



# NSW State Seasonal Update

January 2018

## NSW Overview

prepared by the NSW DPI Climate Unit

NSW is currently experiencing challenging seasonal conditions for agricultural production which are highly variable across the state. Rainfall at this time of year typically falls as storms, and these can be isolated both between and within regions. While summer storms can provide some short term benefit, they are typically ineffective for agricultural production given high run-off and evaporation rates.

The NSW Combined Drought Indicator (CDI), which takes into account rainfall, soil moisture and plant growth, highlights that much of the State is currently under Drought Watch (Figure 1). There is also an area in the middle of the state which has dried off significantly and is in Drought Onset (parts of the Hunter and Central West, and much of the Central Tablelands). While these areas are very dry, moderate rainfall events over summer have promoted some growth and areas of 'green pick' are evident on some properties. Stock water supplies may be low but have not reached critical levels yet. Many properties in this area remain in a precarious position, and without rainfall over the coming weeks are likely to enter Drought.

Areas in the central and upper Hunter, and a small area in the far west of NSW, entered Drought status in January 2018. All indicators suggest that these regions have very poor rainfall and soil moisture. Growth has also been poor for the last six to eight weeks, and ground cover levels are likely to be very low, given warm summer temperatures, natural loss of cover and grazing pressure.

It is important to ground-truth seasonal conditions. The maps in this report provide an aggregated picture and individual properties and paddocks may be experiencing different conditions to those displayed.

While these regions are experiencing climatic stresses, parts of the state are experiencing strong conditions favourable for production. Parts of the Northern Tablelands and North Coast, as well as the far south west of the State, have received high rainfall. Parts of the Murray and Riverina have received reasonable follow up rain, and stored soil moisture in these areas is average. These areas remain in the Non-Drought category.

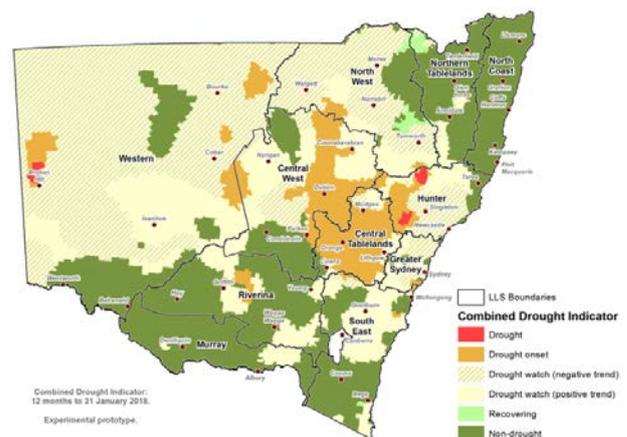


Figure 1. NSW Combined Drought Indicator at 31<sup>st</sup> January 2018

It is important to recognise the CDI provides an aggregated view of the State, and that on-ground conditions can be different to those displayed in the maps. They provide an 'on average' view of a particular region only. On-ground variations are particularly high over the summer given storm rainfall, background soil variations and differences in farm management.

## Rainfall

Storm events in the latter part of January brought high rainfall across much of the South East, North Coast and Northern Tablelands Local Land Services (LLS) districts. Good falls also occurred in parts of the North West and northern Central West as well as the eastern fringe of the Central Tablelands. These areas received 40-100mm rainfall for the month ( Figure 2). Minimal rainfall occurred in other areas, and it was particularly dry across much of the Hunter, the north-west of the Central Tablelands, Western, and the far west of the Murray, Riverina and North West LLS districts.

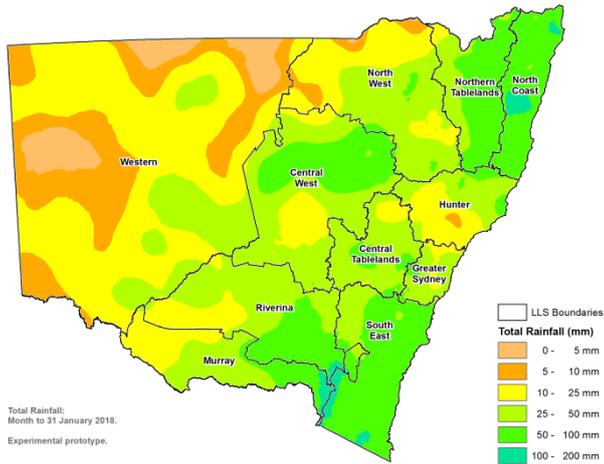


Figure 2. Total rainfall January 2018

## Normalised Difference Vegetation Index (NDVI) Anomaly

The monthly NDVI anomaly shows areas of lower than normal greenness across most of NSW (Figure 3), reflecting visual but not accumulated rainfall conditions. Areas of significantly low greenness occurred in areas of Hunter and Western districts. Other areas of low greenness occurred in the central and western areas of Murray district, the west of the Northern Tablelands and areas of the Southern Highlands and Illawarra in the South East district. The North Coast, eastern areas of the Northern Tablelands, most of the south and east of Riverina and areas of the South East district showed higher than normal levels of greenness.

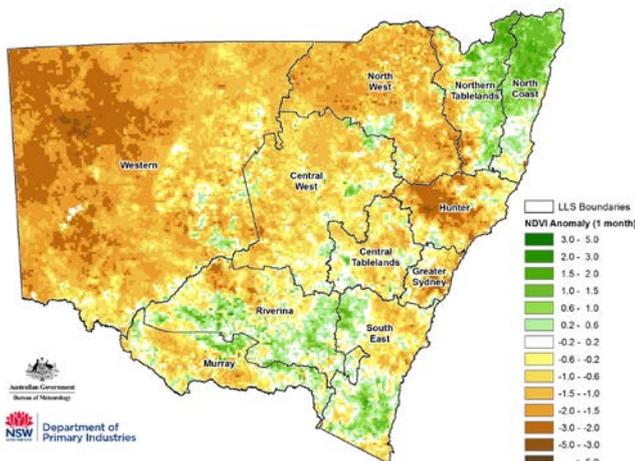


Figure 3. NDVI anomaly January 2018

## Temperature

Maximum daytime temperatures averaged well over 40°C in the west of the state, with conditions cooler across the Highlands and coastal fringe (daytime average 18-20°C, Figure 4). Similarly, overnight temperatures were warm in the west (28°C average) to as little in 7°C in the Highlands (Figure 5).

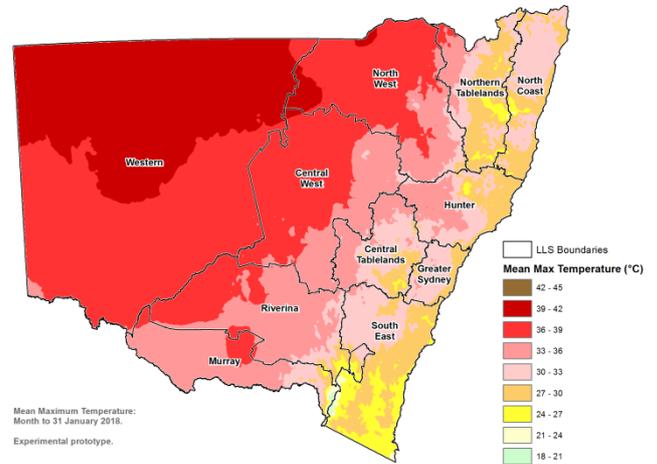


Figure 4. Average daytime temperature January 2018

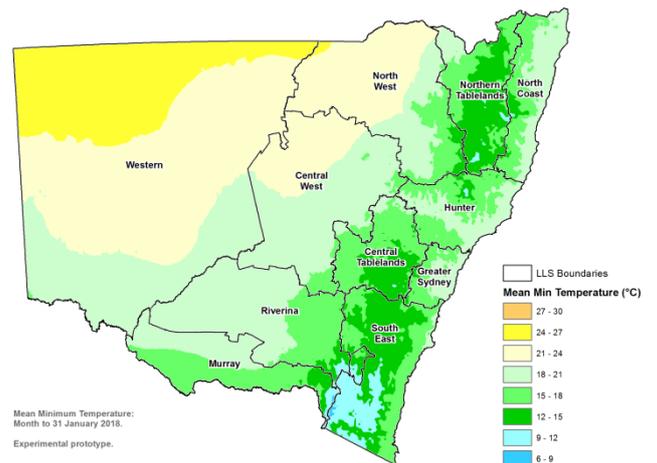


Figure 5. Average overnight temperature January 2018

## Extreme events

Heatwaves occurred across much of New South Wales in early January 2018. Maximum daily temperatures exceeded 44°C in parts of the Western District during this time, with record high temperatures set across areas of the eastern seaboard and Highlands.

## COMBINED DROUGHT INDICATOR - NSW SUMMARY

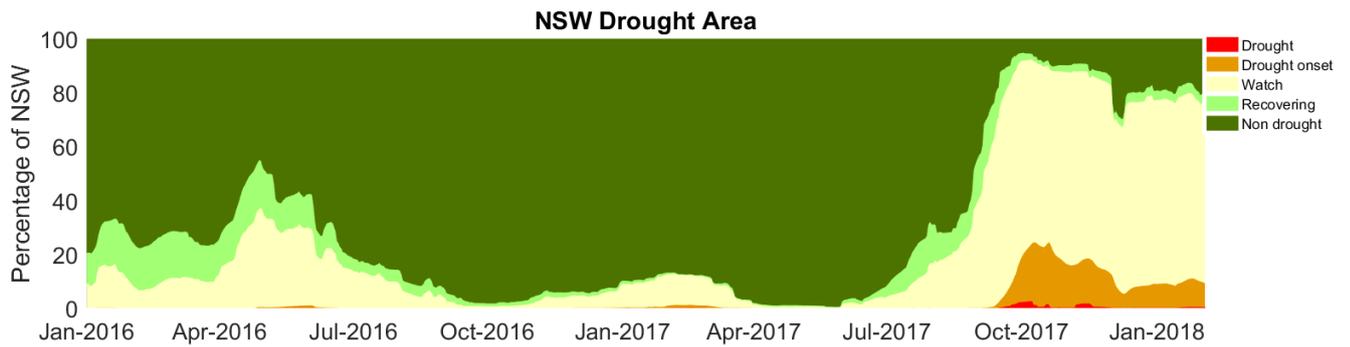
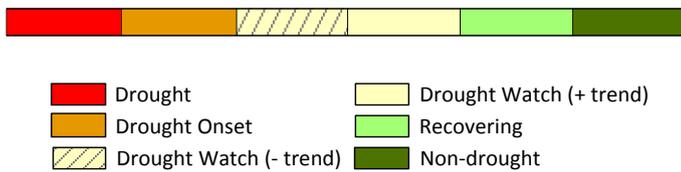


Figure 6. NSW Combined Drought Indicator summary from January 2016 to current

## COMBINED DROUGHT INDICATOR – REGIONAL BREAKDOWN



### NORTHERN TABLELANDS



0% in drought

Parts of the Northern Tablelands have received good falls of rain, particularly to the central-north west (Inverell-Bundarra to Glen Innes). While much of the area is classed as Non-Drought, pasture conditions are rapidly deteriorating and signs of stress are emerging on the western edge and south of the district. The drought indicators are marginal, and without rainfall, Watch conditions are likely to form over the coming weeks.

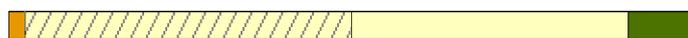
### NORTH WEST



0% in drought

While none of the North West is currently classed as Drought, a large part of the region (80%) is in Watch and is deteriorating rapidly. This drying is most intense to the west of the region. Some isolated regions to the east from Warialda to Bingara have had some rainfall, are experiencing improved growth conditions, and are classed as Recovering or Non-Drought.

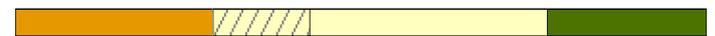
### GREATER SYDNEY



0% in drought

Much of the Greater Sydney region (88%) is currently in Drought Watch conditions.

### CENTRAL WEST



0% in drought

The monitoring network has detected some isolated falls of rain which will see some individual properties may be experiencing better conditions, but these are not widespread and do not change the status of the region as a whole.

### WESTERN



0.4% in drought

A large portion of this area is in the Drought Watch category and conditions are deteriorating. Isolated regions are in Drought or Drought Onset, with the largest area to the north of Broken Hill, west of the Silver City Highway. Drought Onset conditions are also occurring near Nymagee and Brewarrina. Areas around Tilpa and Louth have received rainfall and are classed as Non-Drought. Much of the southern portion of the region is also in Non-Drought.

### SOUTH EAST



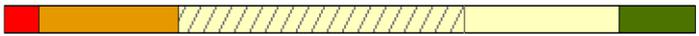
0% in drought

Non-Drought conditions occur across 54% of the region, centered on the Monaro, Alpine Zone and Upper Bega Valley. The remainder of the area remains in Drought Watch, soil moisture levels remain low, although the trend has stabilised or slightly improved given recent rainfall. Pasture conditions remain marginal, and native pastures will be inactive, a normal state given warmer temperatures over the summer months.

**RIVERINA**

0% in drought

The central (Leeton-Griffith) and south east (Wagga to Holbrook) is in Watch, although with some recent rain the trend has stabilised. A small area of Drought Onset conditions is evident north of Leeton. The majority (71%) of the region is currently managing Non-Drought conditions, with these areas having had average or better rainfall.

**HUNTER**

4.9% in drought

The Hunter is currently experiencing Drought across 5% of the region and Drought Onset conditions across 20% of the region. 11% of the region is in Non-Drought which is isolated to the north-eastern and far east (Taree to Tuncurry). The remainder of the area is in Watch and is rapidly deteriorating. Agronomic indicators suggest that on-ground conditions are particularly poor to the west of Singleton.

**CENTRAL TABLELANDS**

0% in drought

Much of the Central Tablelands (76%) is in Drought Onset conditions. While the rainfall indicator suggests some isolated falls have occurred over the past month, pasture and soil moisture conditions are poor and deteriorating. A small part (4%) of the region to the south-west (west of Cowra) is in Non-Drought.

**MURRAY**

0% in drought

Most of the Murray received good falls of rainfall in early to mid-summer and the majority of the area is currently in the Non-Drought category (89%). Isolated areas near Deniliquin and north east of Albury are under Drought Watch.

**NORTH COAST**

0% in drought

Good falls of rain have been recorded in the far north area from Grafton to Lismore, and this region is experiencing good production conditions. However pastures are marginal to the central and southern areas, and while not at critical level on 31 January, the indicators are close to Watch conditions.

**Acknowledgments**

Information used in this report was sourced from the Australian Bureau of Meteorology, the US National Oceanic and Atmospheric Administration, the International Research Institute for Climate and Society (Columbia University) and NSW Department of Primary Industries.

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The seasonal outlooks presented in this report are obtained from the Australian Bureau of Meteorology and other sources. These outlooks are general statements about the likelihood (chance) of (for example) exceeding the median rainfall or minimum or maximum temperatures. Such probability outlooks should not be used as categorical or definitive forecasts, but should be regarded as tools to assist in risk management and decision making. Changes in seasonal outlooks may have occurred since this report was released. Outlook information was up to date as at 25<sup>th</sup> January 2018.

All climate and remote sensing input data is supplied to the Enhanced Drought Information System under the Australian Creative Commons Licence (CCY 4.0) and is made available by the Terrestrial Ecosystem Research Network.

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