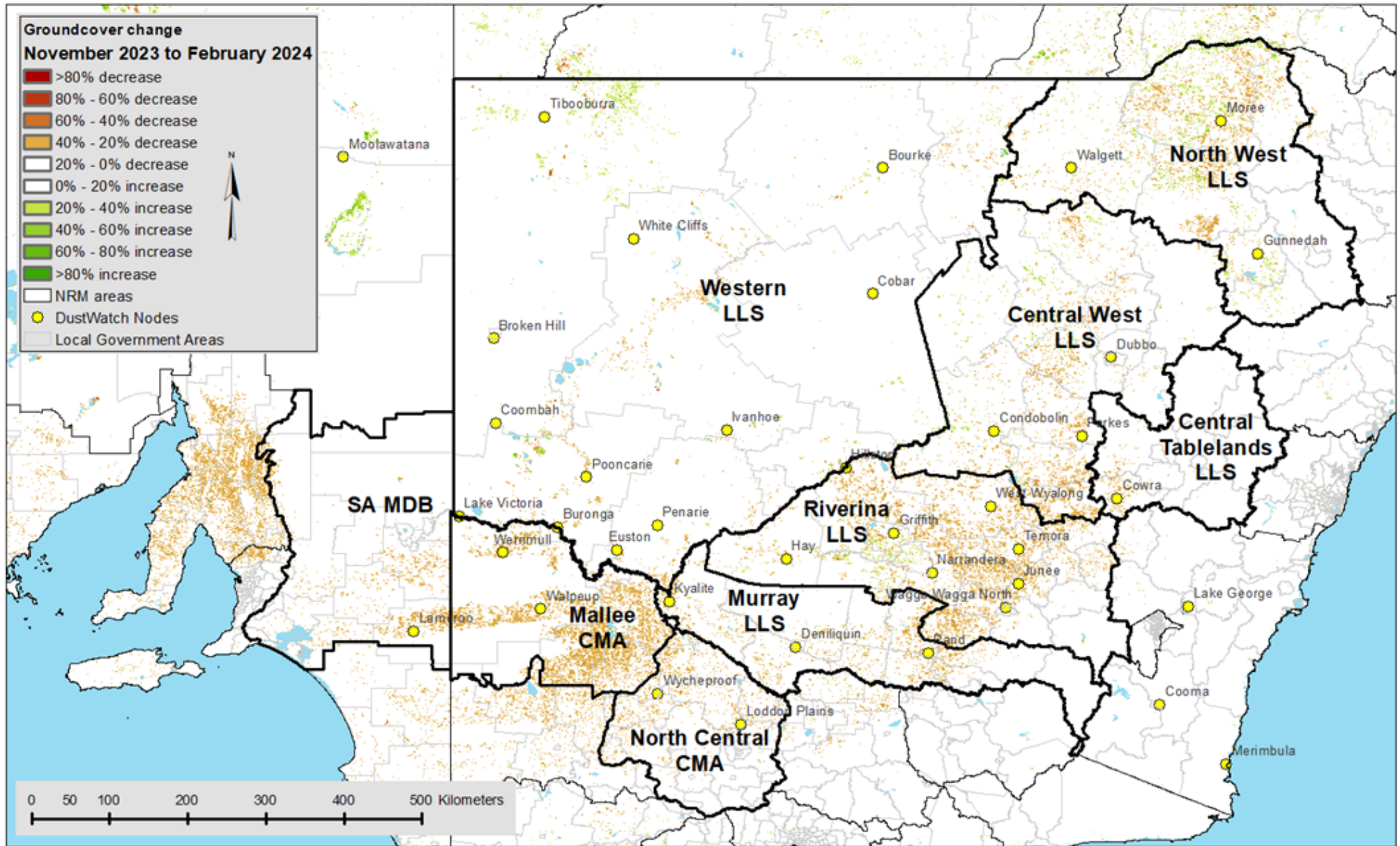
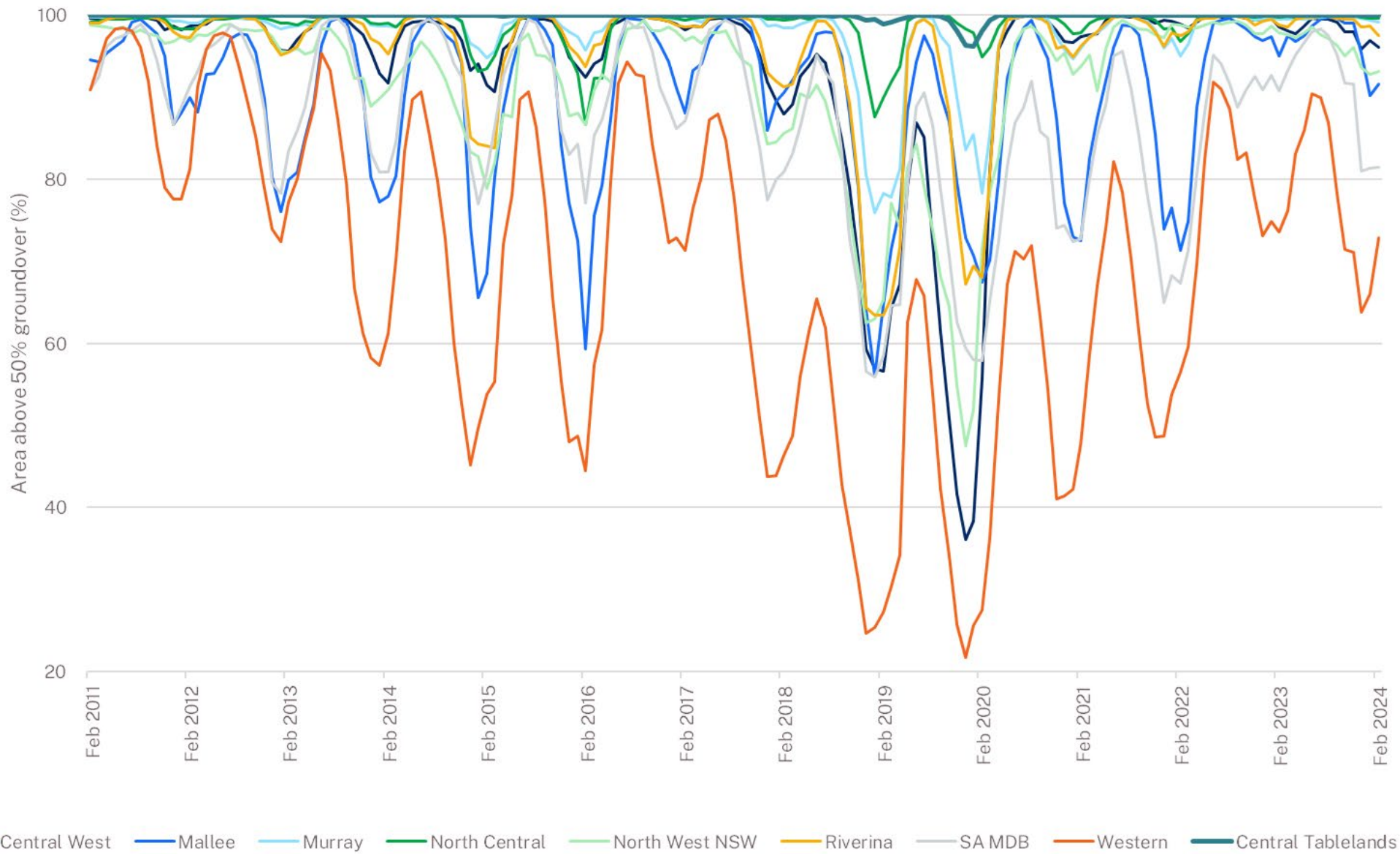


Figure 4 Groundcover difference between November 2023 and February 2024

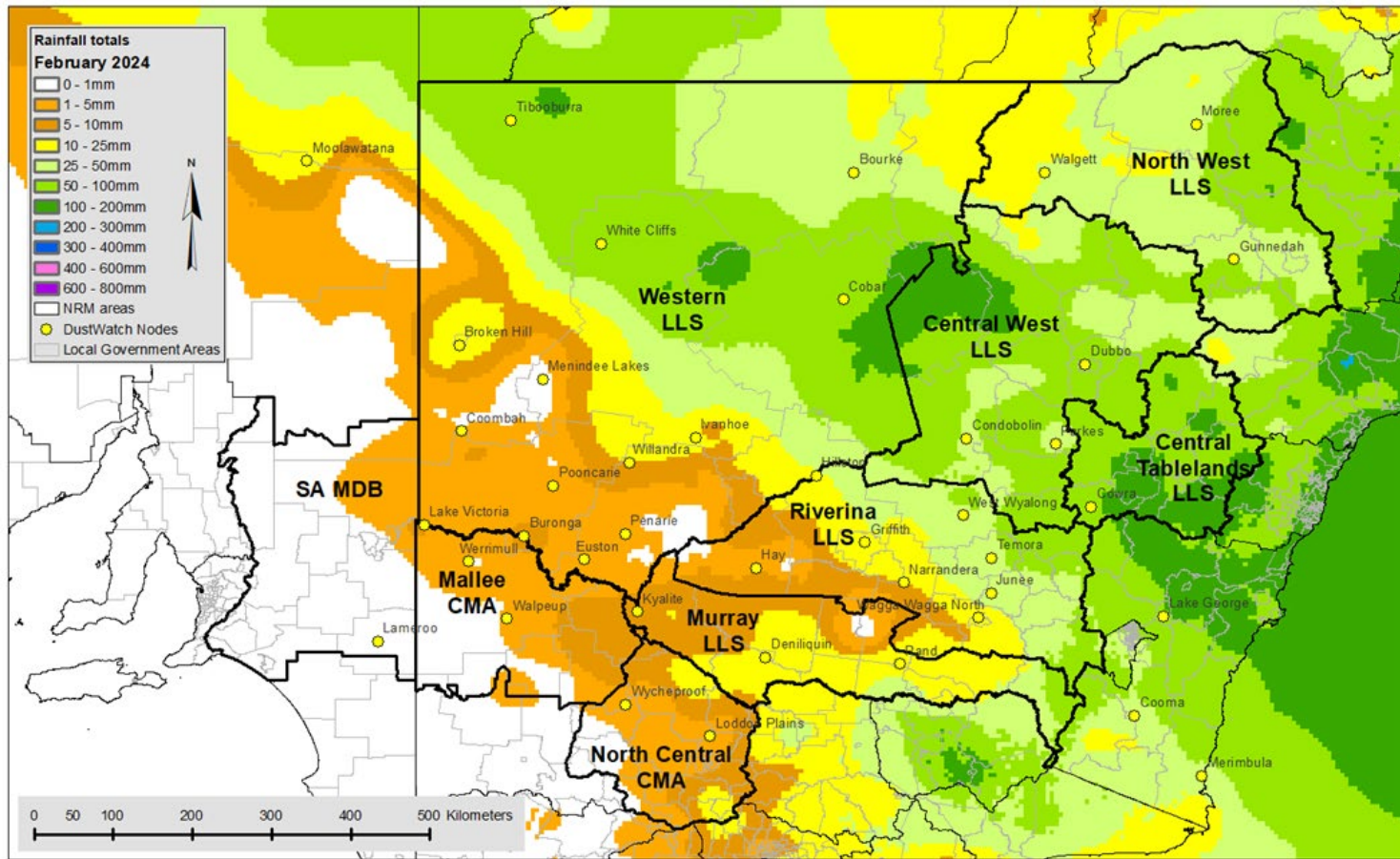


**Figure 5 Area (%) of NRM with more than 50% cover since February 2011**



# Rainfall

Total rainfall in February shows a steep gradient from totals up to 200 mm in the Central Tablelands and north-east coast, to less than 1 mm in areas of the southern wheatbelt, including the Riverina, Murray, North Central, Mallee, Western and South Australian Murray–Darling Basin regions (Figure 6). The rainfall deciles show average rainfall for the north-east third of the state, including the north-west Local Land Services and above to very much above average rainfall along a band through parts of the Western, Central West and Central Tablelands Local Land Services regions. Average to below average rainfall was observed for the south-western third of the state (Figure 7a). In the 3 months to the end of February 2024, however, rainfall was generally average in the north-eastern third and above to very much above average for much of the rest of New South Wales (Figure 7b).



**Figure 6** Rainfall totals for February 2024 (source: Bureau of Meteorology)

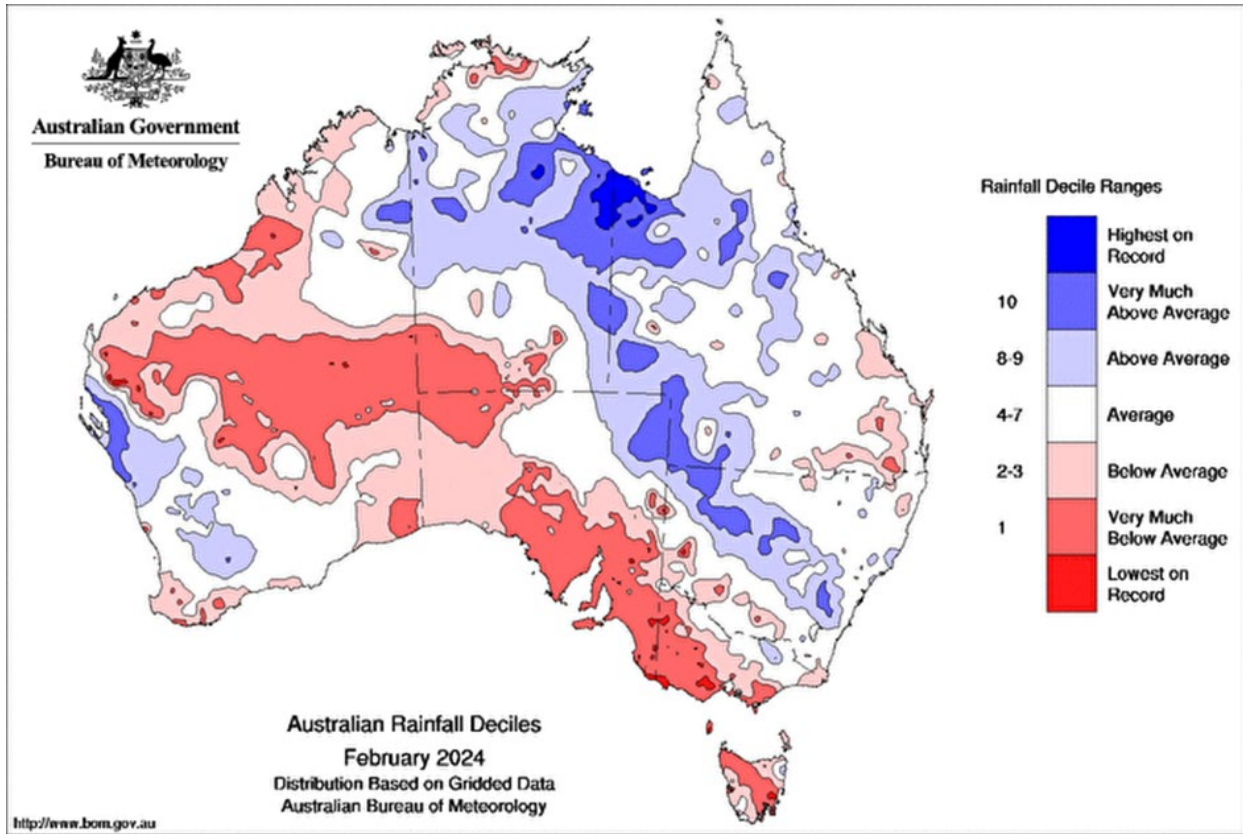


Figure 7(a) Rainfall deciles for February 2024

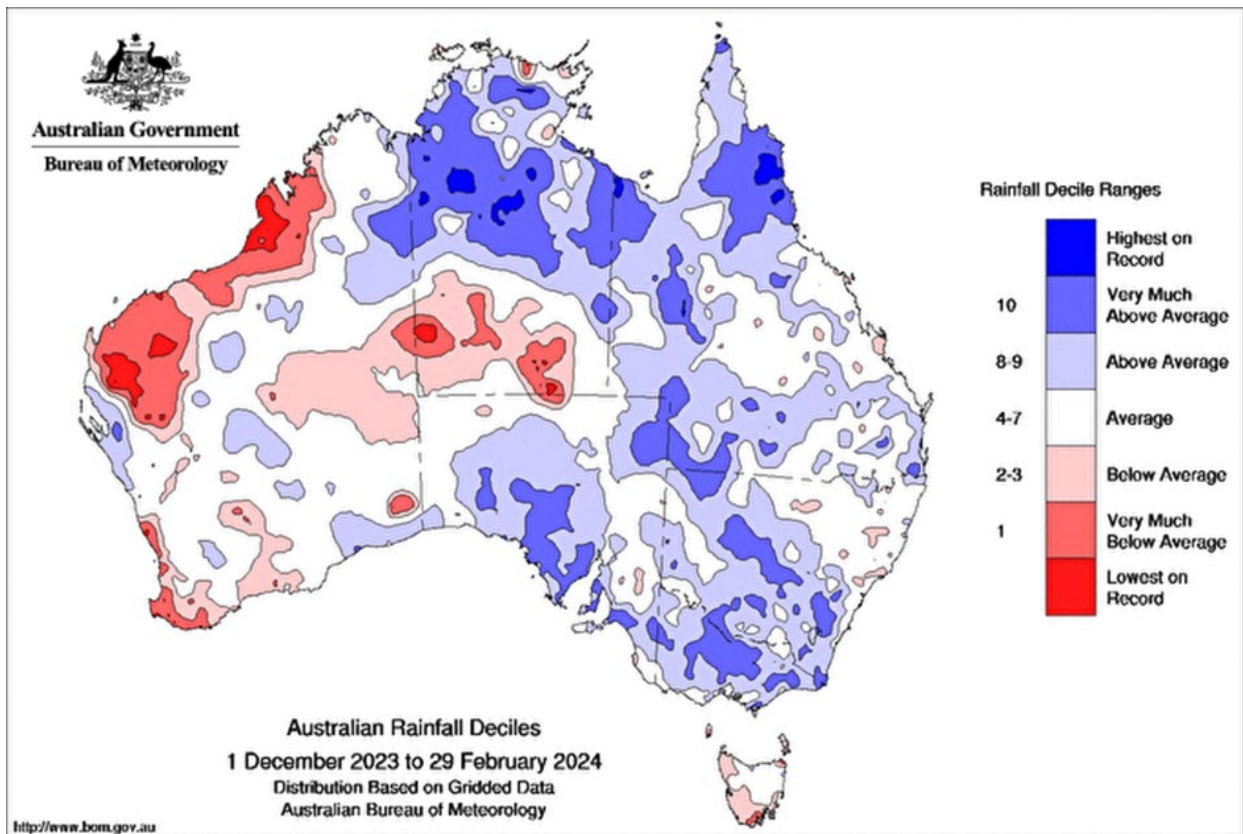


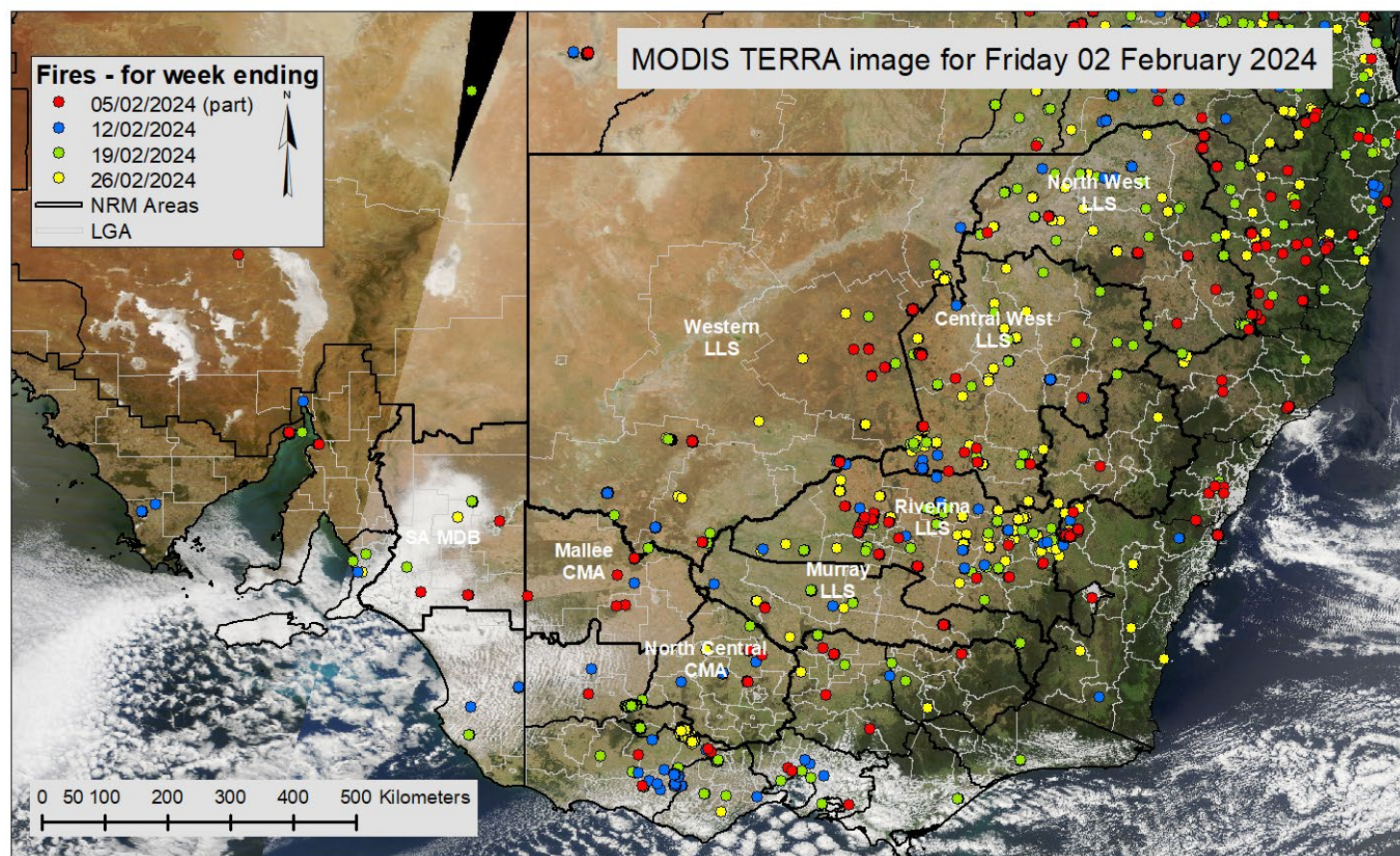
Figure 7(b) Rainfall deciles for 1 December 2023 to 29 February 2024



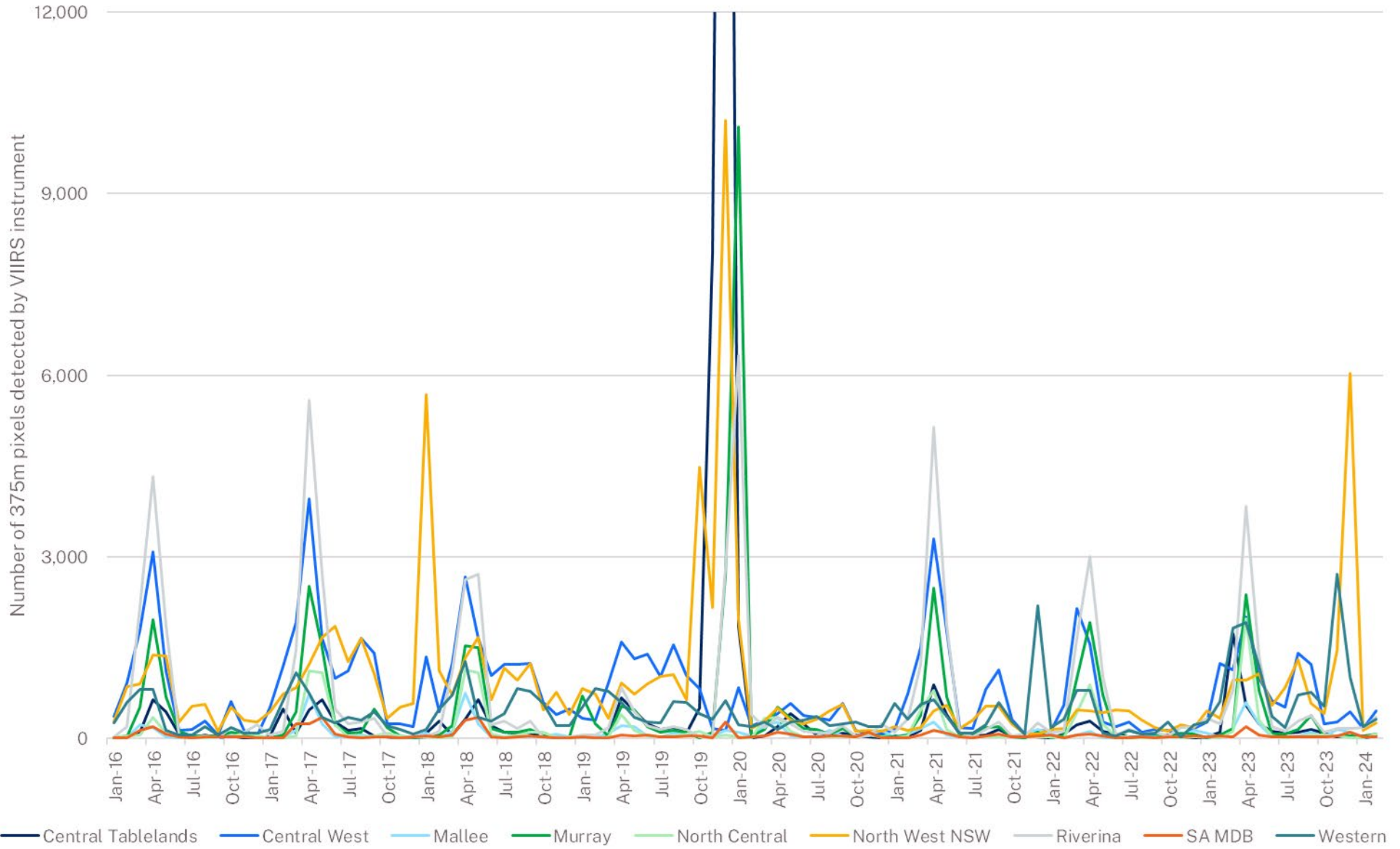
# VIIRS fires and satellite image

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 1,538 hot spots (375 m pixel with temperature anomalies) in February 2024 (Figures 8 and 9), a 112% increase from the 724 hot spots detected in January 2024.

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 (375 m) with active burning fires in February 2024 as determined from VIIRS satellite



**Figure 9** Number of 375 m pixels with active burning fires between January 2016 and February 2024

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