



# Weekly Australian Climate, Water and Agricultural Update



No. 3/2021

28 January 2021

## Summary of key issues

- During the week ending 27 January 2021, troughs, low-pressure systems and weak cold fronts generated showers and thunderstorm activity across parts of northern, central and eastern Australia. In those summer cropping regions that recorded rainfall this week, these falls are likely to benefit the production prospects and yield potential of dryland crops ([see Section 1.1](#)).
- A La Niña event is ongoing in the tropical Pacific. Early onset of northern rainfall onset and the enhanced probabilities of a wetter than average summer will likely continue to benefit pasture growth across eastern and northern Australia and summer crop production ([see Section 1.2](#)).
- There is a high chance that rainfall between February and April 2021 will be sufficient to sustain close to average crop and pasture production through the summer period. If realised, these rainfall totals will present favourable growing conditions for the 2020–21 summer cropping season and wet season across northern Australia. With average or better lower layer soil moisture levels and variable upper layer soil moisture levels across New South Wales cropping regions, the development and production potential of dryland summer crops in these areas will be dependent on in-season rainfall ([see Section 1.3](#)).
- Over the next eight days, troughs and low-pressure systems are expected to generate showers and storms over parts of northern, western and eastern Australia.
- In Australia's summer cropping regions, rainfall totals of between 10 and 25 millimetres are expected across central New South Wales. Rainfall totals of between 5 and 10 millimetres are expected across northern New South Wales cropping regions and scattered parts of northern, eastern and western Queensland cropping regions. Little to no rainfall is expected across remaining summer cropping regions in Queensland during the next 8 days ([see Section 1.4](#)).
- Water storage levels in the Murray-Darling Basin (MDB) decreased by 245 gigalitres (GL) between 20 January 2021 and 27 January 2021. The current volume of water held in storage is 13,584 GL, which represents 54% of total capacity.
- Allocation prices in the Victorian Murray below the Barmah Choke decreased from \$130 per ML to \$124 per ML between 21 January 2021 and 28 January 2021. Prices are lower in the Goulburn-Broken, Murrumbidgee and regions above the Barmah Choke, due to binding of the Goulburn intervalley trade and Murrumbidgee export limits, and the Barmah Choke trade constraint.

# 1. Climate

## 1.1. Rainfall this week

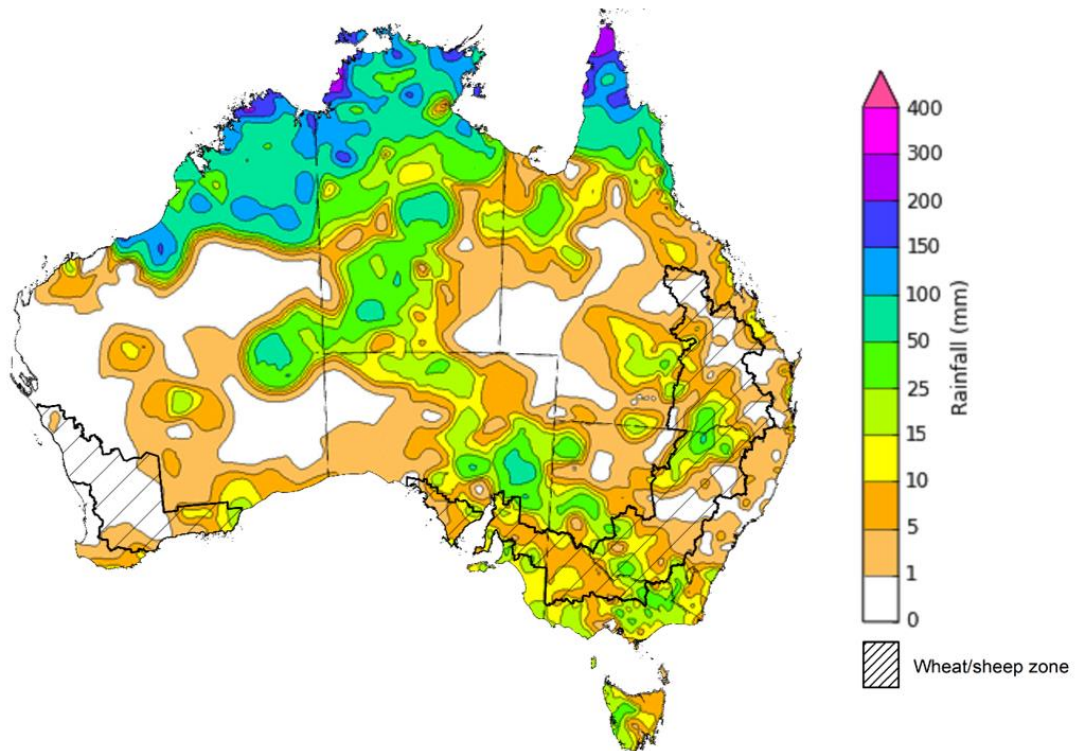
During the week ending 27 January 2021 troughs, low-pressure systems and weak cold fronts generated showers and thunderstorm activity across parts of northern, central and eastern Australia.

Rainfall totals of between 10 and 100 millimetres were recorded across the tropical north, much of the Northern Territory and scattered parts of north-eastern, western and southern New South Wales, southern and north-western Queensland, western and eastern Victoria, northern and eastern South Australia, the east and south of Western Australia and Tasmania. Rainfall totals in excess of 100 millimetres were recorded across isolated parts of the tropical north.

In Australia's summer cropping regions, rainfall totals of between 5 and 50 millimetres were generally restricted to parts of northern New South Wales and southern Queensland during the week ending 27 January 2021.

In those summer cropping regions that recorded rainfall during the week ending 27 January 2021, these falls are likely to benefit the production prospects and yield potential of dryland crops.

### Rainfall for the week ending 27 January 2021



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Note: The rainfall analyses and associated maps utilise data contained in the Bureau of Meteorology climate database, the Australian Data Archive for Meteorology (ADAM). The analyses are initially produced automatically from real-time data with limited quality control. They are intended to provide a general overview of rainfall across Australia as quickly as possible after the observations are received. For further information go to <http://www.bom.gov.au/climate/rainfall/>

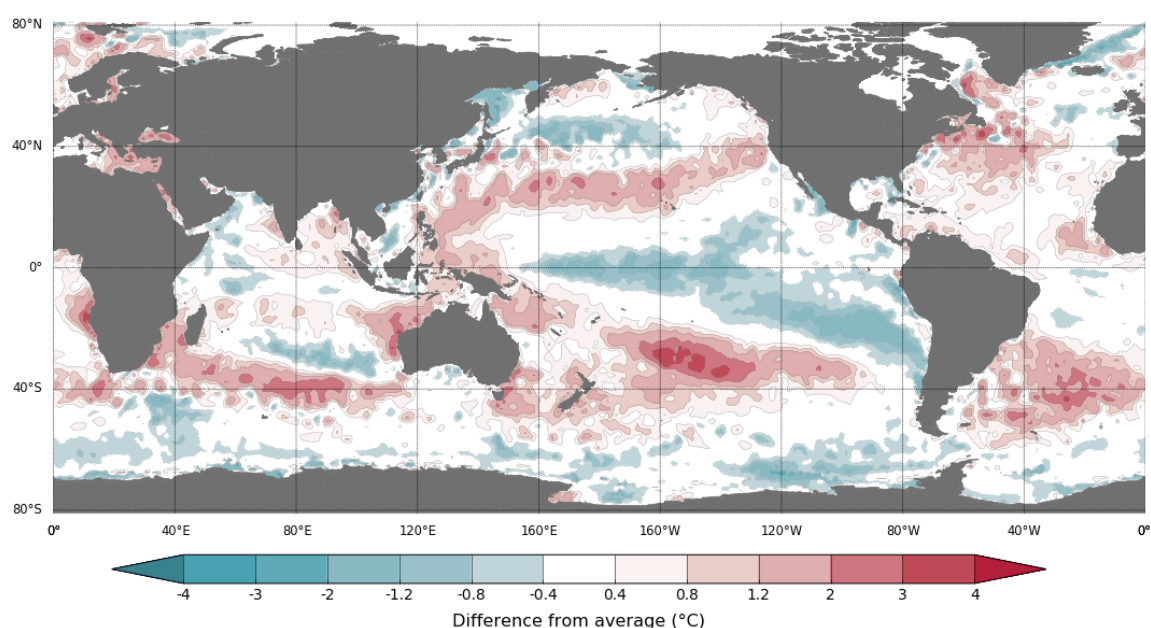
## 1.2. Climate Drivers

As the generally favourable summer cropping and northern pasture production season continues, interest moves to the prospects at the end of the summer and the start of the winter cropping season in autumn. To gain some insight, it is important to look at the climate drivers—the El Niño Southern Oscillation (ENSO), the Southern Annular Mode (SAM) and the Madden–Julian Oscillation (MJO)—that can influence summer and autumn rainfall across southern Australia.

The La Niña event ongoing in the tropical Pacific has likely reached its peak. A La Niña event during summer is likely to generate the favourable growing conditions for summer crop and pasture production that were central in developing ABARES summer crop and livestock production forecasts embodied in the ABARES December 2020 editions of the *Australian crop report* and *Agricultural commodities*. Early onset of northern rainfall onset and the enhanced probabilities of a wetter than average summer will likely continue to benefit pasture growth across eastern and northern Australia and summer crop production.

In the past fortnight, sea surface temperatures have warmed in the eastern Pacific Ocean and have cooled in the western and central Pacific Ocean. As at 19 January 2021 most of the international climate models surveyed suggest the La Niña event is likely at its peak and will return to neutral by the end of May 2021. Typical La Niña impacts are likely to continue as the event starts to weaken.

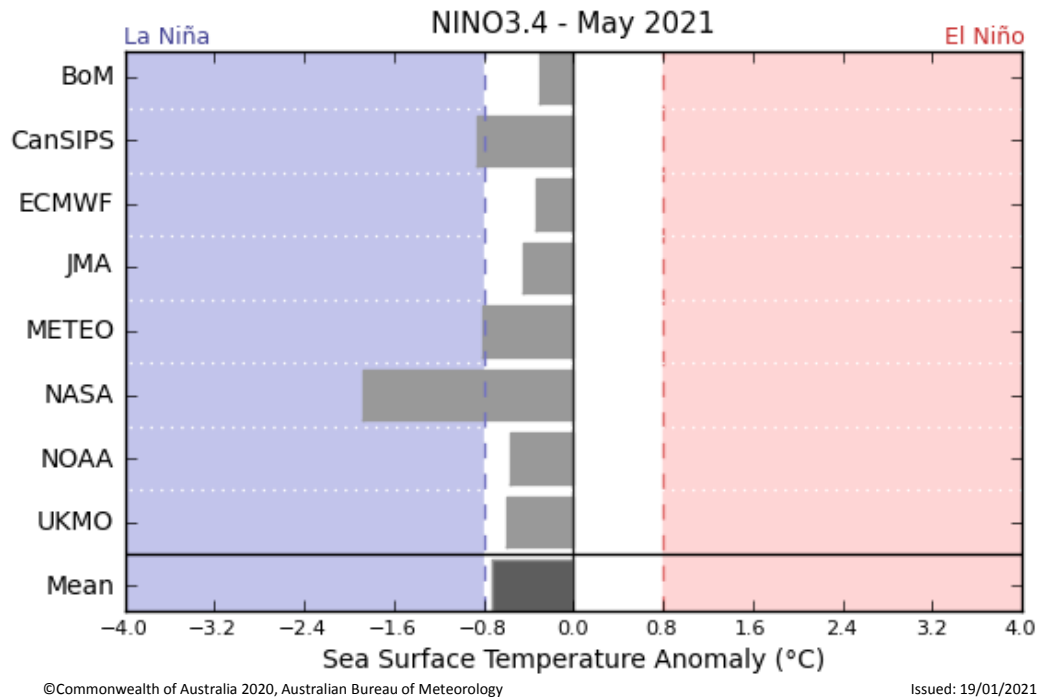
### Difference from average sea surface temperature observations 11 January to 17 January 2021



Data: BOM SST  
Climatology baseline: 1961 to 1990  
© Commonwealth of Australia 2021, Australian Bureau of Meteorology

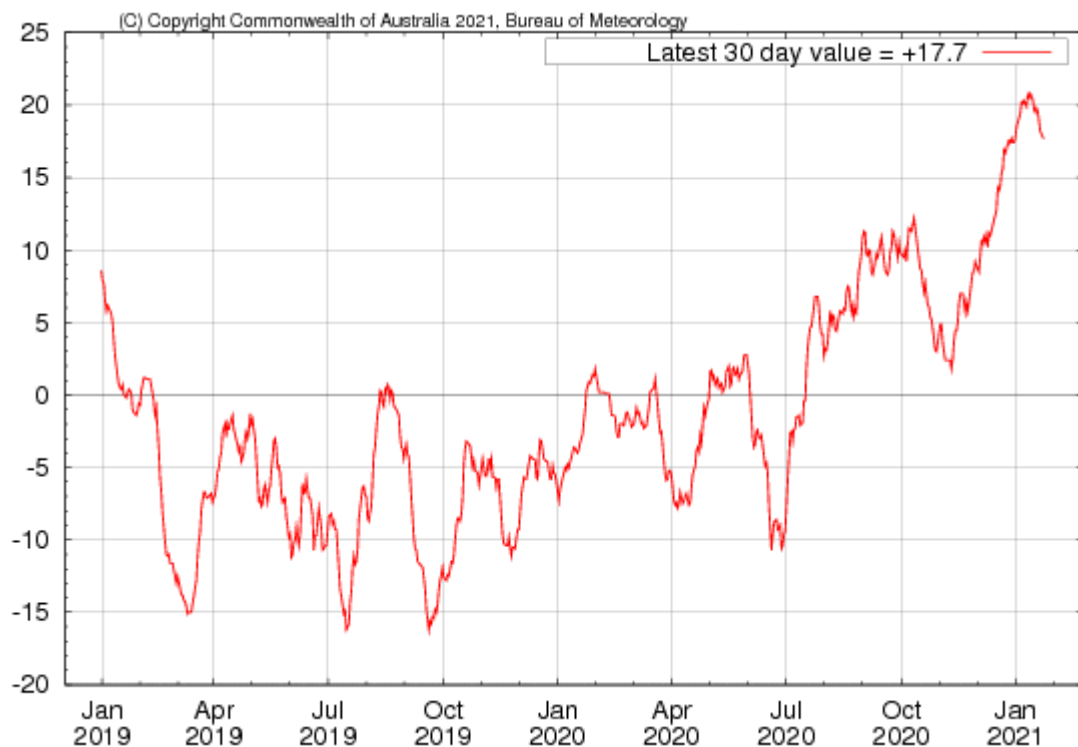
Weekly average: 17 January 2021  
Created: 18/01/2021  
<http://www.bom.gov.au/climate>

## International climate model outlooks for the NINO 3.4 region in May 2021



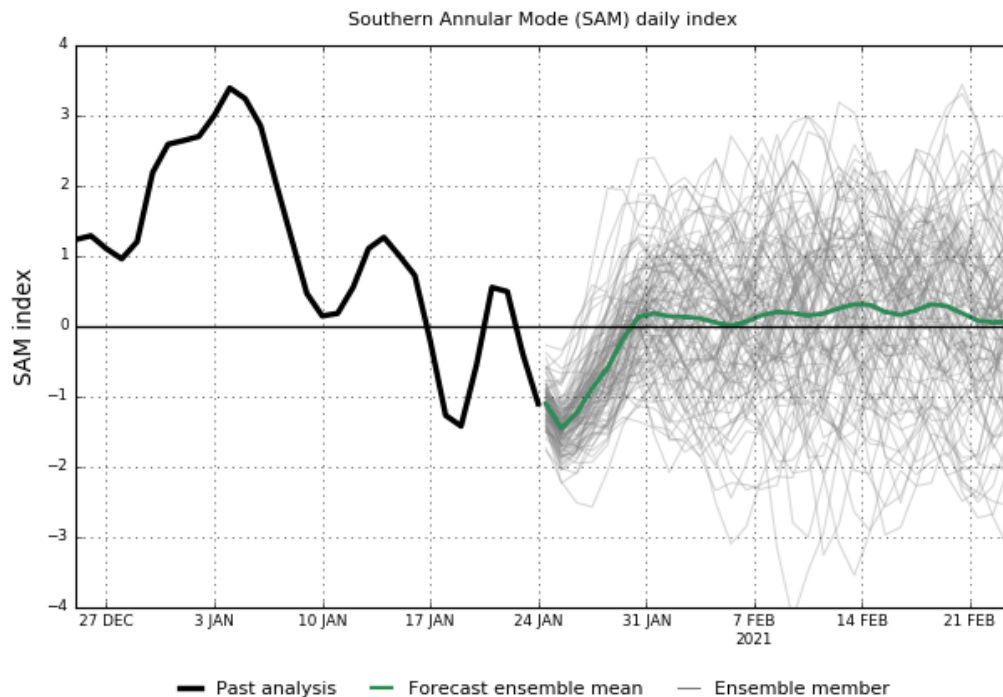
Atmospheric indicators are generally consistent with a La Niña event, with stronger than average trade winds and decreased cloudiness near the Date Line. For the period ending 24 January the 30-day SOI value was 17.7 and for the period ending 17 January the 90-day value was 14.0.

### 30-day Southern Oscillation Index (SOI) values ending 24 January 2021



The Southern Annular Mode (SAM) is currently weakly negative and expected to be neutral for much of February 2021. The SAM refers to the north-south shift of the band of rain-bearing westerly winds and weather systems in the Southern Ocean compared to the usual position. When SAM is neutral during summer, the band of westerly winds is further south than in winter and has less influence on rainfall.

### Southern Annular Mode (SAM) daily index

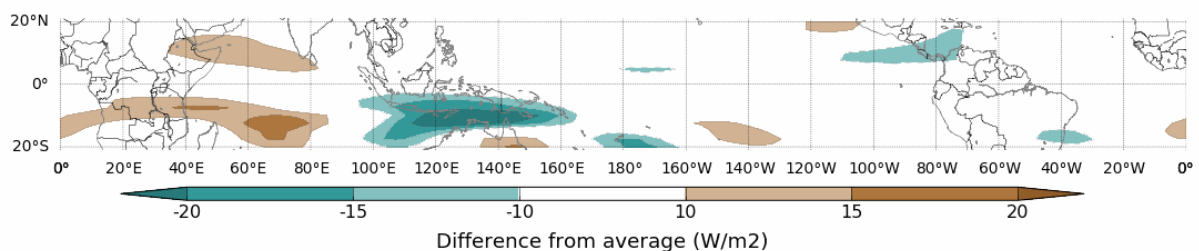


[www.bom.gov.au/climate](http://www.bom.gov.au/climate)  
Commonwealth of Australia 2021, Australian Bureau of Meteorology

Model: ACCESS-S1  
Model run: 24 Jan 2021 Base period 1990-2012

As at 24 January 2020 the Madden–Julian Oscillation (MJO) was moderate in strength and located above Australia. The MJO is a pulse of cloud and rainfall that moves eastward along the equator. For the next week or so it is expected that the MJO will maintain conditions favourable for tropical low formation and above average rainfall in the Australian region.

### Madden–Julian Oscillation (MJO) daily index



[www.bom.gov.au/climate](http://www.bom.gov.au/climate)  
© Commonwealth of Australia 2021, Australian Bureau of Meteorology  
Note: This map displays the forecast outgoing longwave radiation (OLR) difference from expected cloudiness to identify convective rain clouds and the position of the Madden–Julian Oscillation (MJO). The blue shading indicates higher than normal, active or enhanced tropical weather and the brown shading indicates lower than normal clouds or suppressed conditions.

Model: ACCESS-S1 Forecast date: 24/01/2021  
Base period: 1990-2012 Model run date: 24/01/2021

### 1.3. National Climate Outlook

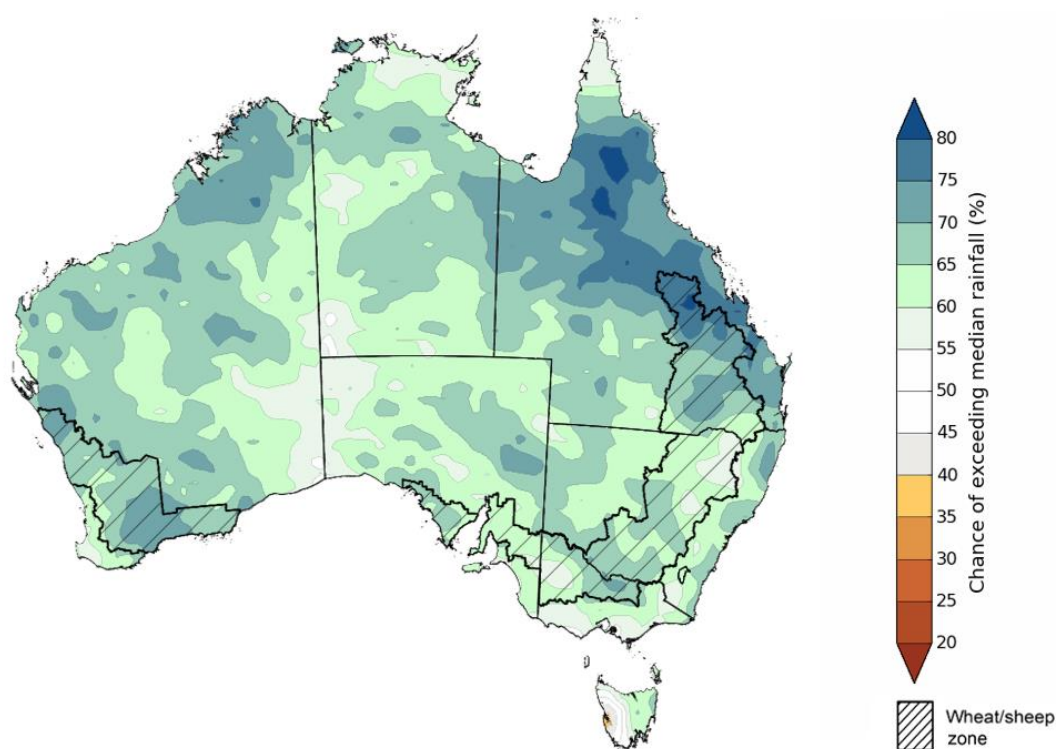
These climate outlooks are generated by ACCESS–S (Australian Community Climate Earth-System Simulator–Seasonal). ACCESS–S is the Bureau of Meteorology's dynamical (physics-based) weather and climate model used for monthly, seasonal and longer-lead climate outlooks.

For further information, go to <http://www.bom.gov.au/climate/ahead/about/>

The latest rainfall outlook released by the Bureau of Meteorology suggests above average rainfall is more likely for parts of western and north-eastern Australia during February 2021. There is greater than 65% chance of above average rainfall across parts of north-eastern and north-western Australia.

The rainfall outlook for February to April 2021 suggests that wetter than average conditions are likely for much of Australia. There is a greater than 65% chance of above average rainfall across much of Queensland and Western Australia, and across parts of New South Wales, South Australia and the Northern Territory (Bureau of Meteorology 'National Climate Outlook', 21 January 2021). Bureau of Meteorology rainfall outlooks for February to April have greater than 55% past accuracy across most of Australia and greater than 65% accuracy across parts of north-eastern Queensland, south-eastern South Australia, eastern Western Australia and much of the Northern Territory.

#### Chance of exceeding the median rainfall February to April 2021



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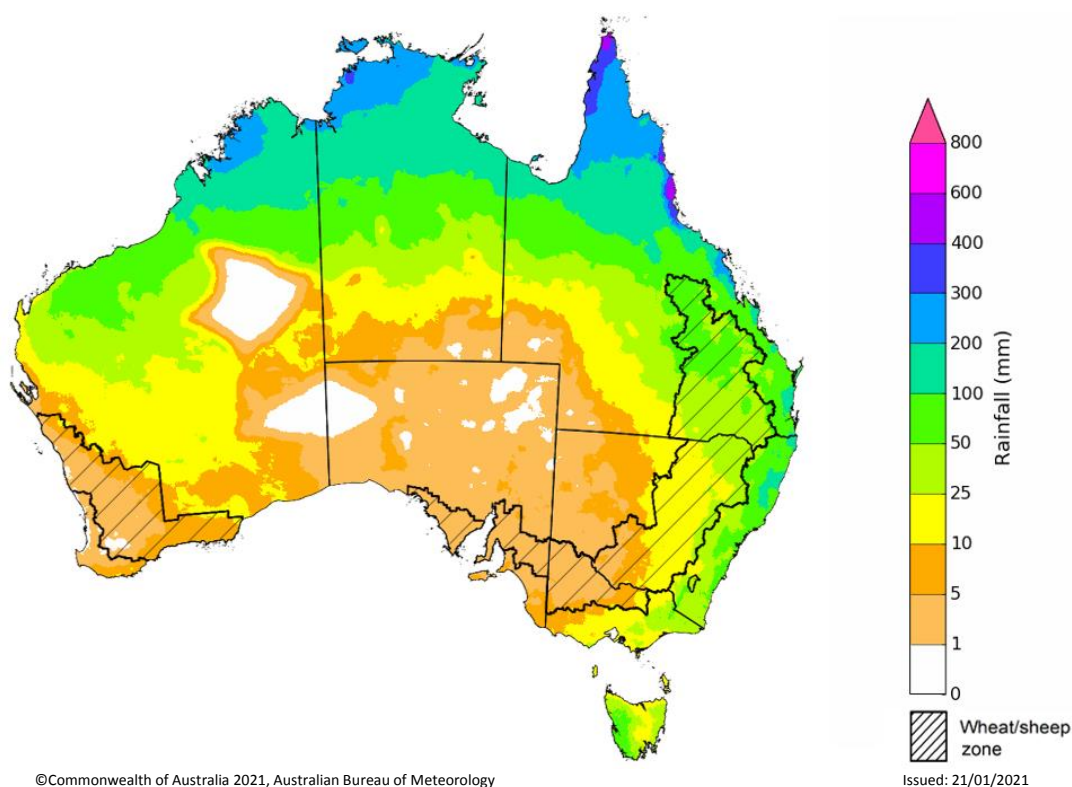
Issued: 21/01/2021

The outlook for February 2021 suggests that there is a 75% chance of rainfall totals between 25 and 100 millimetres across much of northern Australia and parts of eastern Australia. There is a 75% chance of rainfall totals between 1 and 25 millimetres across much of southern and central Australia. Rainfall totals in excess of 100 millimetres are likely across the tropical north and isolated parts of the eastern coast of Australia.

There is a high chance of recording close to average February rainfall totals across much of northern Australia and cropping regions in northern Queensland. If realised, these totals are likely to support average pasture growth potentials in northern Australia and the final stages of growth of summer crops in northern Queensland cropping regions. Across summer cropping regions in southern Queensland and New South Wales there is a 50% chance of recording close to average February rainfall. In areas with average or better levels of soil moisture, these totals are likely to be sufficient to support close to average crop and pasture production.

In summer cropping regions there is a 75% chance of rainfall totals between 10 and 50 millimetres across New South Wales and between 25 and 100 millimetres across much of Queensland. Most southern cropping regions are seasonally dry at this time of year, meaning little to no crop growth in these areas during the summer months.

#### Rainfall totals that have a 75% chance of occurring February 2021



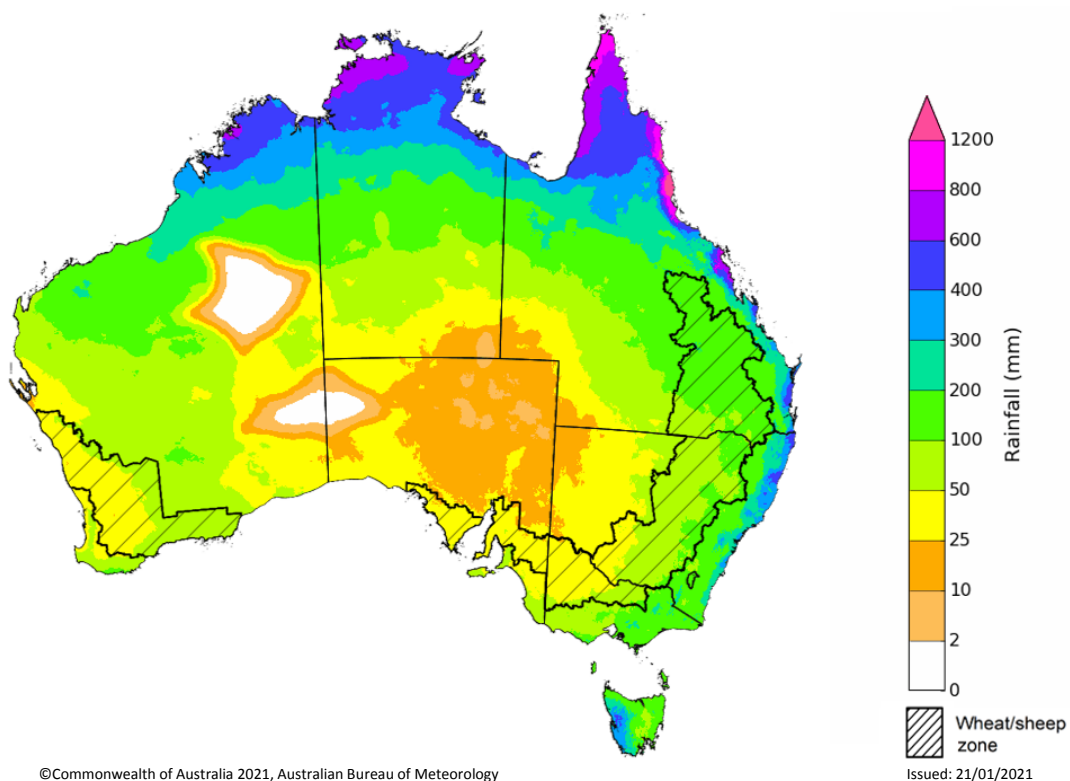
The outlook for February to April 2021 suggests there is a 75% chance of rainfall totals between 25 and 200 millimetres across much of the southern two-thirds of Australia. Lower rainfall totals between 10 and 25 millimetres are likely across parts of the central-south of Australia. Rainfall totals in excess of 200 millimetres are likely across the tropical north, much of the eastern coastline of Australia and parts of western Tasmania.

There is a high chance of recording February to April rainfall totals sufficient to sustain close to average crop and pasture production through the remainder of summer and into autumn. With average or better levels of upper and lower layer soil moisture across Queensland cropping regions, these close to average totals are likely to support average pasture growth potentials, the final stages of growth of summer crops and the possible early planting of winter forage crops. With average or better lower layer soil moisture levels and variable lower layer soil moisture levels across New South Wales cropping regions, the development and potential production of dryland summer crops will be dependent on the rainfall totals received in the coming 3-month period.

Across cropping regions, there is a 75% chance of receiving between 50 and 200 millimetres across most of New South Wales and Queensland, with lower totals between 25 and 50 millimetres across south-western New South Wales cropping regions up between February and April 2021. There is a 75% chance of receiving between 25 and 100 millimetres across most cropping regions in Victoria, South Australia and Western Australia between February and April 2021.

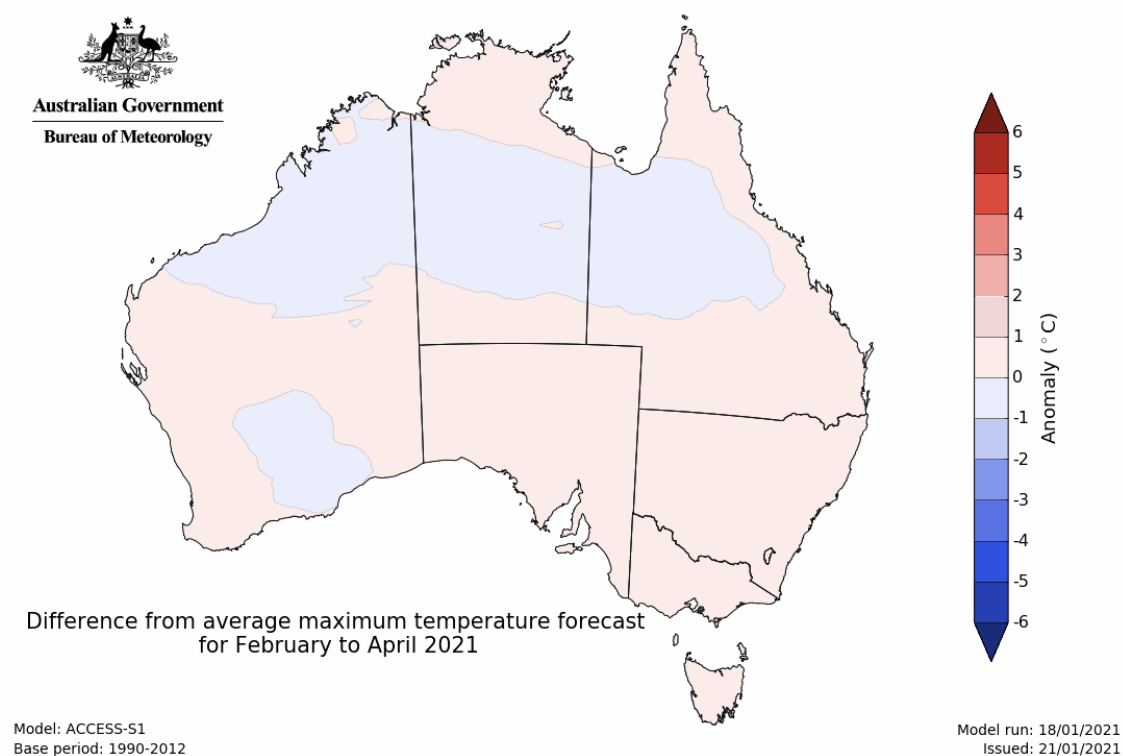
These highly probable rainfall totals are almost equivalent to the seasonal median (between 1990 and 2012) and if realised would present favourable growing conditions for the 2020–21 summer cropping season in eastern Australia and for pasture across northern Australia.

#### Rainfall totals that have a 75% chance of occurring February to April 2021

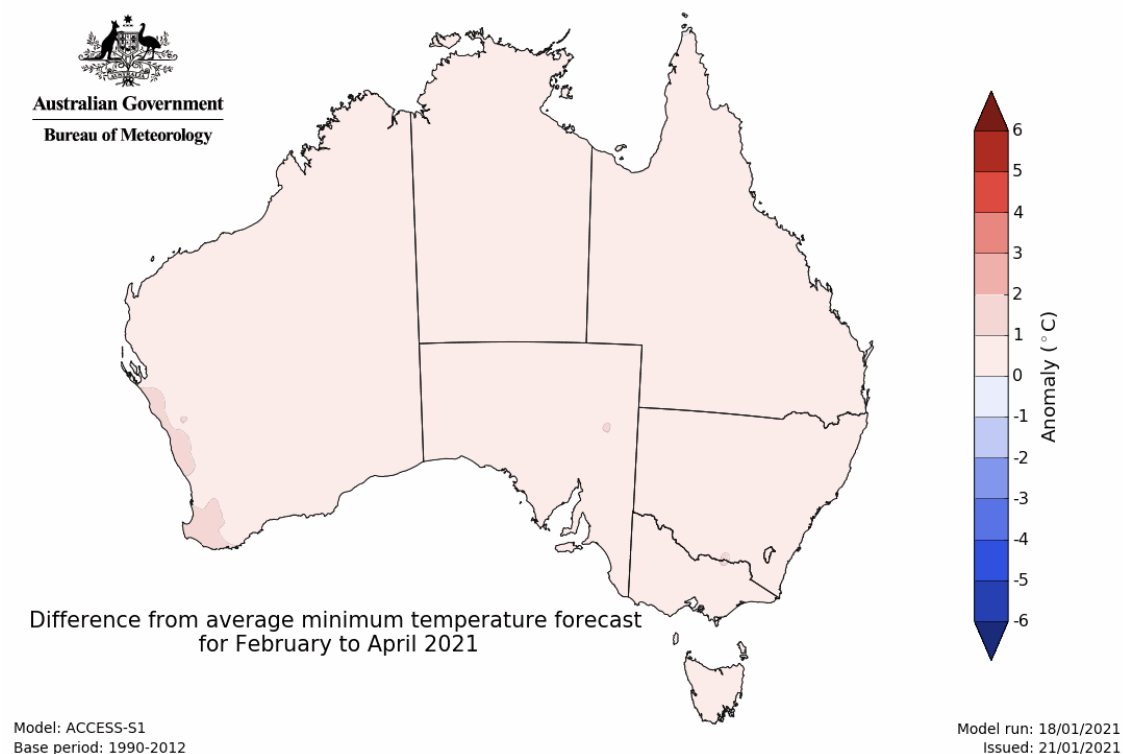


The temperature outlook for February to April 2021 indicates that night-time temperatures are likely to be between 1°C to 2°C above the 1990-2012 average across isolated parts of south-western Australia. Day-time temperatures across Australia and night-time temperatures across the remainder of Australia are likely to be close to the 1990-2012 average (- 1°C to 1°C) (Bureau of Meteorology 'National Climate Outlook', 21 January 2021).

### Predicted maximum temperature anomaly for February to April 2021



### Predicted minimum temperature anomaly for February to April 2021



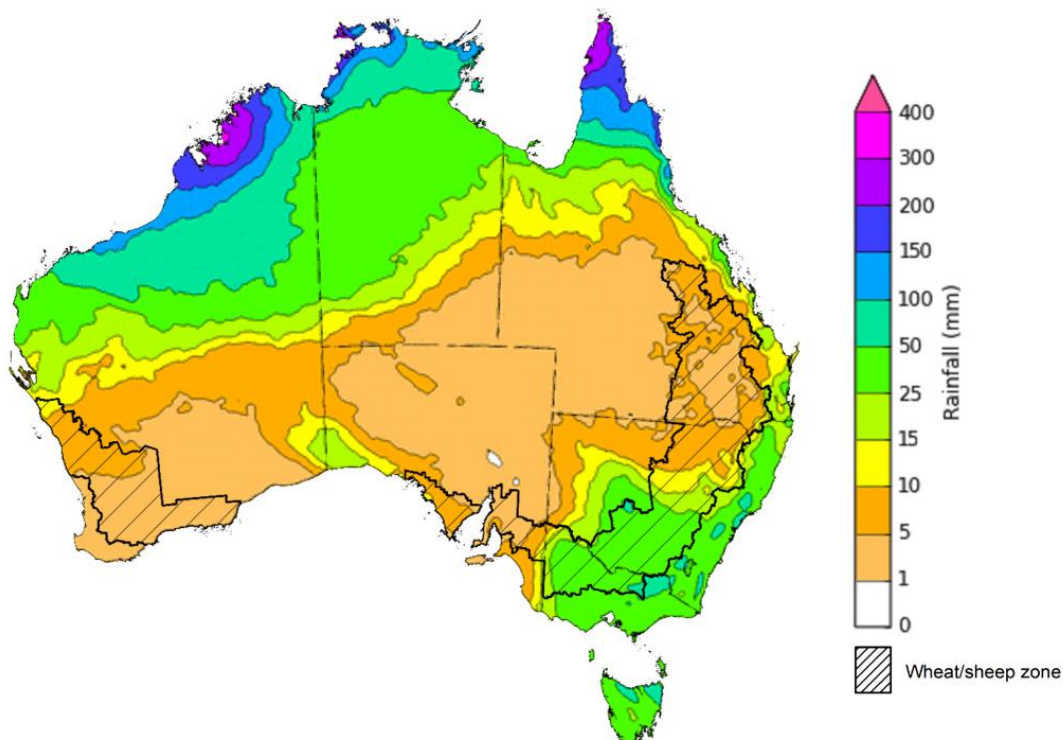
## 1.4. Rainfall forecast for the next eight days

Troughs and low-pressure systems are expected to generate showers and storms over parts of northern, western and eastern Australia during the next 8 days. A tropical low over northern Western Australia may develop into a tropical cyclone during the week and is expected to generate heavy rainfall in this region.

Rainfall totals of between 10 and 50 millimetres are forecast for much of New South Wales, Victoria, the Northern Territory and Tasmania, and parts of eastern and northern Queensland, south-western South Australia and central Western Australia. Rainfall totals in excess of 50 millimetres are expected across parts of far northern Queensland, northern Western Australia and the far north of the Northern Territory, as well as isolated parts of eastern New South Wales, eastern Victoria and northern Tasmania.

In Australia's summer cropping regions, rainfall of between 10 and 25 millimetres is expected across central New South Wales. Rainfall of between 5 and 10 millimetres is expected across northern New South Wales cropping regions and scattered parts of northern, eastern and western Queensland cropping regions. Little to no rainfall is expected across remaining summer cropping regions in Queensland during the next eight days.

**Total forecast rainfall (mm) for the period 28 January to 4 February 2021**



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Note: This rainfall forecast is produced from computer models. As the model outputs are not altered by weather forecasters, it is important to check local forecasts and warnings issued by the Bureau of Meteorology.

## 2. Water

### 2.1. Water markets – current week

Water storage in the Murray–Darling Basin (MDB) decreased by 245 gigalitres (GL) between 20 January 2021 and 27 January 2021. The current volume of water held in storage is 13,584 GL, which represents 54% of total capacity. This is 68% or 5,493 GL more than at the same time last year.

**Water storages in the Murray-Darling Basin, 2013–2021**

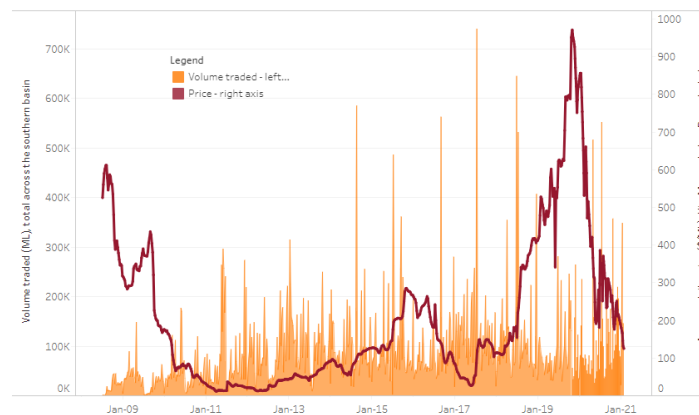


Water storage data is sourced from the Bureau of Meteorology.

Allocation prices in the Victorian Murray below the Barmah Choke decreased from \$130 per ML to \$124 per ML between 21 January 2021 and 28 January 2021. Prices are lower in the Goulburn-Broken, Murrumbidgee and regions above the Barmah Choke, due to binding of the Goulburn intervalley trade and Murrumbidgee export limits, and the Barmah Choke trade constraint.

| Region              | \$/ML |
|---------------------|-------|
| NSW Murray Above    | 115   |
| NSW Murrumbidgee    | 70    |
| VIC Goulburn-Broken | 120   |
| VIC Murray Below    | 124   |

**Surface water trade activity, Southern Murray–Darling Basin**



The trades shown reflect estimated market activity and do not encompass all register trades. The price is shown for the VIC Murray below the Barmah choke. Historical prices (before 1 July 2019) are ABARES estimates after removing outliers from BOM water register data. Prices after 1 July 2019 and prior to the 30 October 2019 reflect recorded transaction prices as sourced from Ruralco. Prices after the 30 October 2019 are sourced from Waterflow. Data for volume traded is sourced from the BOM water register. Data shown is current at 28 January 2021.

To access the full, interactive, weekly water dashboard, which contains the latest and historical water storage, water market and water allocation information, please visit

[http://www.agriculture.gov.au/abares/products/weekly\\_update/weekly-update-280121](http://www.agriculture.gov.au/abares/products/weekly_update/weekly-update-280121)

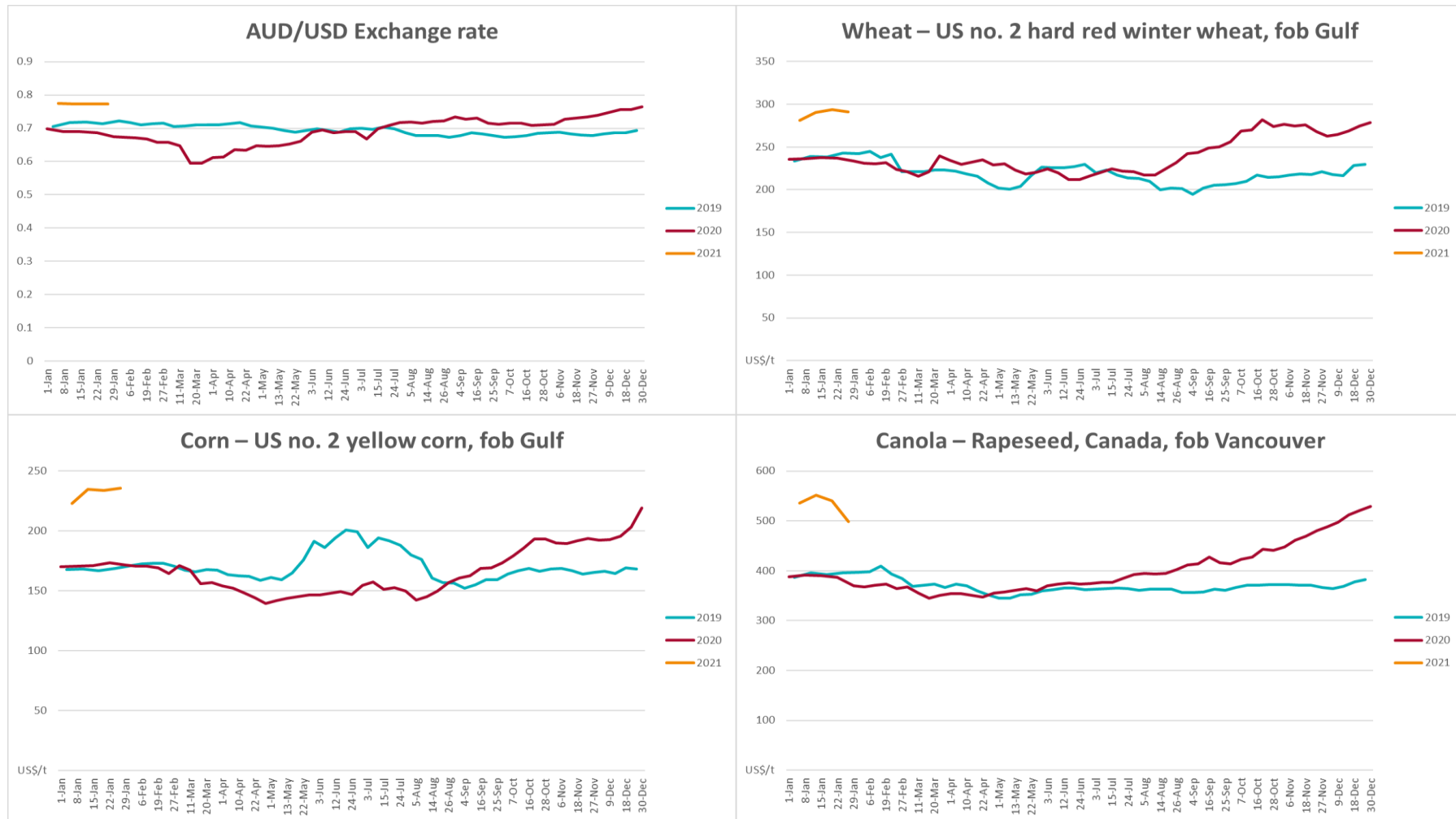
### 3. Commodities

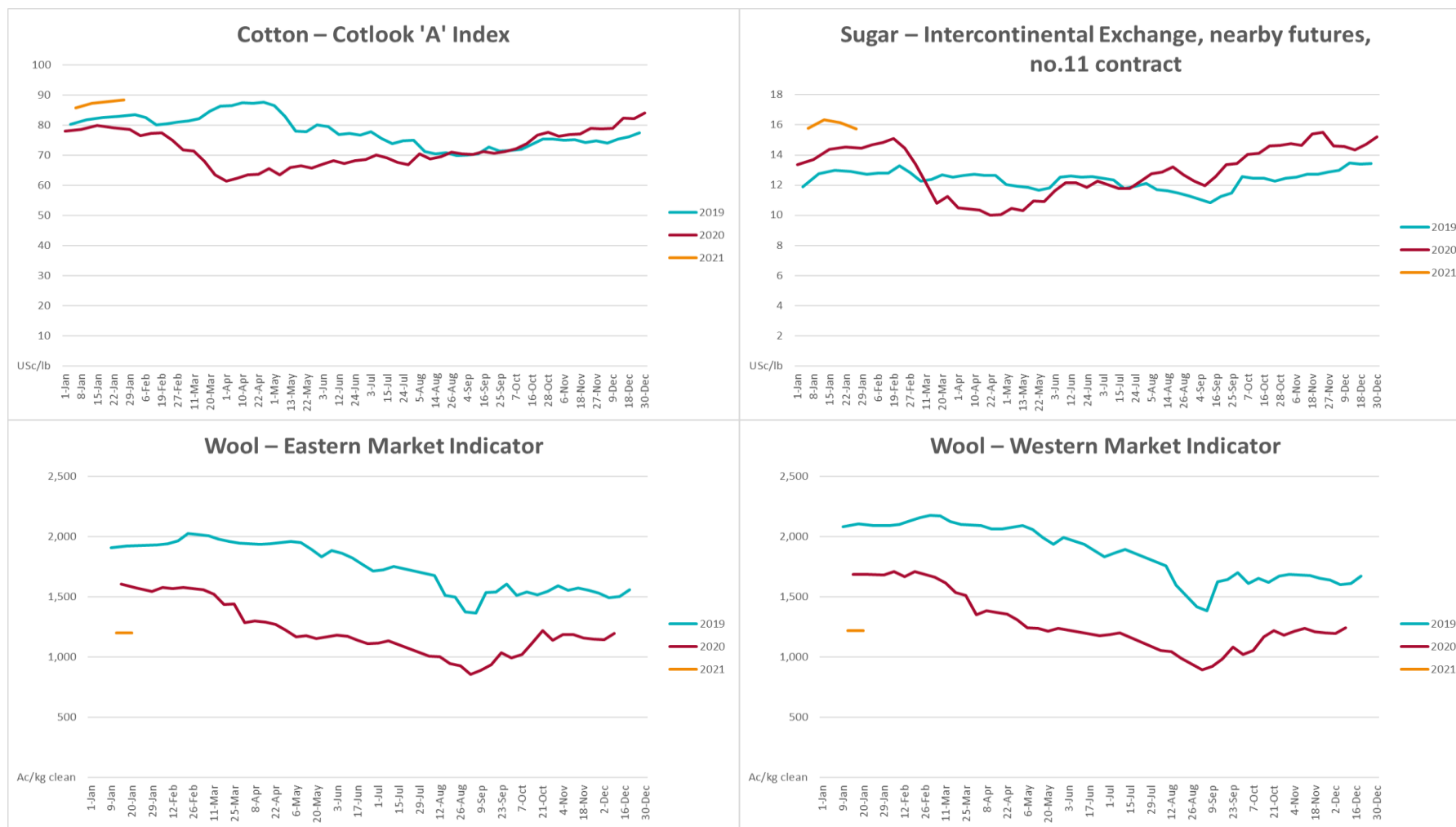
| Indicator   | Week ended | Unit        | Latest price | Previous week | Weekly change | Price 12 months ago | Annual change |
|---|------------|-------------|--------------|---------------|---------------|---------------------|---------------|
| <b>Selected world indicator prices</b>                            |            |             |              |               |               |                     |               |
| AUD/USD Exchange rate   | 27-Jan     | A\$/US\$    | 0.77         | 0.77          | 0%            | 0.67                | 15%           |
| Wheat – US no. 2 hard red winter wheat, fob Gulf                  | 27-Jan     | US\$/t      | 291          | 294           | -1%           | 231                 | 26%           |
| Corn – US no. 2 yellow corn, fob Gulf                             | 27-Jan     | US\$/t      | 236          | 234           | 1%            | 171                 | 38%           |
| Canola – Rapeseed, Canada, fob Vancouver                          | 27-Jan     | US\$/t      | 499          | 540           | -8%           | 368                 | 36%           |
| Cotton – Cotlook 'A' Index  | 27-Jan     | USc/lb      | 88           | 88            | 1%            | 77                  | 16%           |
| Sugar – Intercontinental Exchange, nearby futures, no.11 contract | 27-Jan     | USc/lb      | 16           | 16            | -3%           | 14                  | 9%            |
| Wool – Eastern Market Indicator                                   | 20-Jan     | Ac/kg clean | 1,202        | 1,202         | 0%            | 1,574               | -24%          |
| Wool – Western Market Indicator                                   | 20-Jan     | Ac/kg clean | 1,219        | 1,219         | 0%            | 1,653               | -26%          |
| <b>Selected Australian grain export prices</b>                    |            |             |              |               |               |                     |               |
| Milling Wheat – APW, Port Adelaide, SA                            | 27-Jan     | A\$/t       | 357          | 356           | 0%            | 379                 | -6%           |
| Feed Wheat – ASW, Port Adelaide, SA                               | 27-Jan     | A\$/t       | 352          | 352           | 0%            | 377                 | -7%           |
| Feed Barley – Port Adelaide, SA                                   | 27-Jan     | A\$/t       | 306          | 298           | 3%            | 328                 | -7%           |
| Canola – Kwinana, WA  | 27-Jan     | A\$/t       | 665          | 668           | 0%            | 654                 | 2%            |
| Grain Sorghum – Brisbane, QLD                                     | 27-Jan     | A\$/t       | 373          | 369           | 1%            | 496                 | -25%          |
| <b>Selected domestic livestock indicator prices</b>               |            |             |              |               |               |                     |               |
| Beef – Eastern Young Cattle Indicator                             | 27-Jan     | Ac/kg cwt   | 887          | 872           | 2%            | 507                 | 75%           |
| Mutton – Mutton indicator (18–24 kg fat score 2–3), Vic           | 27-Jan     | Ac/kg cwt   | 585          | 574           | 2%            | 553                 | 6%            |
| Lamb – Eastern States Trade Lamb Indicator                        | 27-Jan     | Ac/kg cwt   | 819          | 828           | -1%           | 815                 | 0%            |
| Pig – Eastern Seaboard (60.1–75 kg), average of buyers & sellers  | 13-Jan     | Ac/kg cwt   | 367          | 367           | 0%            | 405                 | -9%           |
| Goat – Eastern States (12.1–16 kg)                                | 20-Jan     | Ac/kg cwt   | 818          | 818           | 0%            | 822                 | -1%           |
| Live cattle – Light steers ex Darwin to Indonesia                 | 20-Jan     | Ac/kg lwt   | 355          | 355           | 0%            | 315                 | 13%           |
| Live sheep – Live wether (Muchea WA saleyard) to Middle East      | 18-Nov     | \$/head     | 118          | 108           | 9%            | N/A                 | N/A           |

| Indicator  | Week ended | Unit   | Latest price | Previous week | Weekly change | Price 12 months ago | Annual change |
|--|------------|--------|--------------|---------------|---------------|---------------------|---------------|
| <b>Global Dairy Trade (GDT) weighted average prices <sup>a</sup></b> |            |        |              |               |               |                     |               |
| Dairy – Whole milk powder  | 20-Jan     | US\$/t | 3,380        | 3,306         | 2%            | 2,667               | 27%           |
| Dairy – Skim milk powder   | 20-Jan     | US\$/t | 3,243        | 3,044         | 7%            | 1,970               | 65%           |
| Dairy – Cheddar cheese   | 20-Jan     | US\$/t | 4,082        | 4,078         | 0%            | 3,184               | 28%           |
| Dairy – Anhydrous milk fat   | 20-Jan     | US\$/t | 5,398        | 4,604         | 17%           | 4,755               | 14%           |

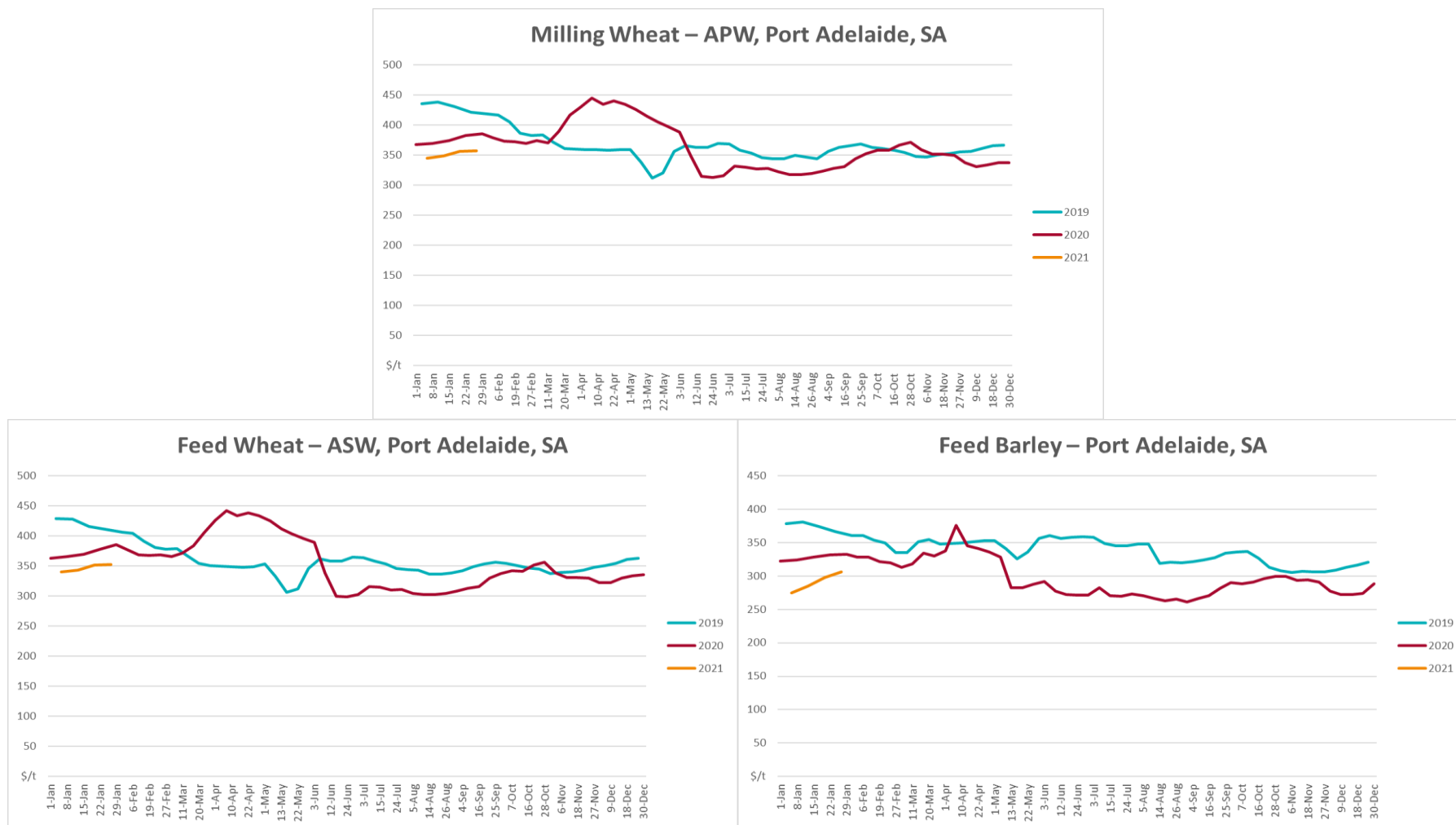
**a** Global Dairy Trade prices are updated twice monthly on the first and third Tuesday of each month.

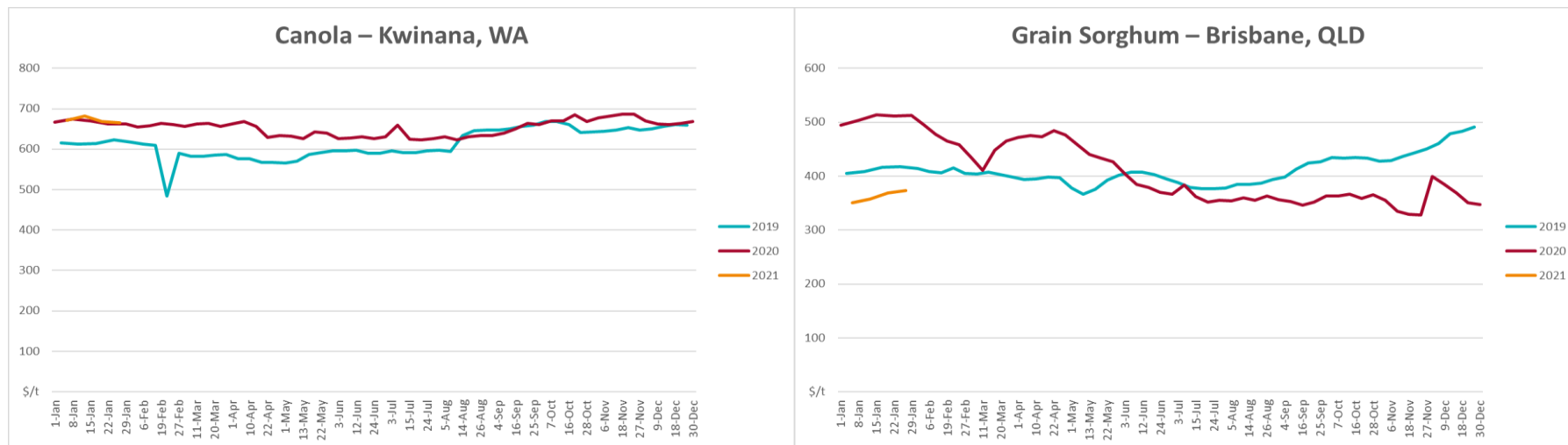
### 3.1. Selected world indicator prices



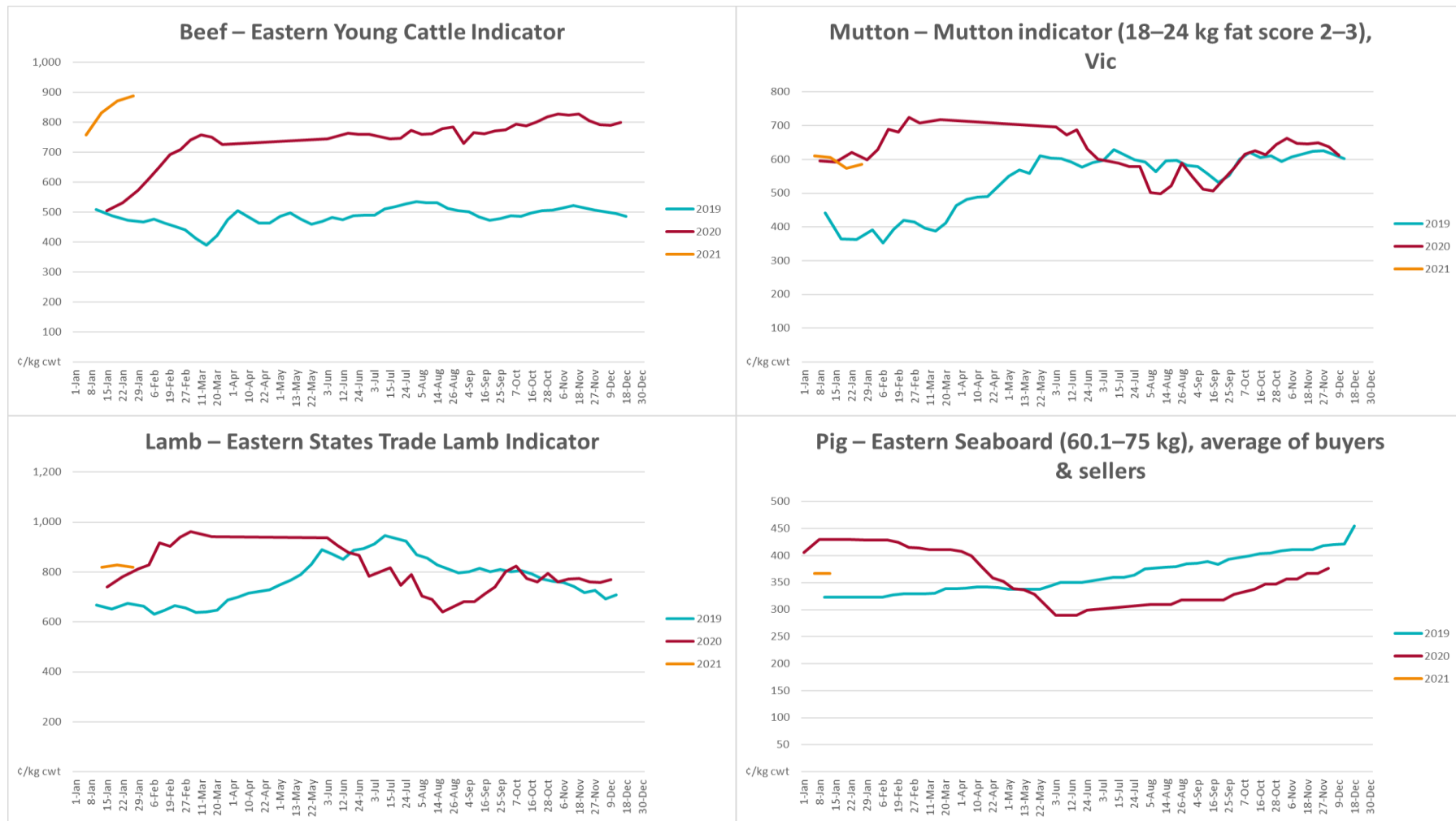


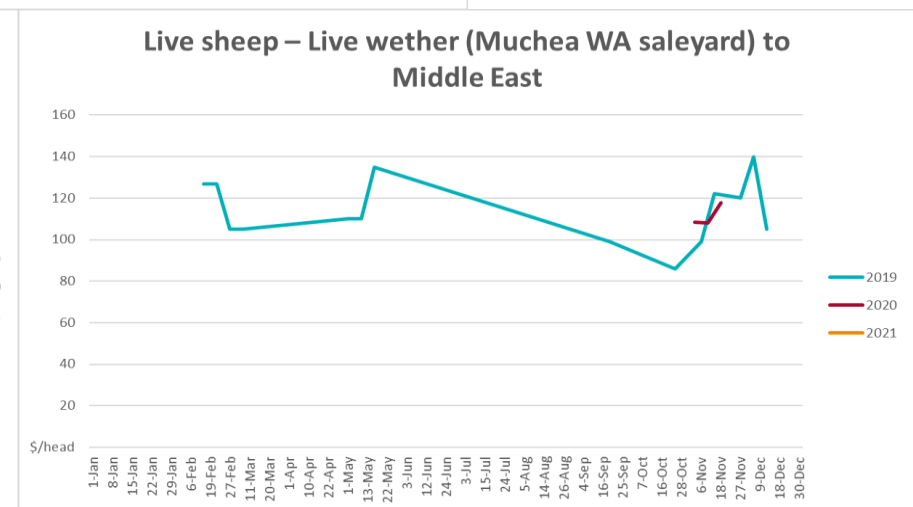
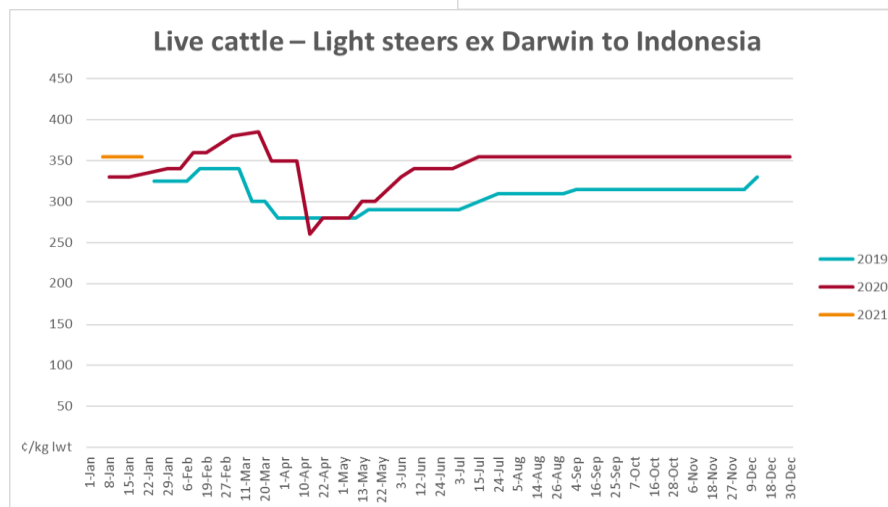
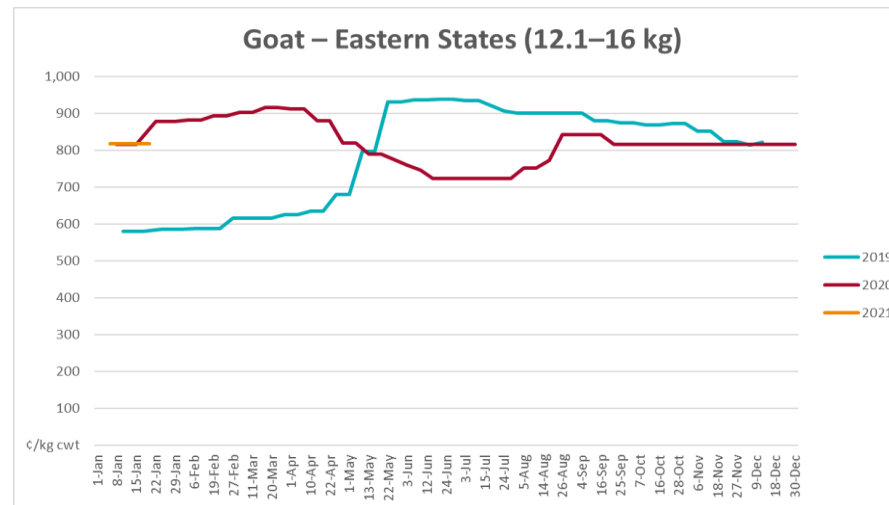
### 3.2. Selected domestic crop indicator prices



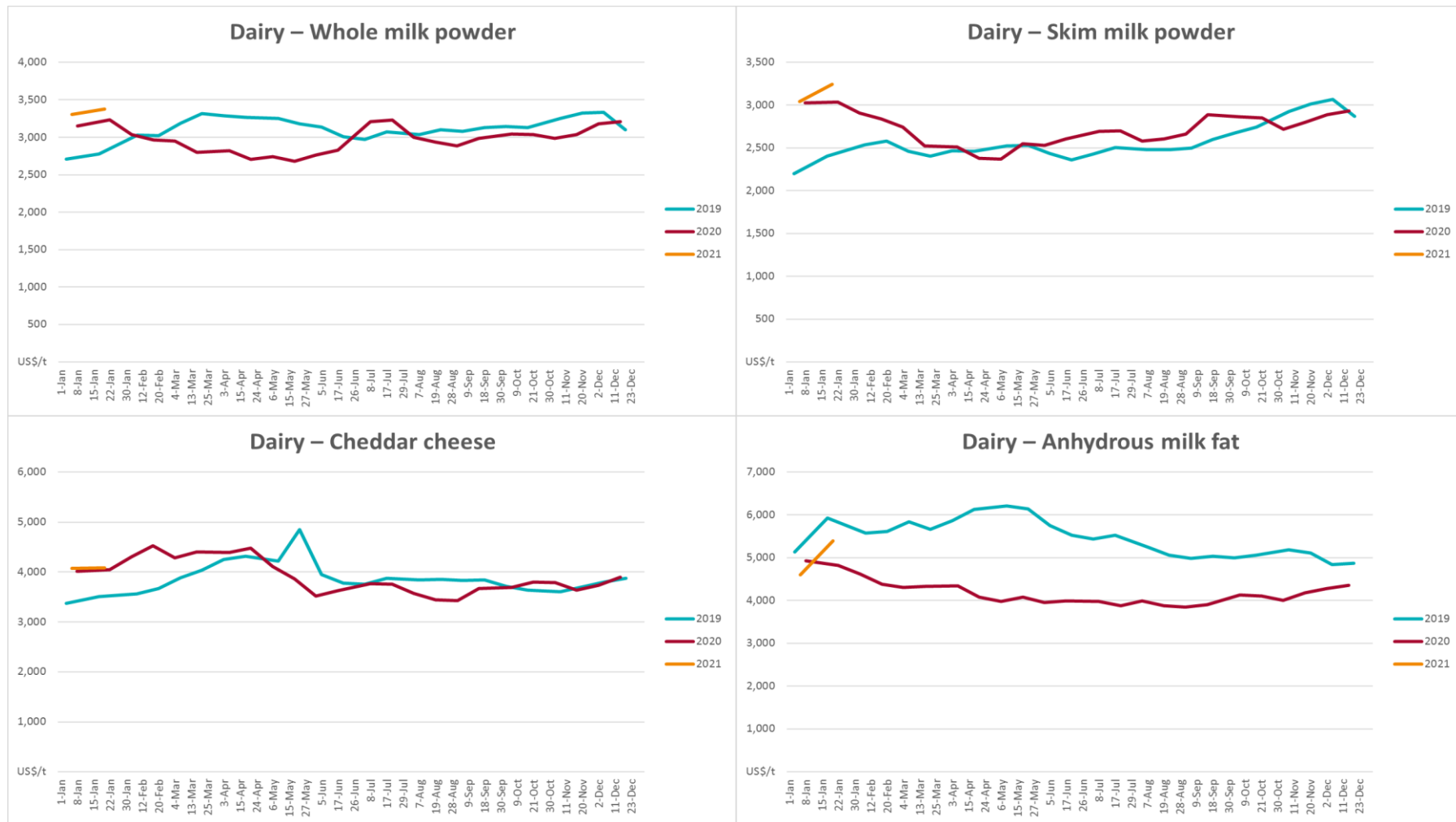


### 3.3. Selected domestic livestock indicator prices

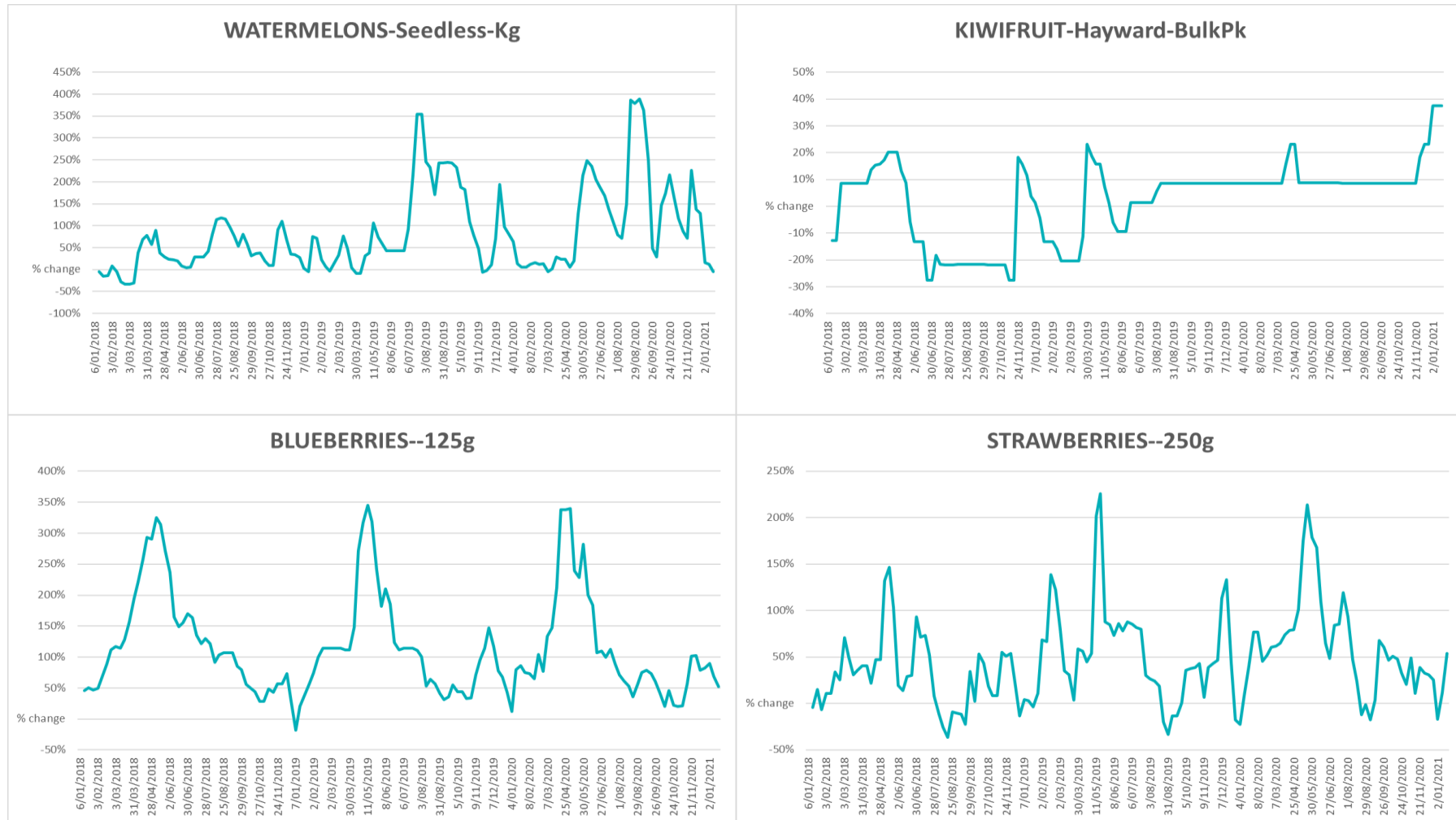


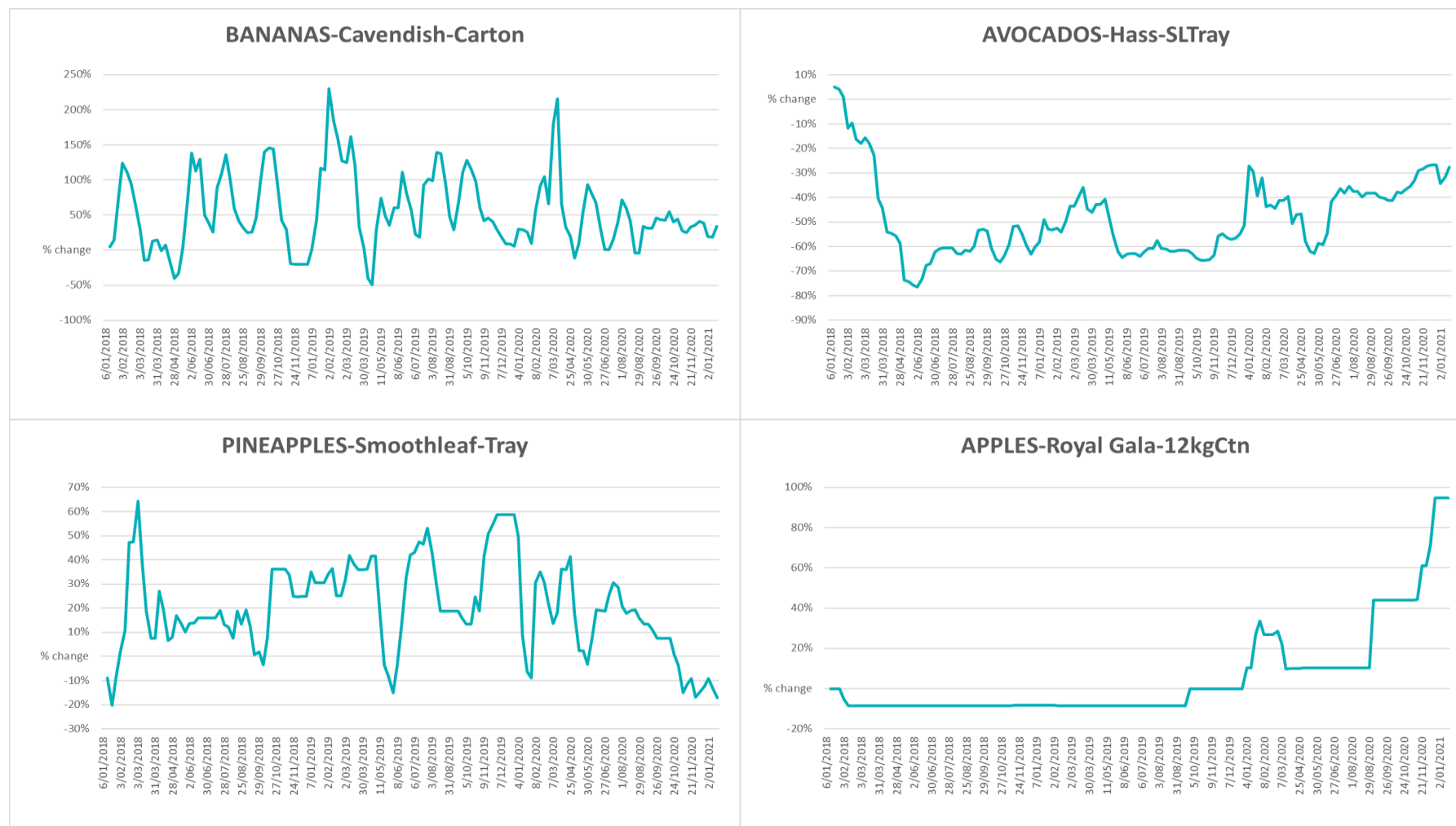


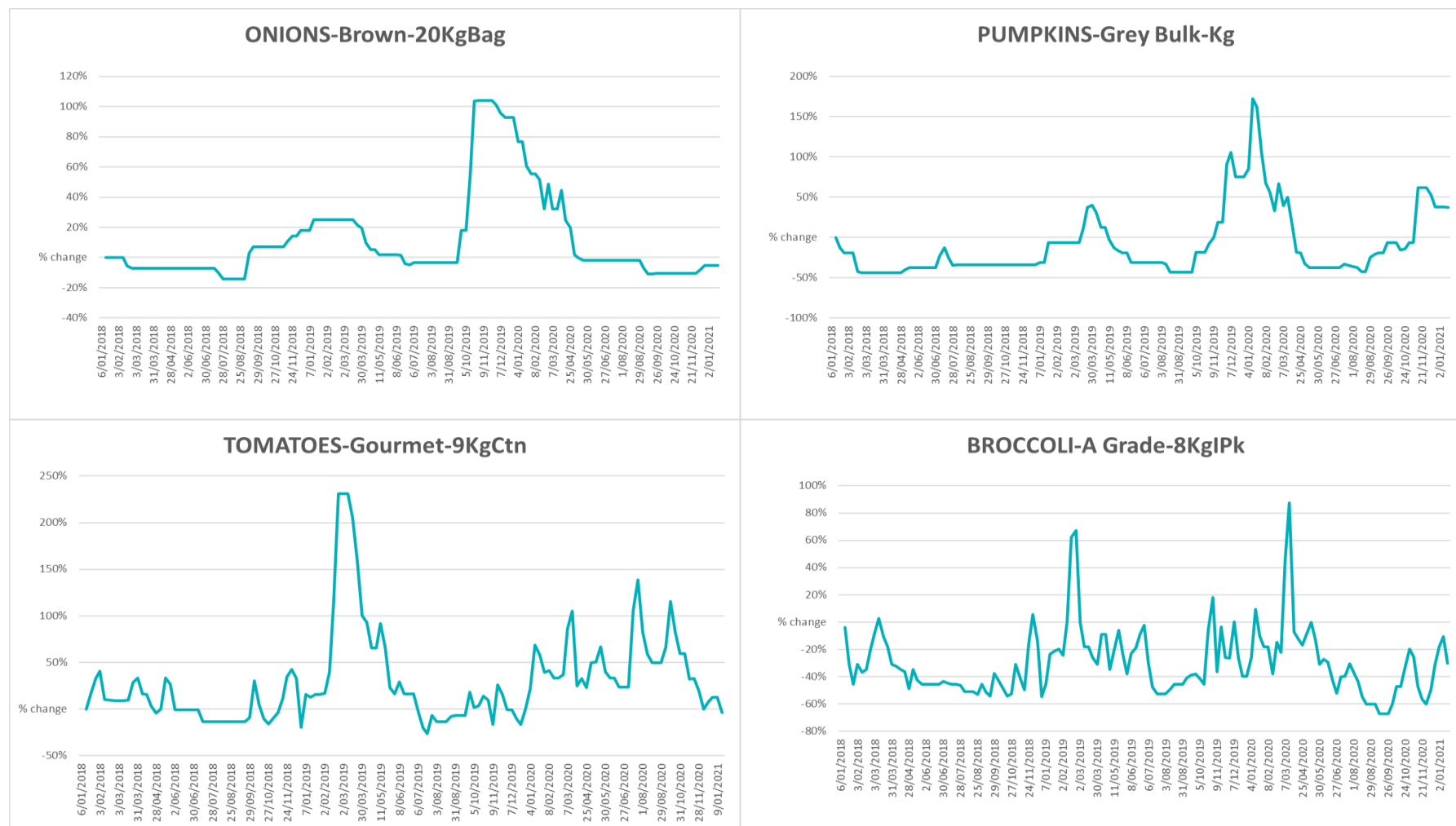
### 3.4. Global Dairy Trade (GDT) weighted average prices

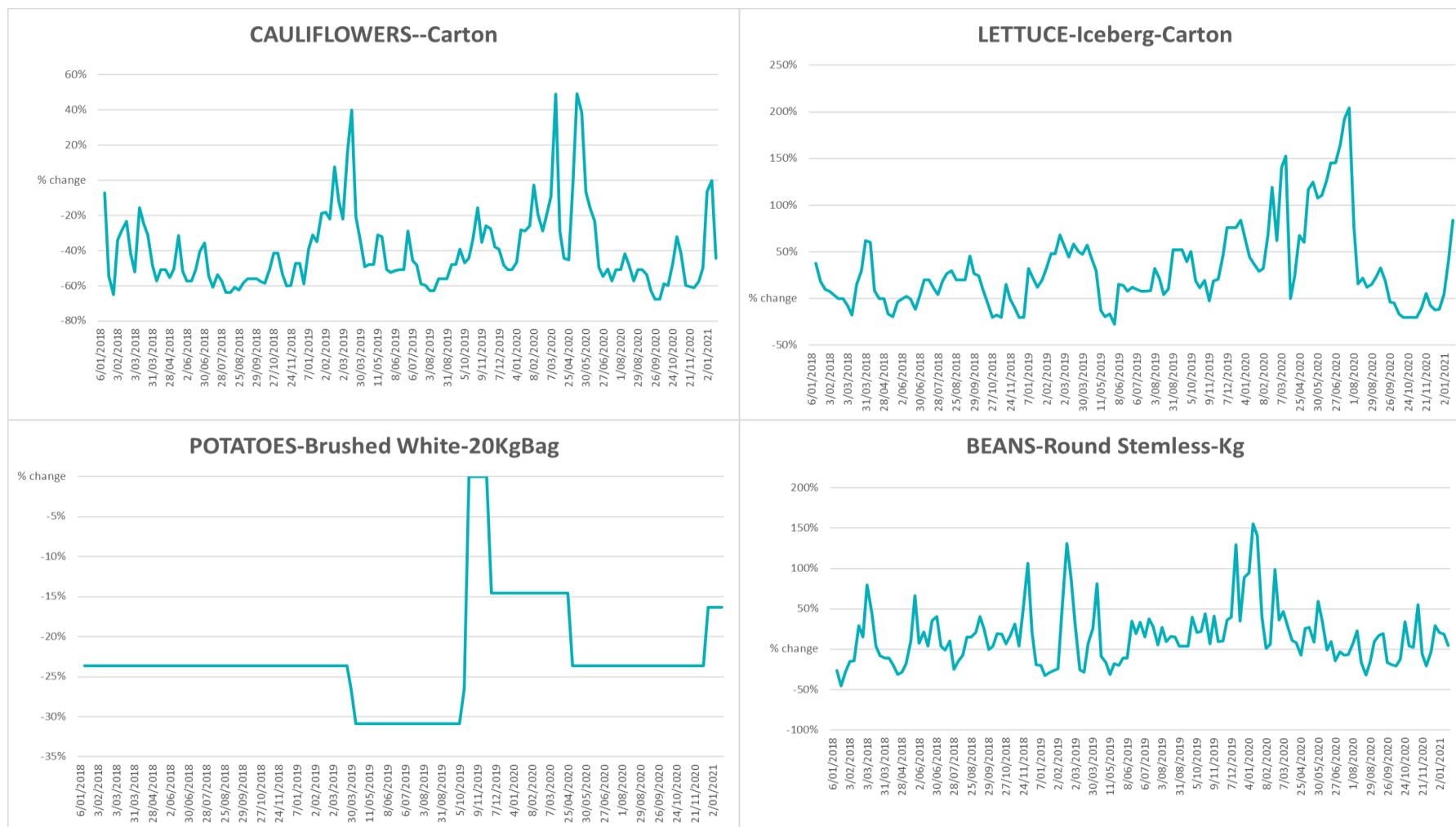


### 3.5. Selected fruit and vegetable prices









## 4. Data attribution

### Climate

#### Bureau of Meteorology

- Weekly rainfall totals: [www.bom.gov.au/jsp/awap/rain/index.jsp](http://www.bom.gov.au/jsp/awap/rain/index.jsp)
- Monthly and last 3-month rainfall percentiles: [www.bom.gov.au/jsp/awap/rain/index.jsp](http://www.bom.gov.au/jsp/awap/rain/index.jsp)
- Temperature anomalies: [www.bom.gov.au/jsp/awap/temp/index.jsp](http://www.bom.gov.au/jsp/awap/temp/index.jsp)
- Rainfall forecast: [www.bom.gov.au/jsp/watl/rainfall/pme.jsp](http://www.bom.gov.au/jsp/watl/rainfall/pme.jsp)
- Seasonal outlook: [www.bom.gov.au/climate/outlooks/#/overview/summary/](http://www.bom.gov.au/climate/outlooks/#/overview/summary/)
- Drought statement: [www.bom.gov.au/climate/drought/drought.shtml](http://www.bom.gov.au/climate/drought/drought.shtml)
- Soil moisture: [www.bom.gov.au/water/landscape/](http://www.bom.gov.au/water/landscape/)

#### Other

- Pasture growth: <https://www.longpaddock.qld.gov.au/aussiegrass/>
- 3-month global outlooks: [Environment and Climate Change Canada](#), [NOAA Climate Prediction Center](#), [EUROBRISA CPTEC/INPE](#), [European Centre for Medium-Range Weather Forecasts](#), [Hydrometcenter of Russia](#), [National Climate Center Climate System Diagnosis and Prediction Room \(NCC\)](#), [International Research Institute for Climate and Society](#)
- Global production: <https://ipad.fas.usda.gov/ogamaps/cropmapsandcalendars.aspx>

### Water

#### New South Wales

- New South Wales Water Information: <http://waterinfo.nsw.gov.au/>
- New South Wales Office of Water, Department of Primary Industries: [www.water.nsw.gov.au/Home/default.aspx](http://www.water.nsw.gov.au/Home/default.aspx)
- Available water determinations register: [www.water.nsw.gov.au/water-licensing/registers](http://www.water.nsw.gov.au/water-licensing/registers)

#### Queensland

- Sunwater: [www.sunwater.com.au](http://www.sunwater.com.au)
- Seqwater: <http://seqwater.com.au>

#### South Australia

- SA Water: [www.sawater.com.au/community-and-environment/the-river-murray/river-reports/daily-flow-report](http://www.sawater.com.au/community-and-environment/the-river-murray/river-reports/daily-flow-report)
- South Australian Department of Environment, Water and Natural Resources: [www.environment.sa.gov.au](http://www.environment.sa.gov.au)

#### Victoria

- Goulburn–Murray Water: [www.g-mwater.com.au](http://www.g-mwater.com.au)

### Commodities

#### Fruit and vegetables

- Datafresh: [www.freshstate.com.au](http://www.freshstate.com.au)

#### Pigs

- Australian Pork Limited: [www.australianpork.com.au](http://www.australianpork.com.au)

#### Dairy

- Global Dairy Trade: [www.globaldairytrade.info/en/product-results/](http://www.globaldairytrade.info/en/product-results/)

#### World wheat, canola

- International Grains Council

#### World coarse grains

- United States Department of Agriculture

#### World cotton

- Cotlook: [www.cotlook.com/](http://www.cotlook.com/)

#### World sugar

- New York Stock Exchange - Intercontinental Exchange

#### Wool

- Australian Wool Exchange: [www.awex.com.au/](http://www.awex.com.au/)

#### Domestic wheat, barley, sorghum and canola

- Jumbuk Consulting Pty Ltd: <http://www.jumbukag.com.au/>

#### Cattle, beef, mutton, lamb, goat and live export

- Meat and Livestock Australia: [www.mla.com.au/Prices-and-market](http://www.mla.com.au/Prices-and-market)

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