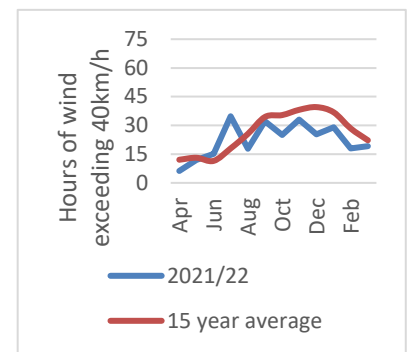


<b>Dust activity</b>	Dust in the Victorian Mallee and around Temora
<b>Wind strength</b>	Unchanged from February 2022; average for March
<b>Groundcover</b>	Improving in the north and west; declining in Victoria
<b>Rainfall</b>	Flooding on the east coast; dry in the north-west

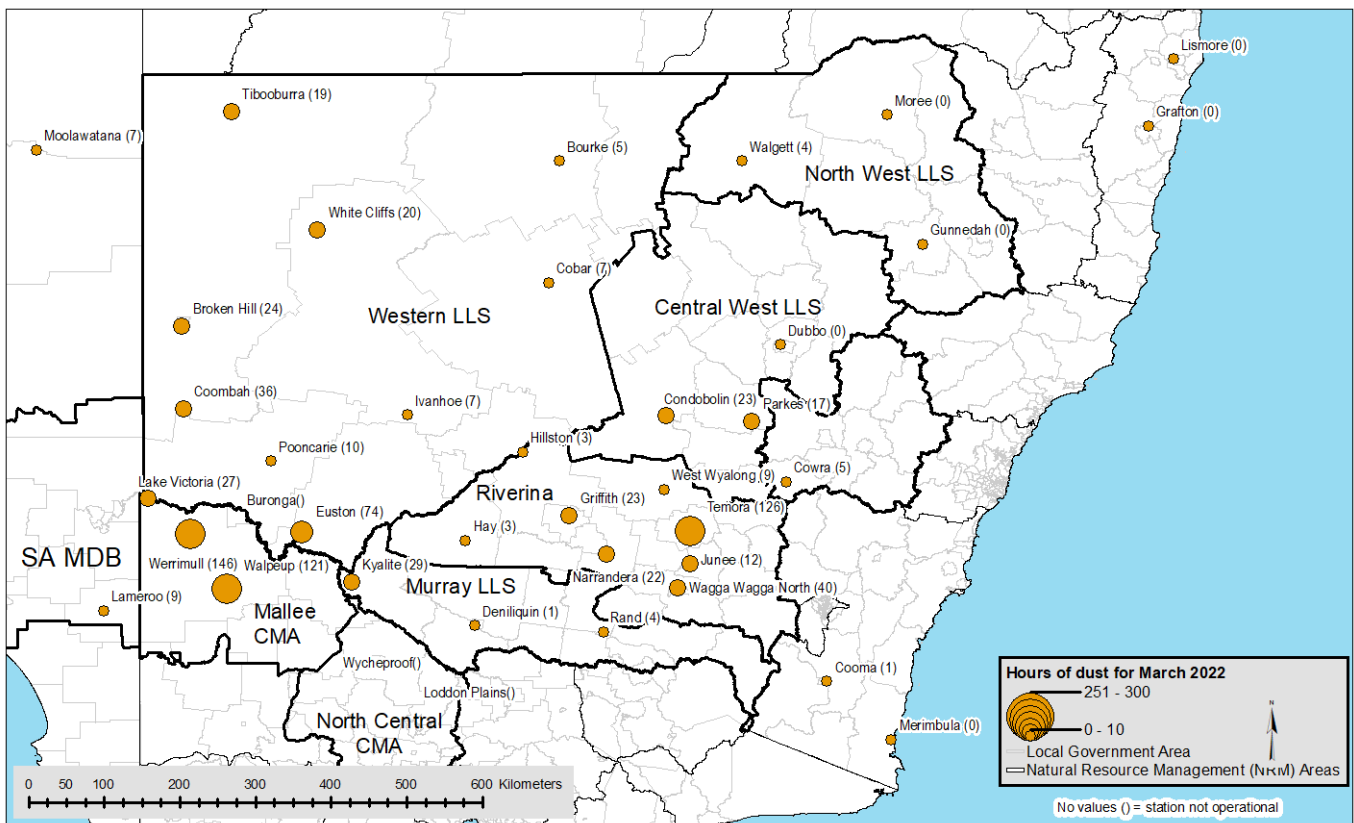
## Dust activity

Dust activity increased slightly from February 2022, with the main areas of dust remaining in the Victorian Mallee. Heightened dust activity was also detected around Temora in the Local Land Services Riverina Region (Figure 2). In both cases, bare paddocks surrounding the sites are the main cause of the dust (Figure 3). Wind strength as measured in hours of wind exceeding 40km/h remained unchanged from February 2022 and was on par with the average for March (Figure 1).



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

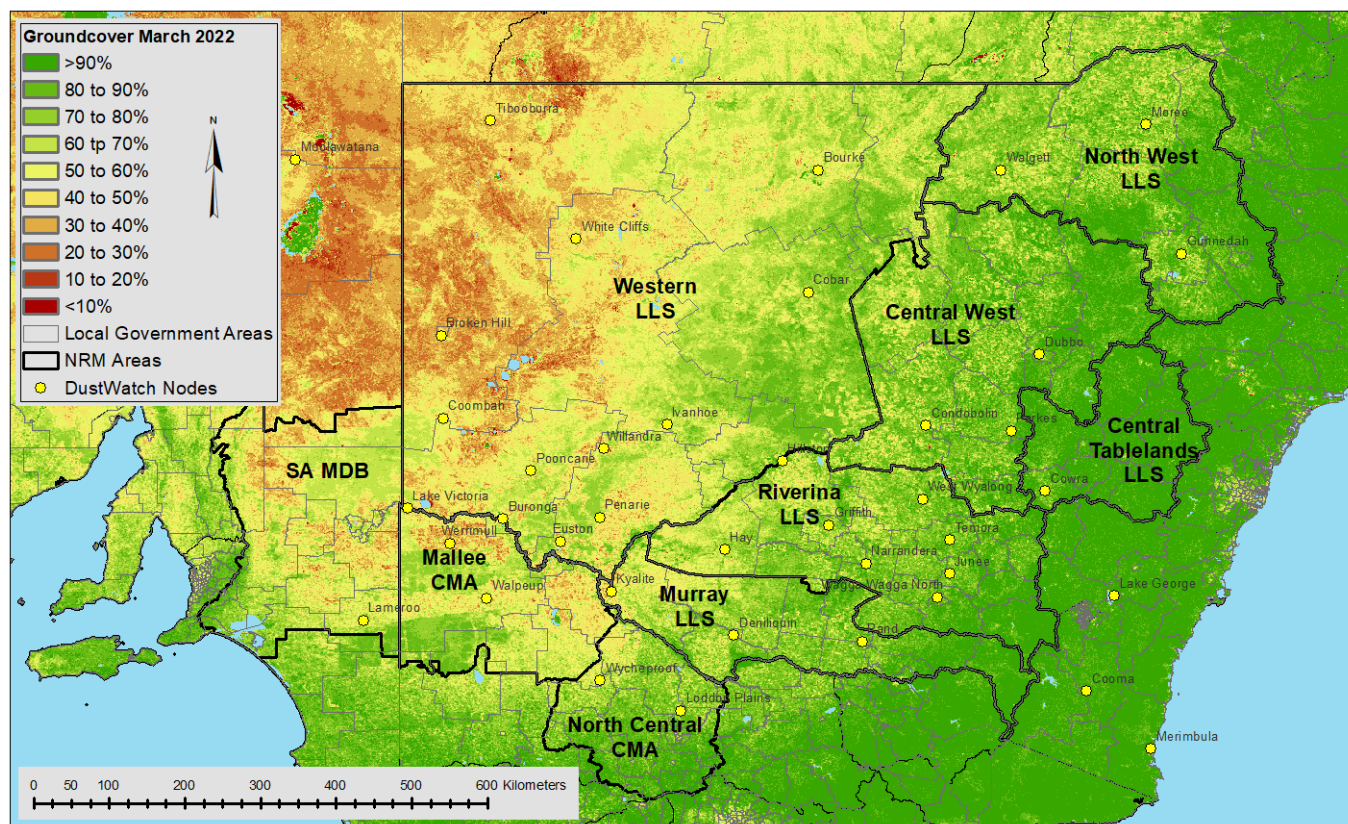
Note: Real time dust measurements from all our monitoring sites are at: Rural air quality network – live data



**Figure 2** Hours of dust activity (number in brackets) at each DustWatch site in March 2022

# Groundcover

The area with > 50% groundcover (green and yellow colours in Figure 3) has improved across all Natural Resource Management areas covered by this report (Table 1 and Figure 5). The Victorian Mallee is still showing large areas with very low groundcover (orange and red colours in Figure 3), causing the dust detected in March 2022 (Figure 2).



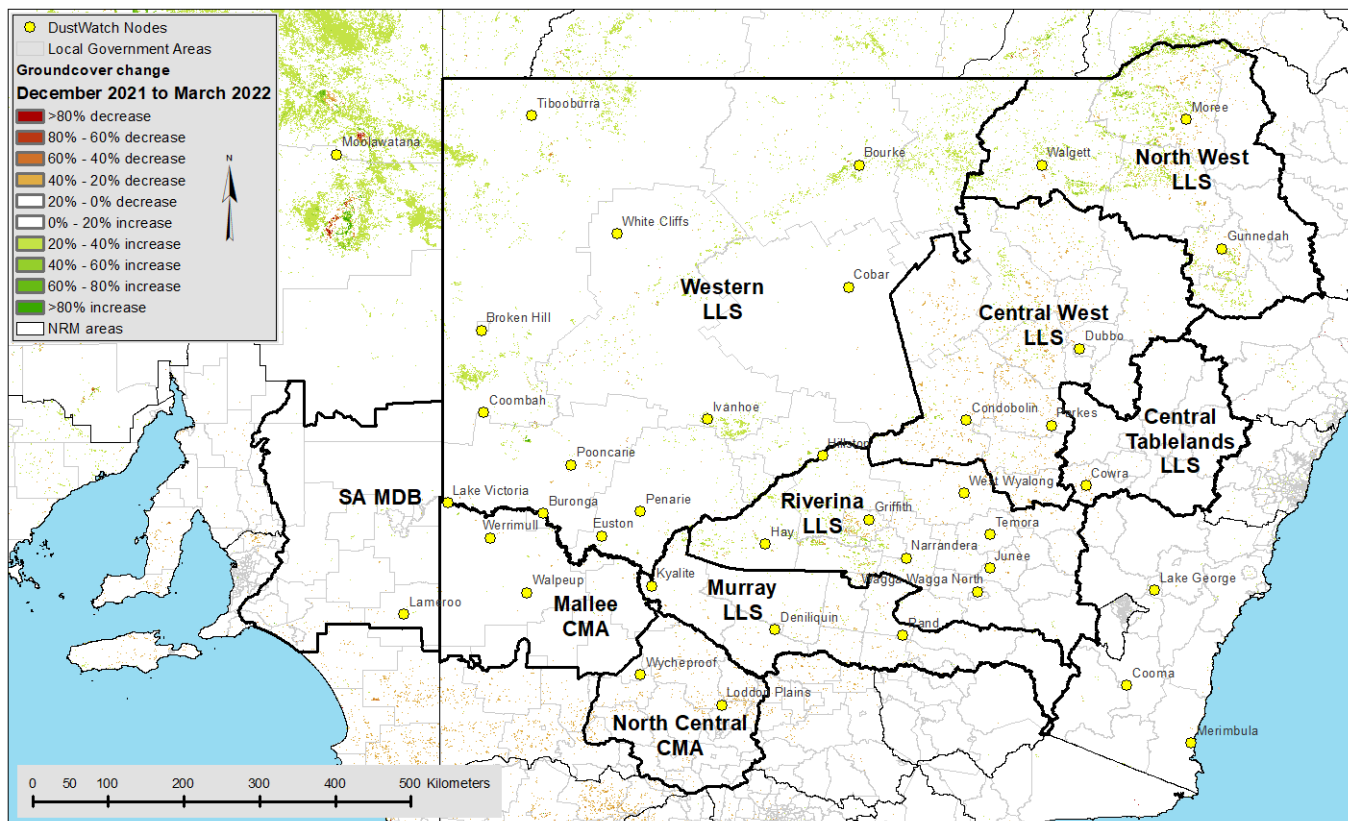
**Figure 3** Groundcover for March 2022 as determined from MODIS by CSIRO

**Table 1** Percentage of each NRM with cover >50% for February 2021 to March 2022

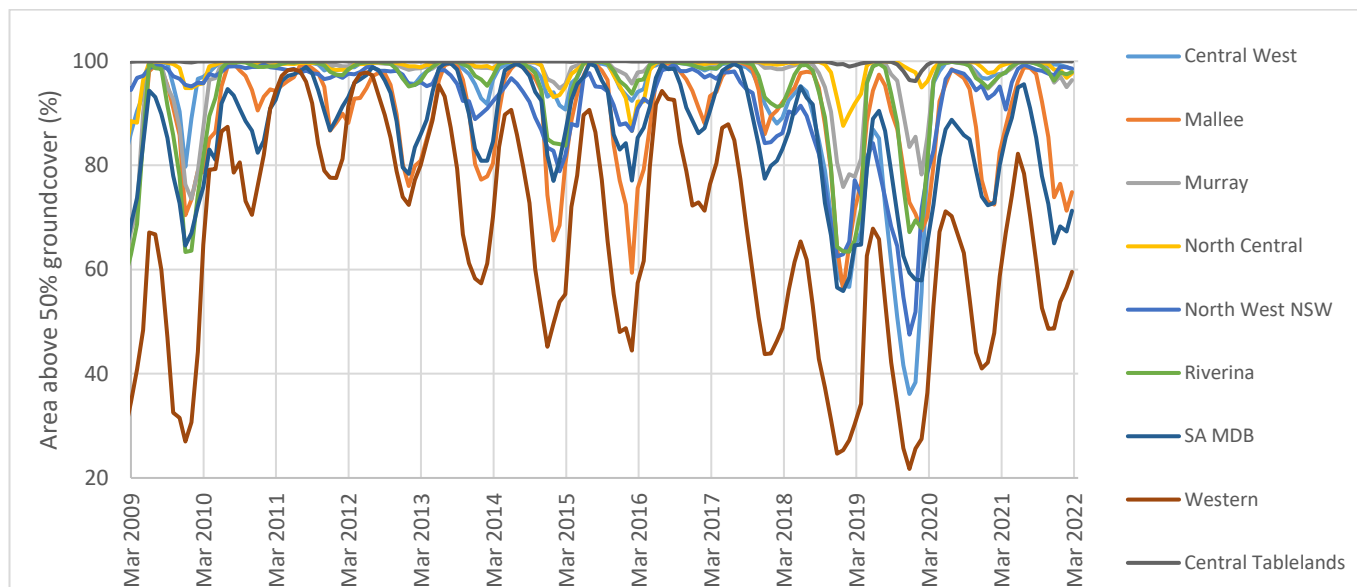
Date	Central West	Mallee	Murray	North Central	North West	Riverina	SA MDB	Western	Central Tablelands
Feb 2021	97	72	96	98	94	96	73	48	100
Mar 2021	98	82	97	99	95	97	80	59	100
Apr 2021	98	87	98	99	91	98	85	67	100
May 2021	99	92	99	100	96	99	89	74	100
Jun 2021	100	96	100	100	99	100	95	82	100
Jul 2021	100	99	100	100	99	100	96	78	100
Aug 2021	100	99	100	100	99	100	91	70	100
Sep 2021	100	98	100	100	98	100	85	61	100
Oct 2021	100	92	99	100	98	99	78	53	100
Nov 2021	99	85	98	99	98	98	73	49	100
Dec 2021	99	74	96	98	97	96	65	49	100
Jan 2022	99	76	97	98	99	98	68	54	100
Feb 2022	99	71	95	97	99	97	67	57	100
Mar 2021	99	75	96	98	99	98	71	60	100

# Groundcover change

Groundcover improved between December 2021 and March 2022 in the north and west of New South Wales (Green colours in Figure 4) following good rainfall earlier in the year. Eastern South Australia saw a similar improvement but much more widespread. In contrast, some groundcover reduction (orange and red colours in Figure 4) is visible in the Local Land Services Central West and Riverina Regions.



**Figure 4** Groundcover difference between December 2021 and March 2022



**Figure 5** Area (%) of NRM with more than 50% cover since March 2009

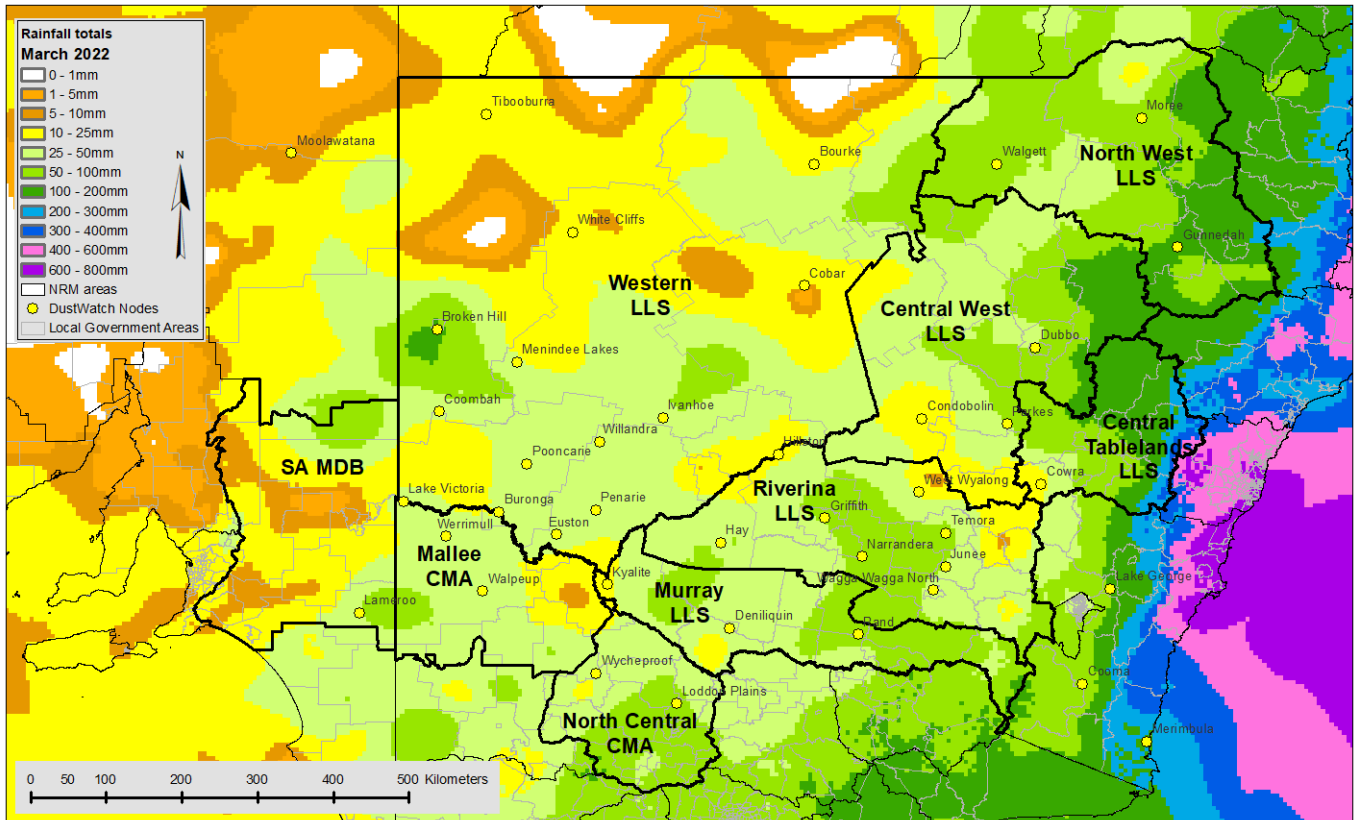


# Rainfall

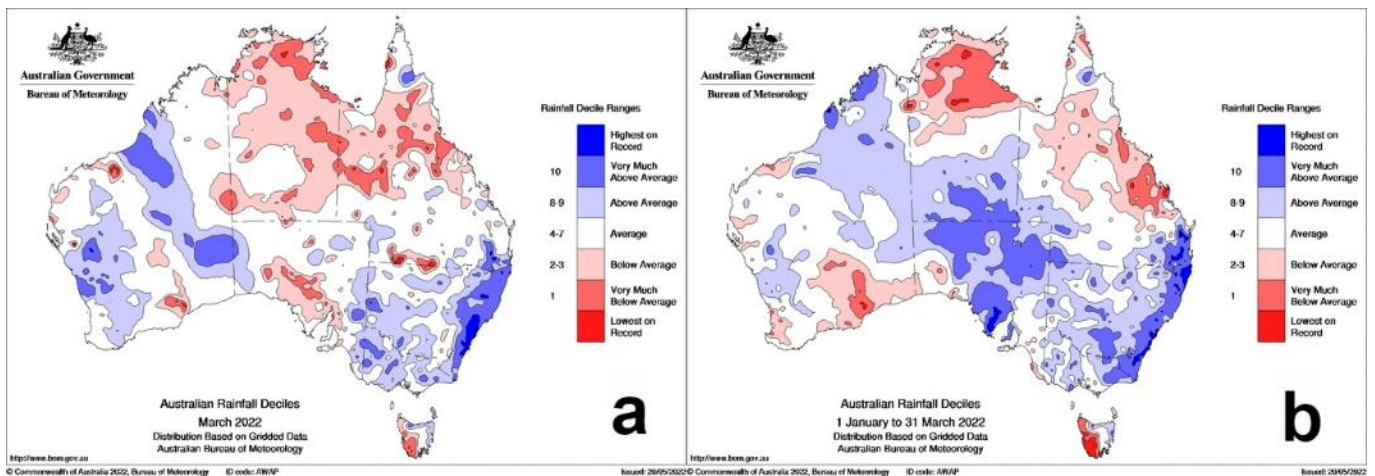
Falls exceeding 600 mm were recorded along Australia’s east coast (Figure 6), leading to major flooding in New South Wales and Queensland (BoM Special Climate Statement 76).

Falls exceeding 25 mm were recorded across large parts of western New South Wales and into Victoria and South Australia.

A number of the western rainfall records were in the wettest 10% of Bureau of Meteorology records for March (Figure 7a). Apart from a small area between Mildura and Broken Hill, New South Wales is now had average or above-average rainfall for the last 3 months (Figure 7b).



**Figure 6** Rainfall totals for March 2022 (source: Bureau of Meteorology)

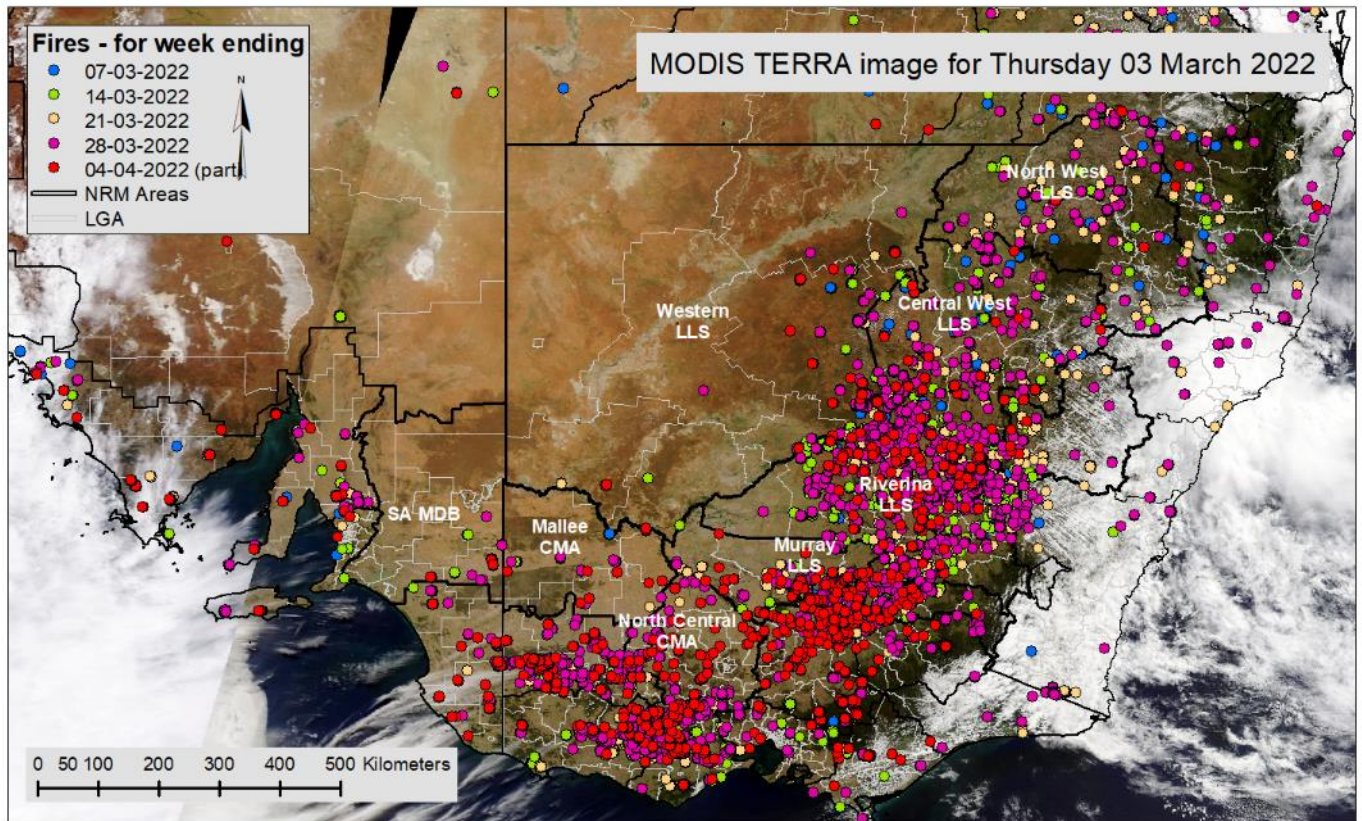


**Figure 7** Rainfall deciles for March 2022 (a) and 1 January 2022 to 31 March 2022 (b)

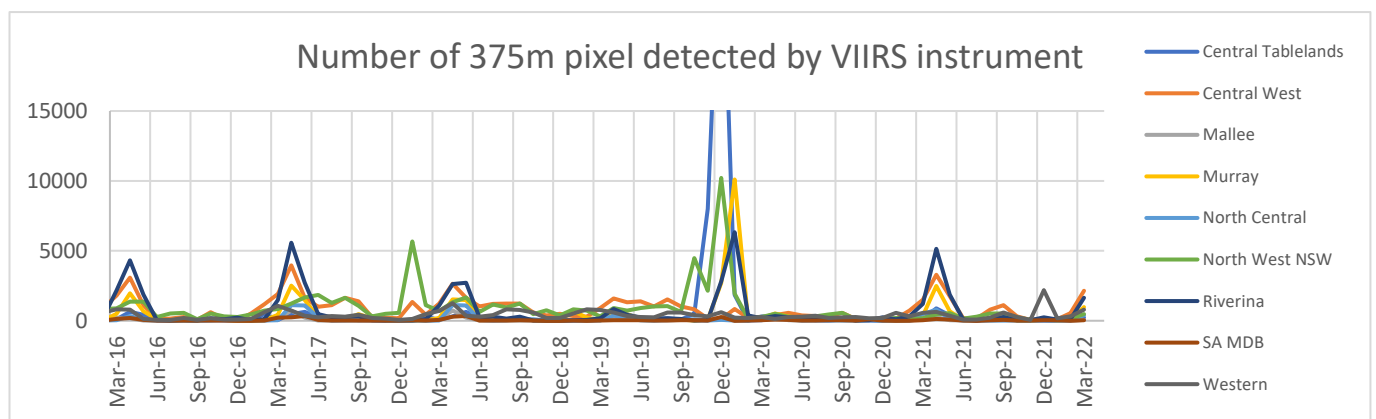
# VIIRS fires and satellite image

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 6762 hot spots (375 m pixel with temperature anomalies) in March 2022 (Figures 8 and 9), 4 ½ times the 1237 hot spots detected in February 2022. Early stubble burning in the last week of March is the main cause of the higher fire detection.

**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, reducing the number of detections.



**Figure 8** Pixels (375 m) with active burning fires in March 2022 as determined from VIIRS satellite



**Figure 9** Number of 375 m pixels with active burning fires between March 2016 and March 2022

## The DustWatch team

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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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