



Weekly Australian Climate, Water and Agricultural Update



No. 9/2021

11 March 2021

Summary of key issues

- During the 7 days to 10 March 2021, troughs, low-pressure systems and cold fronts generated thunderstorms and showers across parts of eastern, western and northern Australia. The recent rainfall in western cropping regions is likely to boost soil moisture levels ahead of the sowing of winter crops during autumn and early winter. The low rainfall in much of the Queensland cropping regions will benefit the continuing sorghum harvest ([see Section 1.1](#)).
- Oceanic indicators continue to suggest the La Niña event ongoing in the tropical Pacific has likely passed its peak. Increased soil moisture associated with an early onset of northern rainfall and the enhanced probability of a wetter than average autumn will likely continue to benefit late summer crop production and pasture growth across eastern and northern Australia as the La Niña event weakens ([see Section 1.2](#)).
- There is a 50% chance of recording close to average April to June rainfall across most winter cropping regions. Given the average or better soil moisture levels across cropping regions in much of New South Wales, South Australia and Western Australia, these falls will likely support at least average pasture growth and the planting of winter crops ([see Section 1.3](#)).
- Over the next 8 days, troughs, onshore flow and cold fronts are expected to generate showers and storms over parts of northern and eastern Australia.
- In Australia's cropping regions, rainfall of between 15 and 50 millimetres is expected for much of Queensland and parts of western and central New South Wales. Rainfall up to 100 millimetres is expected in cropping regions across north-eastern New South Wales over the next 8 days ([see Section 1.4](#)).
- Water storage levels in the Murray-Darling Basin (MDB) decreased by 197 gigalitres (GL) between 3 March 2021 and 10 March 2021. The current volume of water held in storage is 12,986 GL, which represents 51% of total capacity.
- Allocation prices in the Victorian Murray below the Barmah Choke remained steady at \$105 per ML from 4 March 2021 to 11 March 2021. Prices are lower in the Goulburn-Broken, Murrumbidgee and regions above the Barmah Choke due to binding of the Goulburn intervalley trade limit, Murrumbidgee export limit and Barmah Choke trade constraint.

1. Climate

1.1. Rainfall this week

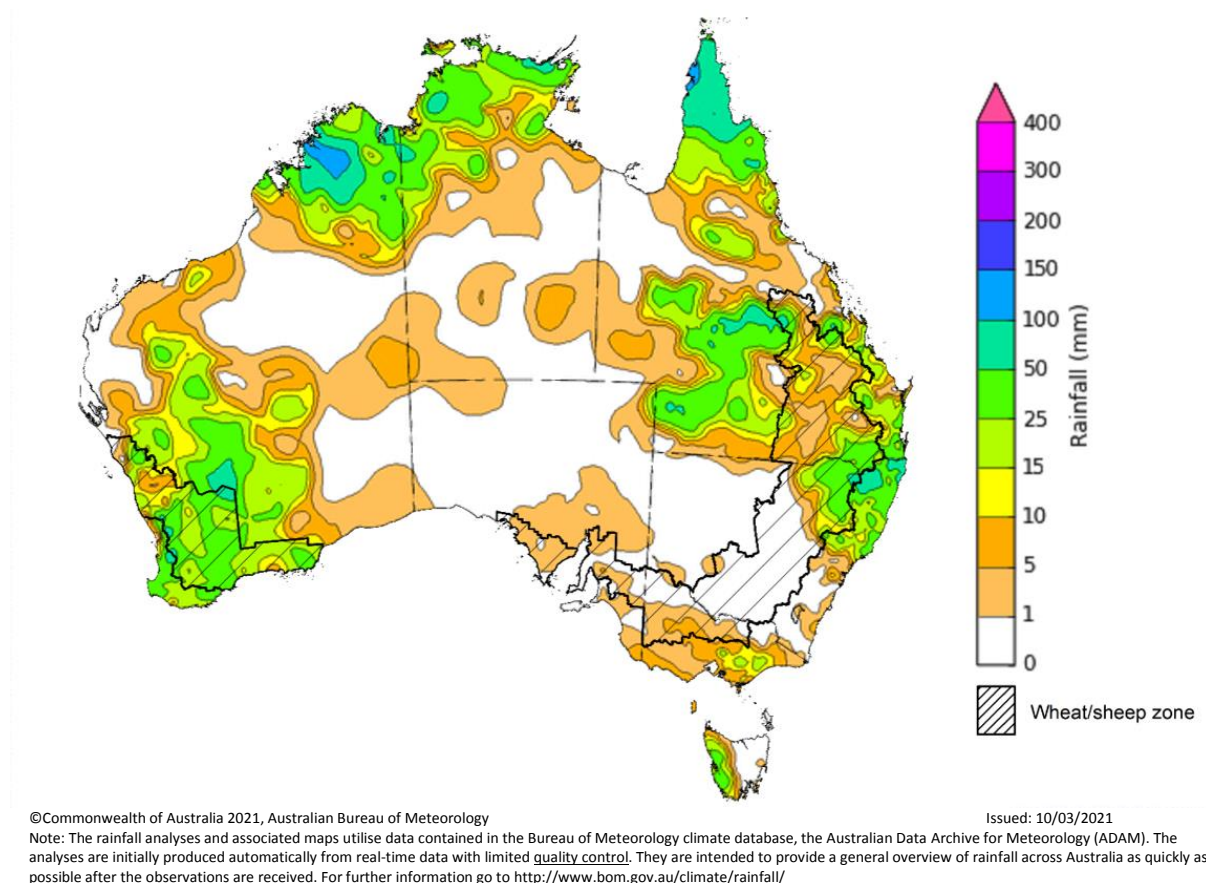
During the week ending 10 March 2021, troughs, low-pressure systems and cold fronts generated thunderstorms and showers across parts of eastern, western and northern Australia.

Rainfall totals of between 15 and 50 millimetres were recorded across parts of north-eastern New South Wales, Queensland, Western Australia, the north of the Northern Territory and western Tasmania. Rainfall in excess of 50 millimetres was recorded across parts of northern Australia and isolated parts of north-eastern New South Wales and southern Western Australia.

In Australia's cropping regions, rainfall totals of between 15 and 50 millimetres were recorded across much of Western Australia and parts of north-eastern New South Wales and south-eastern and northern Queensland. Little to no rainfall was recorded across remaining cropping regions.

The recent rainfall in western cropping regions is likely to provide an early boost to soil moisture ahead of the sowing of winter crops during autumn and early winter. Little to no rainfall across most of the Queensland cropping regions would have allowed summer crop harvest activities to proceed without delay.

Rainfall for the week ending 10 March 2021



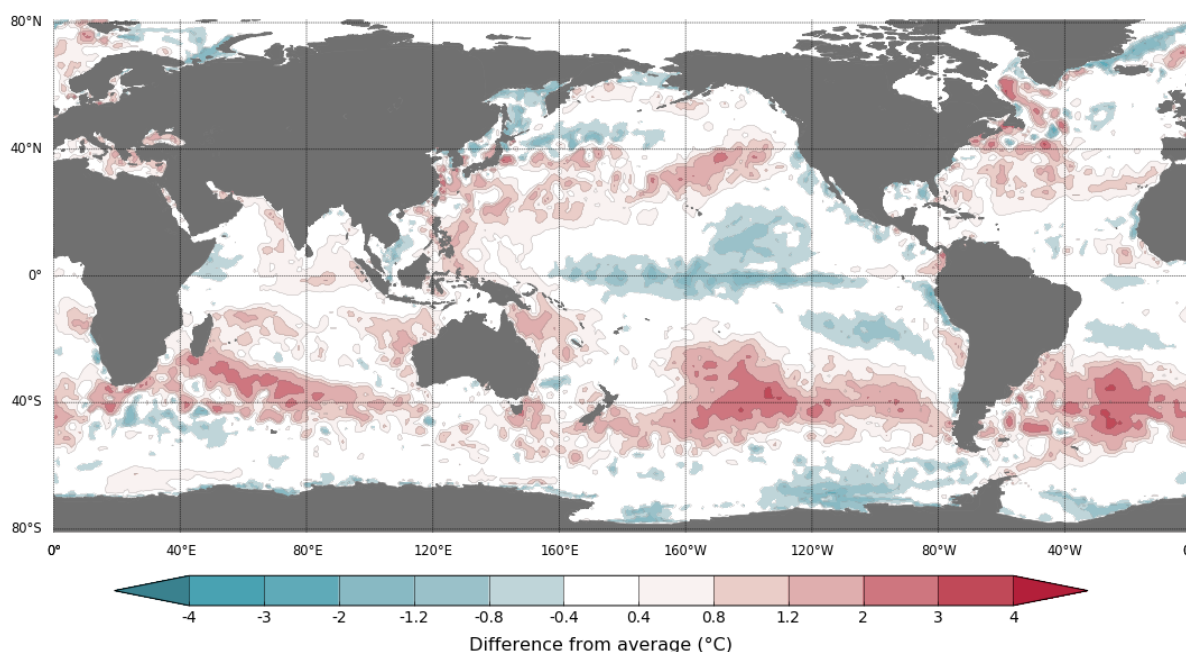
1.2. Climate Drivers

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

Oceanic indicators continue to suggest the La Niña event in the tropical Pacific has likely passed its peak. La Niña events typically generate favourable growing conditions for summer crop and pasture production. This has been evident across most of northern and eastern Australia during summer. These favourable growing conditions were central in developing ABARES summer crop and livestock production forecasts embodied in the ABARES March 2021 edition of the *Agricultural commodities* and February 2021 edition of the *Australian crop report*. These favourable agricultural production conditions are likely to continue though the autumn period as enhanced rainfall associated with La Niña typically continues while the event weakens.

In the past fortnight, sea surface temperature anomalies in the tropical Pacific Ocean have generally remained steady. Cool sea surface temperature anomalies persist across the equatorial Pacific and parts of the eastern Pacific. Warm sea surface temperature anomalies in the waters near north-eastern, western and south-eastern Australia have strengthened slightly. Warm anomalies in the waters near Indonesia and the Philippines have weakened slightly. As at 2 March 2021 almost all of the international climate models surveyed are expecting sea surface temperature across the equatorial Pacific to remain at neutral or close to neutral ENSO values until at least July.

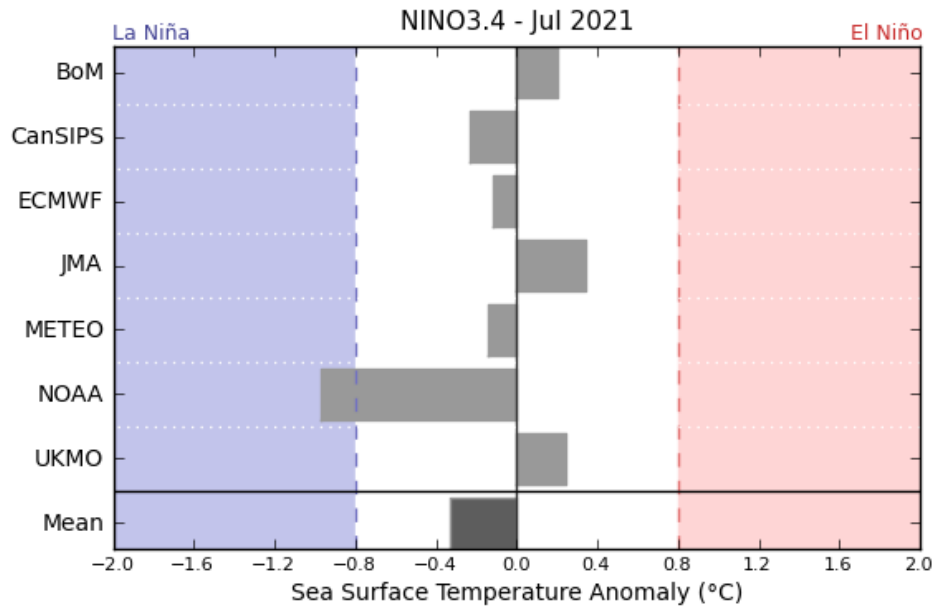
Difference from average sea surface temperature observations 22 February to 28 February 2021



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

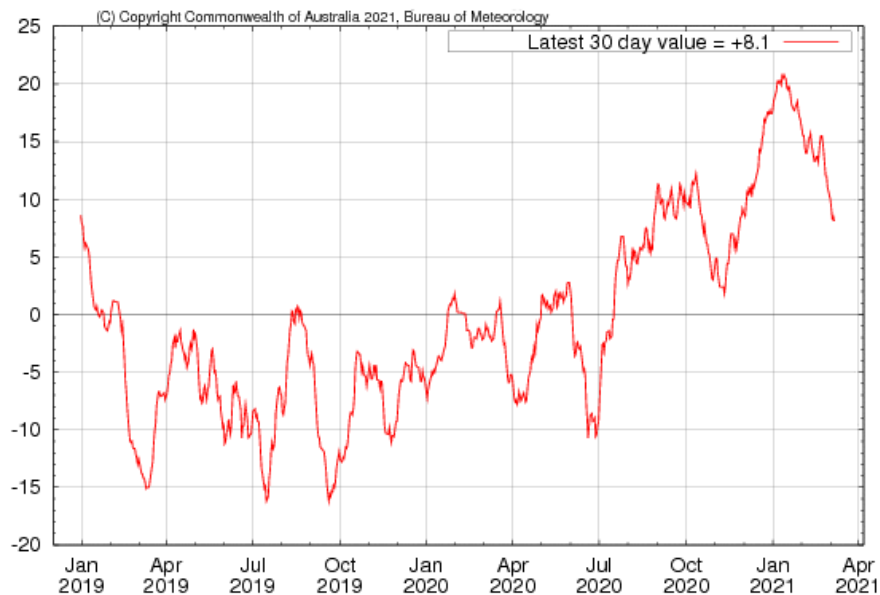
Weekly average: 28 February 2021
<http://www.bom.gov.au/climate>
Created: 01/03/2021

International climate model outlooks for the NINO 3.4 region in July 2021

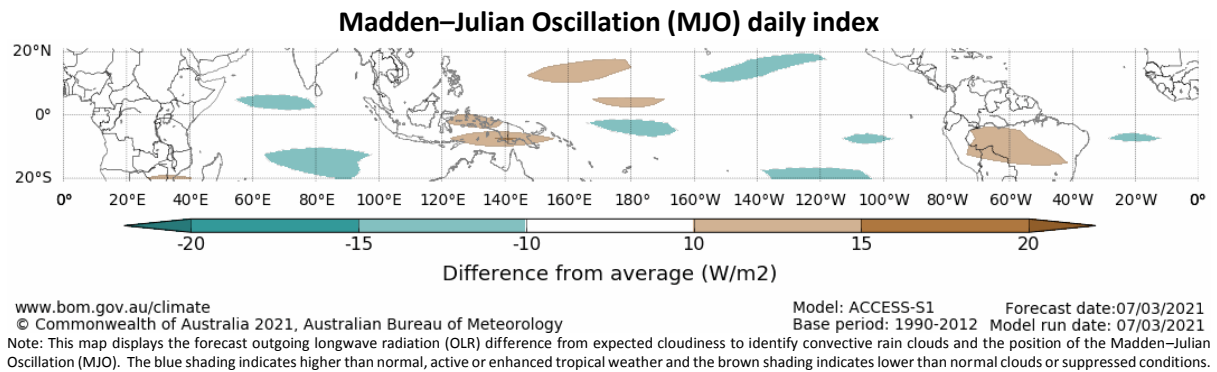


Atmospheric indicators continue to be generally consistent with the current La Niña event, with stronger than average to near average trade winds and decreased cloudiness near the Date Line. For the period ending 7 March the 30-day Southern Oscillation Index (SOI) value was 8.1 and for the period ending 28 February the 90-day value was 15.3. The SOI values have been declining since January. The SOI remains within La Niña thresholds, with sustained values above +7.

30-day Southern Oscillation Index (SOI) values ending 7 March 2021



As at 9 March 2021 the Madden–Julian Oscillation (MJO) was weak in strength and its location was indiscernible. The MJO is a pulse of cloud and rainfall that moves eastward along the equator. Most models suggest the MJO could strengthen and move over the Americas and Africa before weakening over the western Indian Ocean during the next fortnight. An MJO pulse over the Americas and Africa would likely influence below average rainfall across northern Australia.



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/>

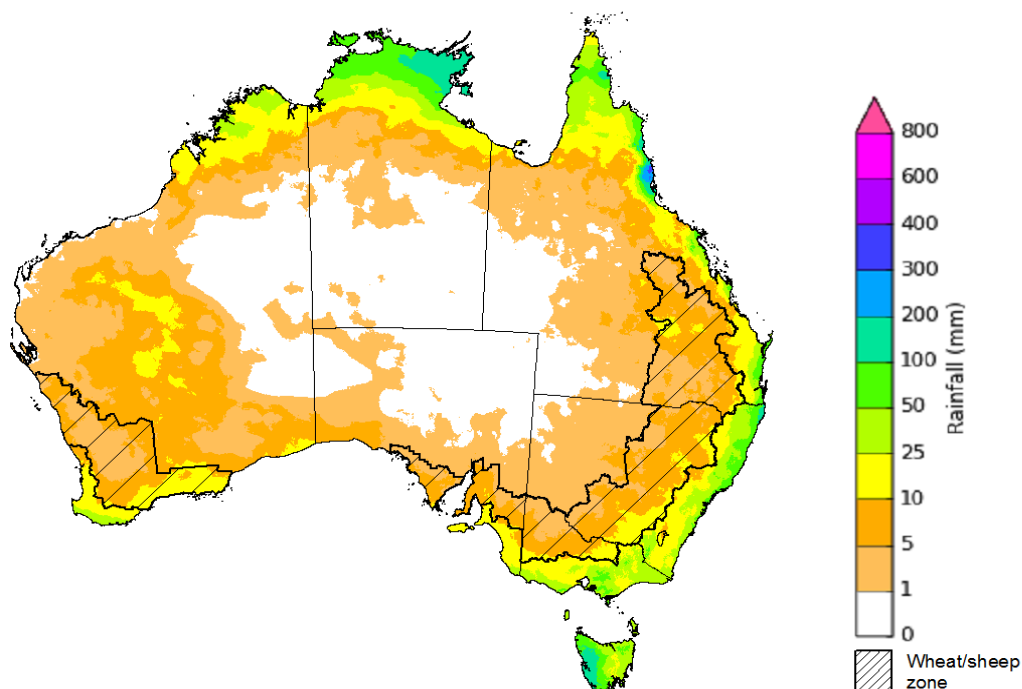
The latest rainfall outlook released by the Bureau of Meteorology suggests that wetter than average conditions are more likely for parts of northern Australia during April 2021, consistent with a weakening La Niña event.

The outlook for April 2021 indicates that there is a 75% chance of rainfall totals between 10 and 100 millimetres across parts of the eastern coast of Australia, southern Victoria, eastern Tasmania and scattered parts of Western Australia. Rainfall totals in excess of 100 millimetres are expected across isolated parts of north-eastern Queensland, the far north of the Northern Territory and western Tasmania.

Across most cropping regions there is a 75% chance of rainfall totals between 1 and 10 millimetres. There is a 75% chance of rainfall totals of up to 25 millimetres across cropping regions in parts of eastern New South Wales, central Queensland, southern Victoria and eastern Western Australia.

The ACCESS-S climate model suggests there is a 50% chance of recording close to average April rainfall totals across much of Australia, including the major cropping regions. This would suggest that it is less likely that most cropping regions across eastern Australia would experience a repeat of last season's early autumn break which facilitated widespread planting of winter crop under ideal sowing conditions.

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

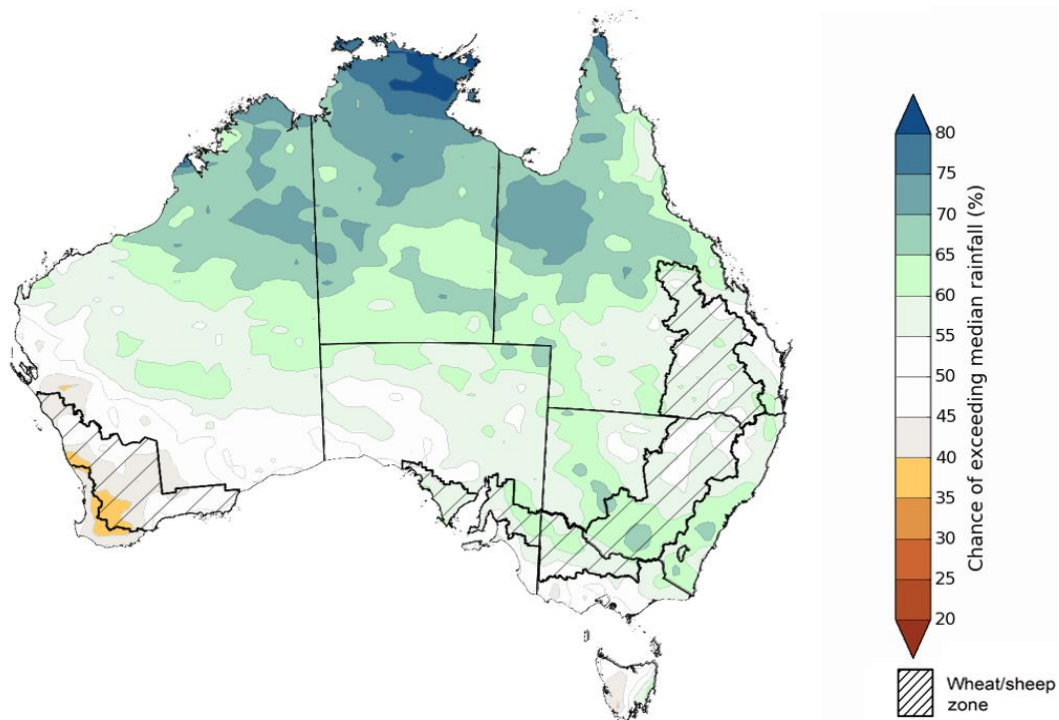


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Issued: 04/03/2021

The rainfall outlook for April to June 2021 suggests there is a greater than 60% chance of above average rainfall across much of northern Australia and parts of New South Wales. There is less than a 40% chance of exceeding median rainfall in isolated parts of Western Australia (Bureau of Meteorology 'National Climate Outlook', 4 March 2021). Bureau of Meteorology rainfall outlooks for April to June have greater than 55% past accuracy across much of Queensland, Victoria, Western Australia and the Northern Territory. The outlooks have greater than 65% past accuracy for parts of northern Australia, western Victoria and south-eastern South Australia.

Chance of exceeding the median rainfall April to June 2021



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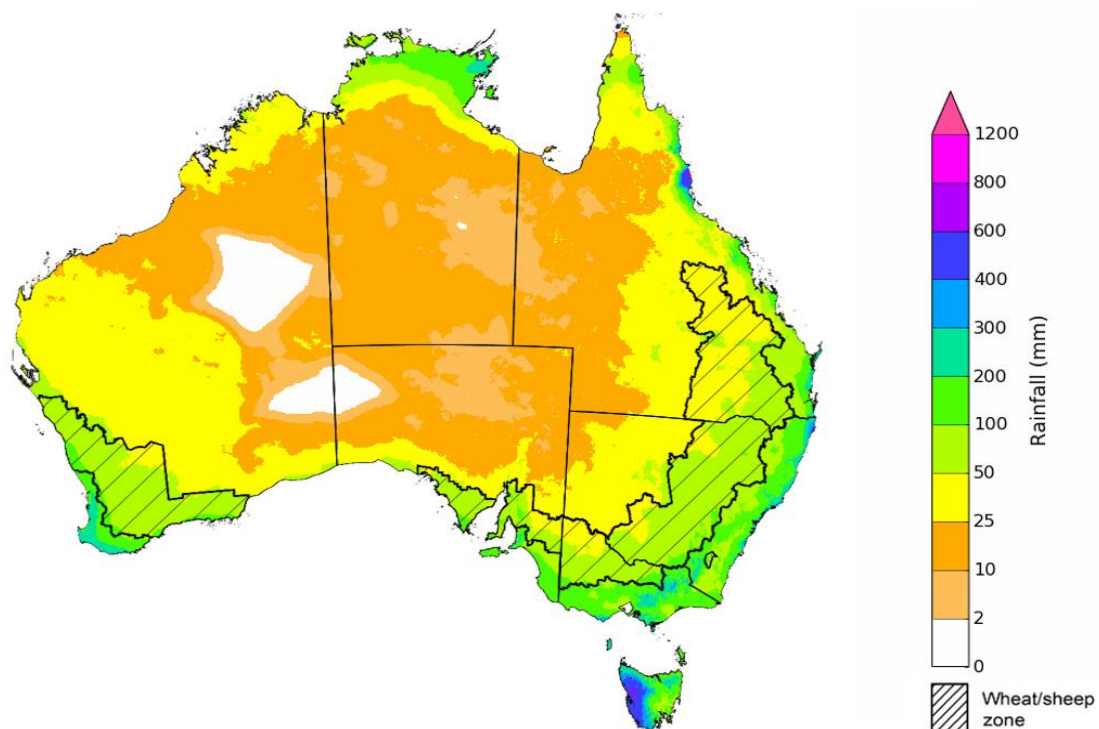
Issued: 04/03/2021

The outlook for April to June 2021 suggests there is a 75% chance of rainfall totals between 25 and 100 millimetres across much of eastern, south-western and far northern Australia. Rainfall totals in excess of 100 millimetres are likely across parts of eastern New South Wales, eastern Queensland, southern Victoria, south-eastern South Australia, south-western Western Australia, the north of the Northern Territory and Tasmania.

Across cropping regions, there is a 75% chance of receiving between 50 and 100 millimetres across much of New South Wales, Victoria, South Australia, Western Australia and parts of south-eastern Queensland. Lower totals of between 25 and 50 millimetres are expected across remaining cropping regions between April and June 2021.

There is a 50% chance of recording close to average April to June rainfall across most winter cropping regions. Given the average or better soil moisture levels across cropping regions in much of New South Wales, South Australia and Western Australia, these falls will likely support average or better pasture growth, as well as the planting of winter crops.

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

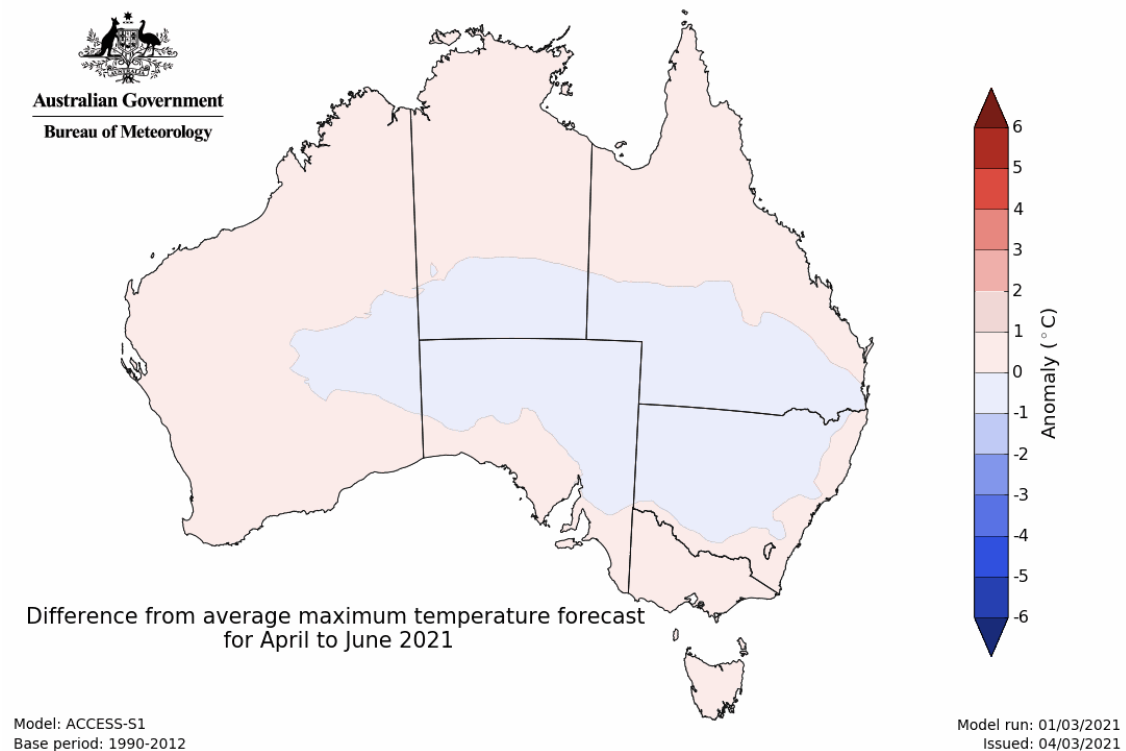


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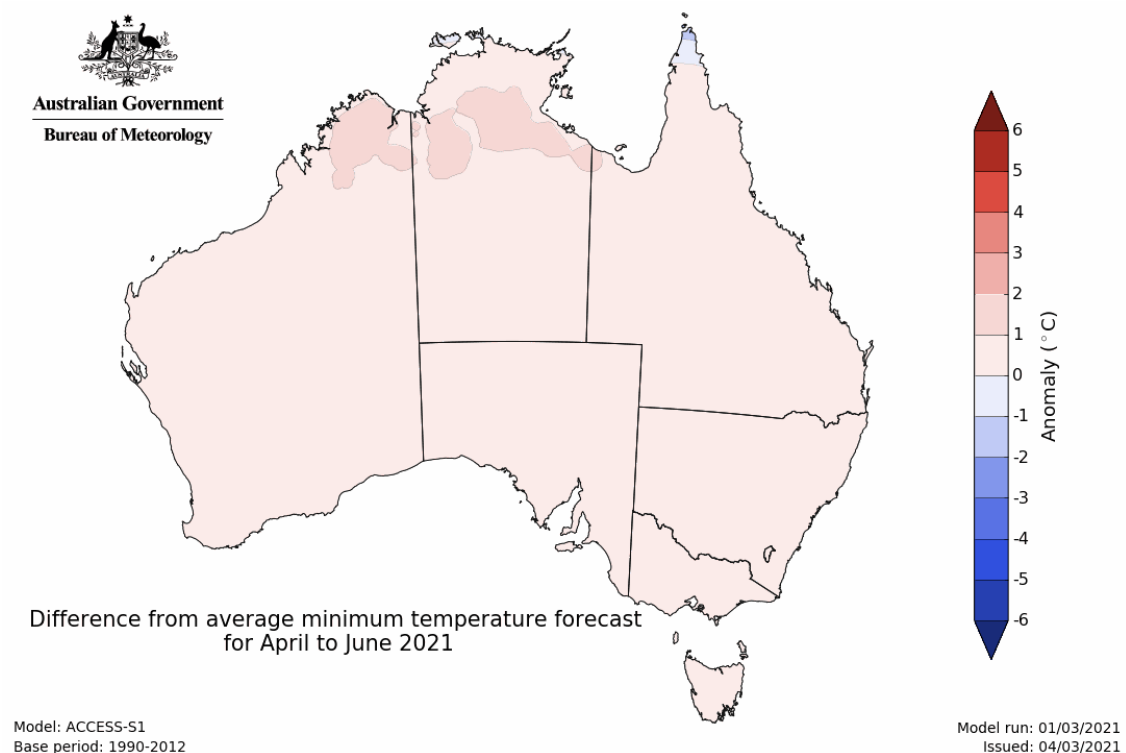
Issued: 4/03/2021

The temperature outlook for April to June 2021 indicates that day-time and night-time temperatures across most of Australia are likely to be close to the 1990-2012 average (-1°C to 1°C) (Bureau of Meteorology 'National Climate Outlook', 4 March 2021).

Predicted maximum temperature anomaly for April to June 2021



Predicted minimum temperature anomaly for April to June 2021



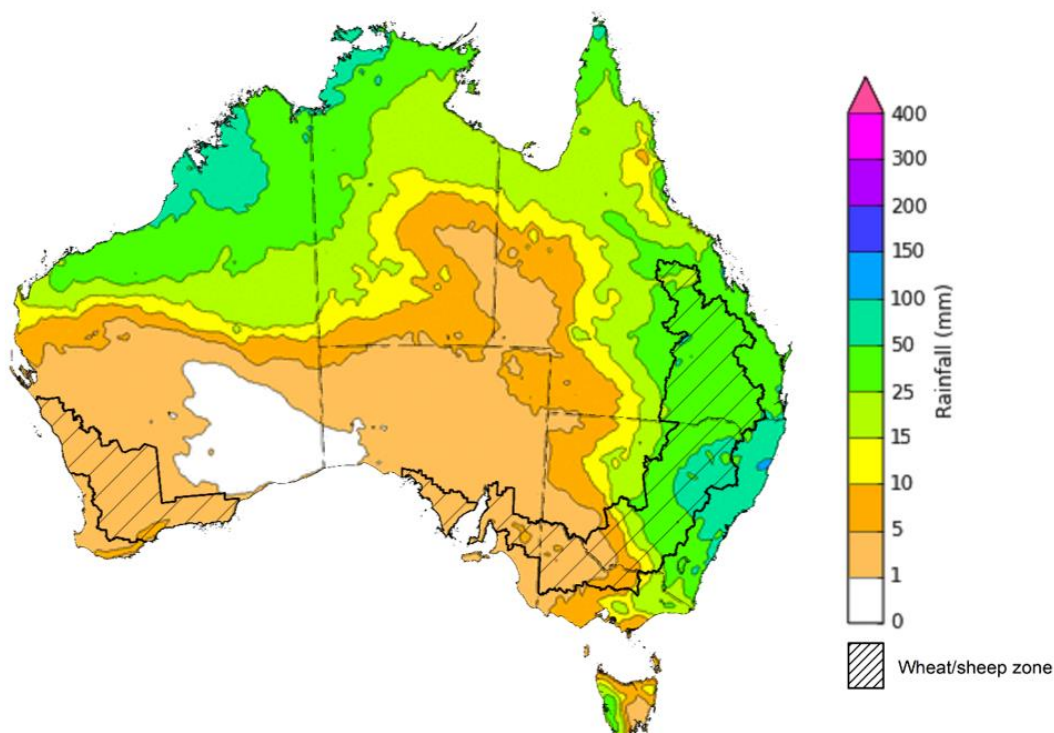
1.4. Rainfall forecast for the next eight days

Troughs, onshore flow and cold fronts are expected to generate showers and storms over parts of northern and eastern Australia during the next 8 days.

Rainfall totals of between 10 and 50 millimetres are forecast for much of eastern New South Wales, eastern and northern Queensland, eastern Victoria, northern Western Australia, the north and west of the Northern Territory and western Tasmania. Rainfall totals in excess of 50 millimetres are forecast for parts of north-eastern New South Wales, northern Western Australia and the north of the Northern Territory.

In Australia's cropping regions, rainfall of between 15 and 50 millimetres is expected for much of Queensland and parts of western and central New South Wales. Rainfall up to 100 millimetres is expected in cropping regions across north-eastern New South Wales.

Total forecast rainfall (mm) for the period 11 March to 18 March 2021



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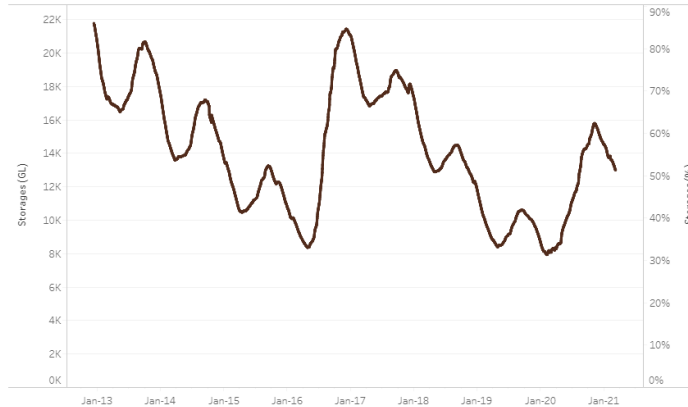
Note: This rainfall forecast is produced from computer models. As the model outputs are not altered by weather forecasters, it is important to check local forecasts and warnings issued by the Bureau of Meteorology.

2. Water

2.1. Water markets – current week

Water storage in the Murray–Darling Basin (MDB) decreased by 197 gigalitres (GL) between 3 March 2021 and 10 March 2021. The current volume of water held in storage is 12,986 GL, which represents 51% of total capacity. This is 57% or 4,737 GL more than at the same time last year.

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

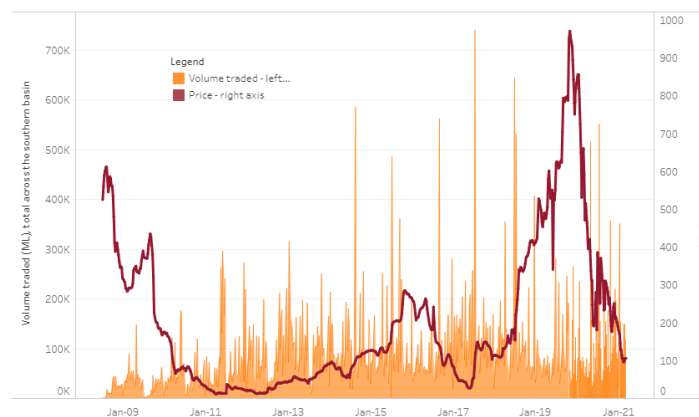


Water storage data is sourced from the Bureau of Meteorology.

Allocation prices in the Victorian Murray below the Barmah Choke remained steady at \$105 per ML between 4 March 2021 and 11 March 2021. Prices are lower in the Goulburn-Broken, Murrumbidgee and regions above the Barmah Choke due to binding of the Goulburn intervalley trade limit, Murrumbidgee export limit and Barmah Choke trade constraint.

Region	\$/ML
NSW Murray Above	95
NSW Murrumbidgee	55
VIC Goulburn-Broken	98
VIC Murray Below	105

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 11 March 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-110321

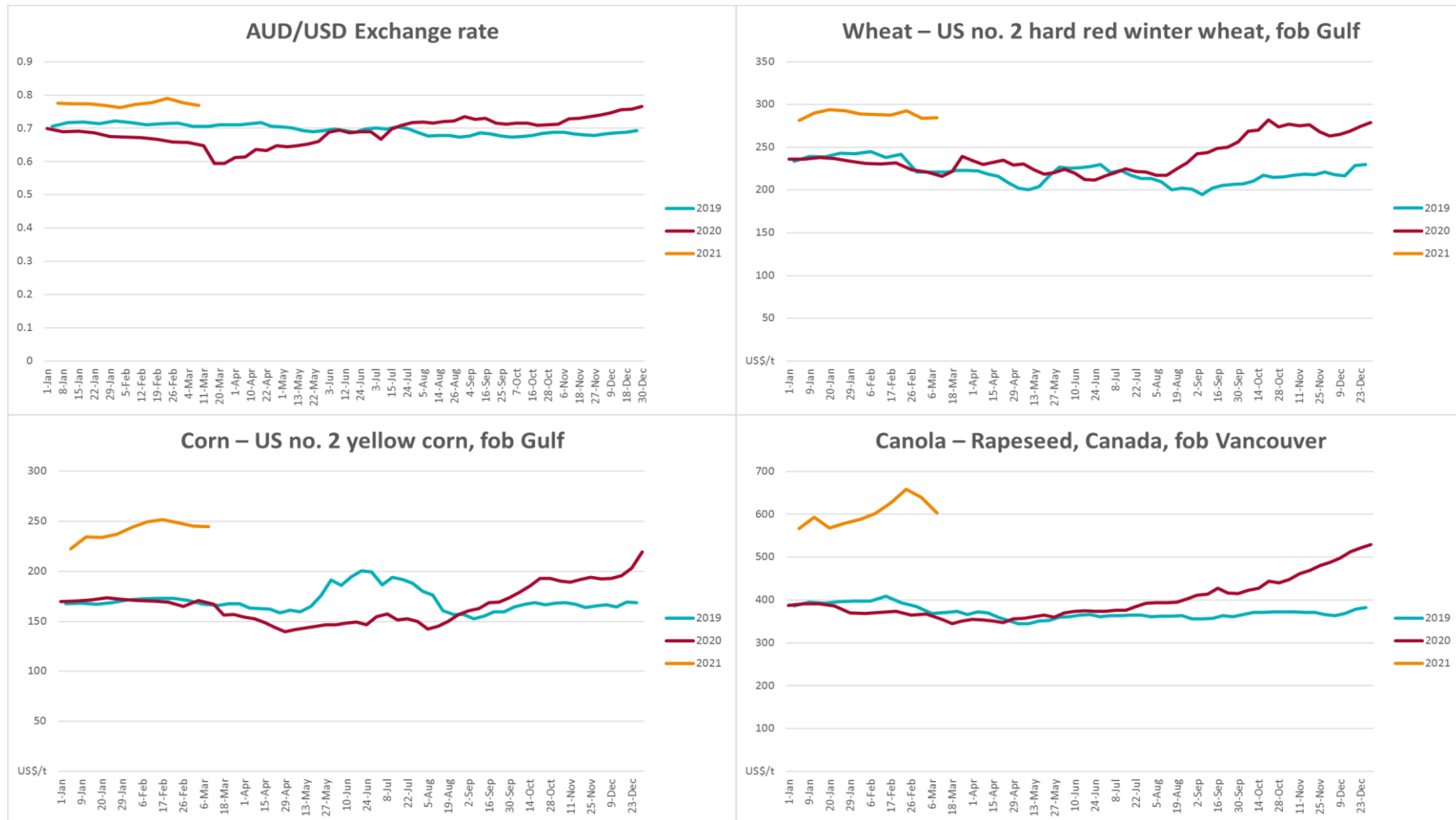
3. Commodities

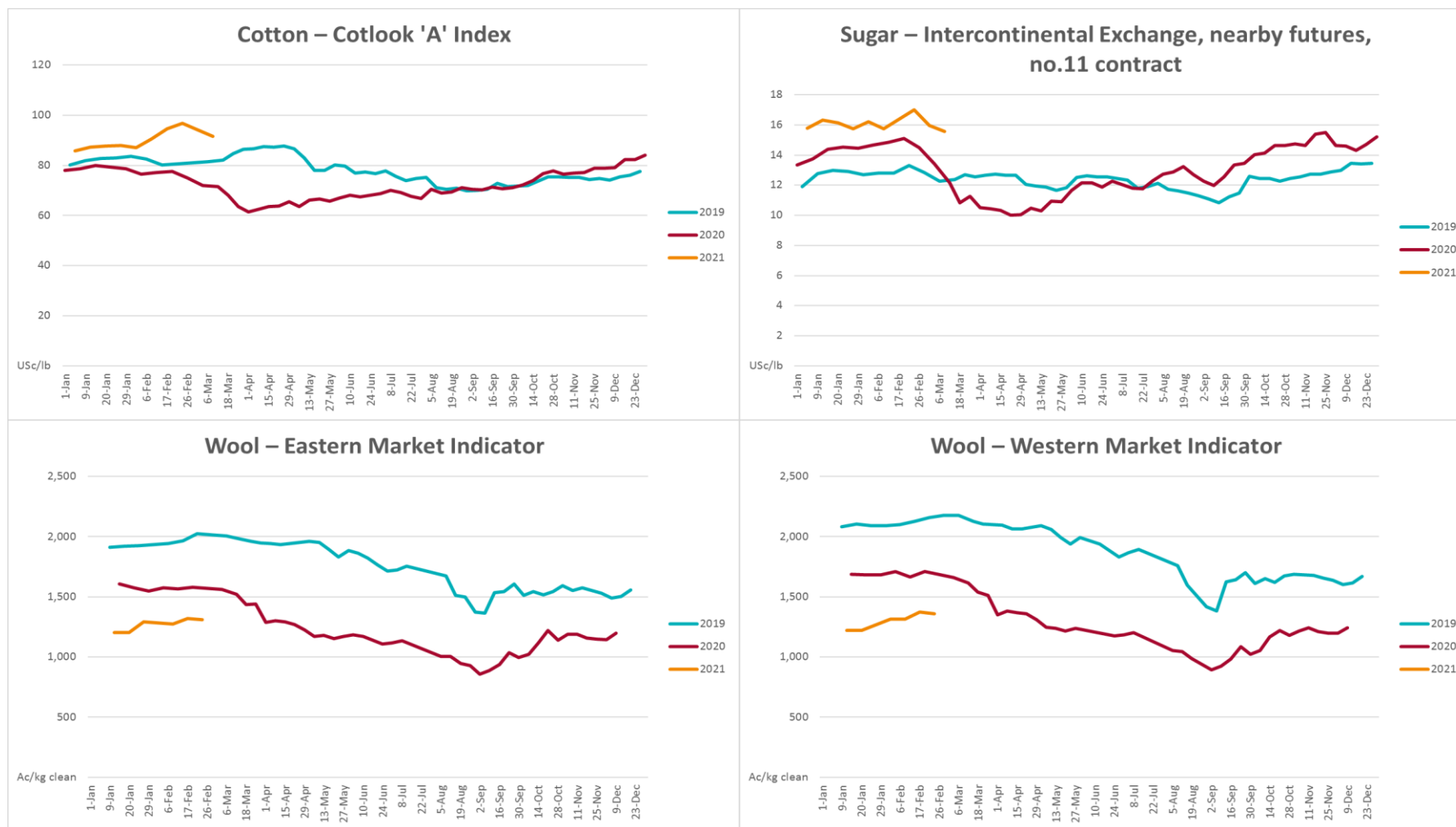
Indicator	Week ended	Unit	Latest price	Previous week	Weekly change	Price 12 months ago	Annual change
Selected world indicator prices							
AUD/USD Exchange rate	10-Mar	A\$/US\$	0.77	0.78	-1%	0.59	29%
Wheat – US no. 2 hard red winter wheat, fob Gulf	10-Mar	US\$/t	285	284	0%	221	29%
Corn – US no. 2 yellow corn, fob Gulf	10-Mar	US\$/t	245	245	0%	156	57%
Canola – Rapeseed, Canada, fob Vancouver	10-Mar	US\$/t	603	639	-6%	345	75%
Cotton – Cotlook 'A' Index	10-Mar	USc/lb	92	94	-3%	68	35%
Sugar – Intercontinental Exchange, nearby futures, no.11 contract	10-Mar	USc/lb	16	16	-2%	13	16%
Wool – Eastern Market Indicator	24-Feb	Ac/kg clean	1,310	1,318	-1%	1,558	-16%
Wool – Western Market Indicator	24-Feb	Ac/kg clean	1,359	1,372	-1%	1,677	-19%
Selected Australian grain export prices							
Milling Wheat – APW, Port Adelaide, SA	10-Mar	A\$/t	360	361	0%	389	-7%
Feed Wheat – ASW, Port Adelaide, SA	10-Mar	A\$/t	360	353	2%	384	-6%
Feed Barley – Port Adelaide, SA	10-Mar	A\$/t	304	311	-2%	334	-9%
Canola – Kwinana, WA	10-Mar	A\$/t	670	682	-2%	664	1%
Grain Sorghum – Brisbane, QLD	10-Mar	A\$/t	380	390	-3%	448	-15%
Selected domestic livestock indicator prices							
Beef – Eastern Young Cattle Indicator	24-Feb	Ac/kg cwt	860	866	-1%	522	65%
Mutton – Mutton indicator (18–24 kg fat score 2–3), Vic	10-Mar	Ac/kg cwt	642	662	-3%	607	6%
Lamb – Eastern States Trade Lamb Indicator	24-Feb	Ac/kg cwt	848	870	-3%	805	5%
Pig – Eastern Seaboard (60.1–75 kg), average of buyers & sellers	10-Feb	Ac/kg cwt	357	367	-3%	411	-13%
Goats – Eastern States (12.1–16 kg)	24-Feb	Ac/kg cwt	813	813	0%	883	-8%
Live cattle – Light steers ex Darwin to Indonesia	03-Feb	Ac/kg lwt	355	355	0%	330	8%
Live sheep – Live wethers (Mucnea 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
Global Dairy Trade (GDT) weighted average prices ^a							
Dairy – Whole milk powder	03-Mar	US\$/t	4,364	3,615	21%	2,777	57%
Dairy – Skim milk powder	03-Mar	US\$/t	3,302	3,207	3%	2,405	37%
Dairy – Cheddar cheese	03-Mar	US\$/t	4,280	4,268	0%	3,504	22%
Dairy – Anhydrous milk fat	03-Mar	US\$/t	5,929	5,527	7%	5,924	0%

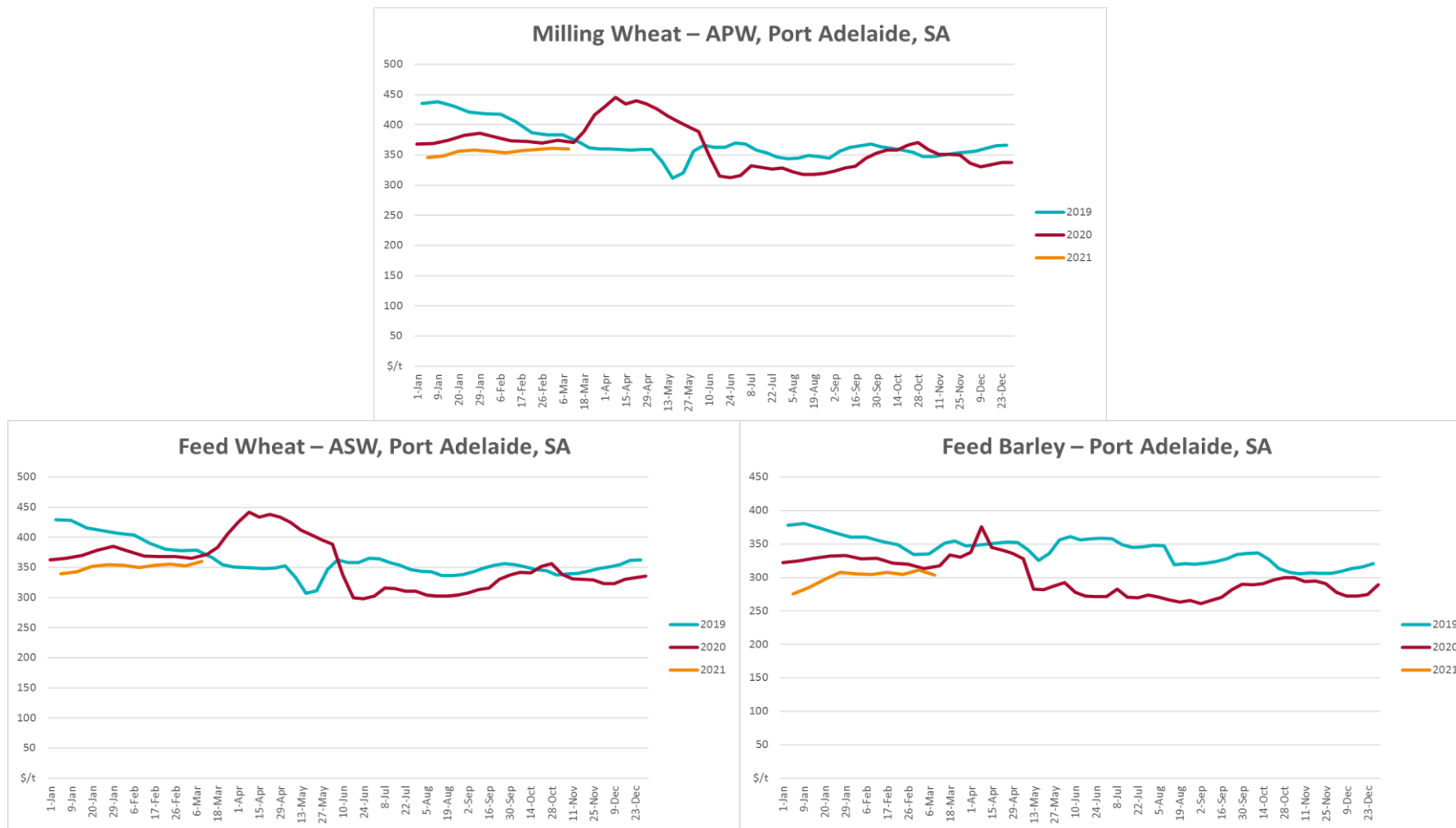
a Global Dairy Trade prices are updated twice monthly on the first and third Tuesday of each month.

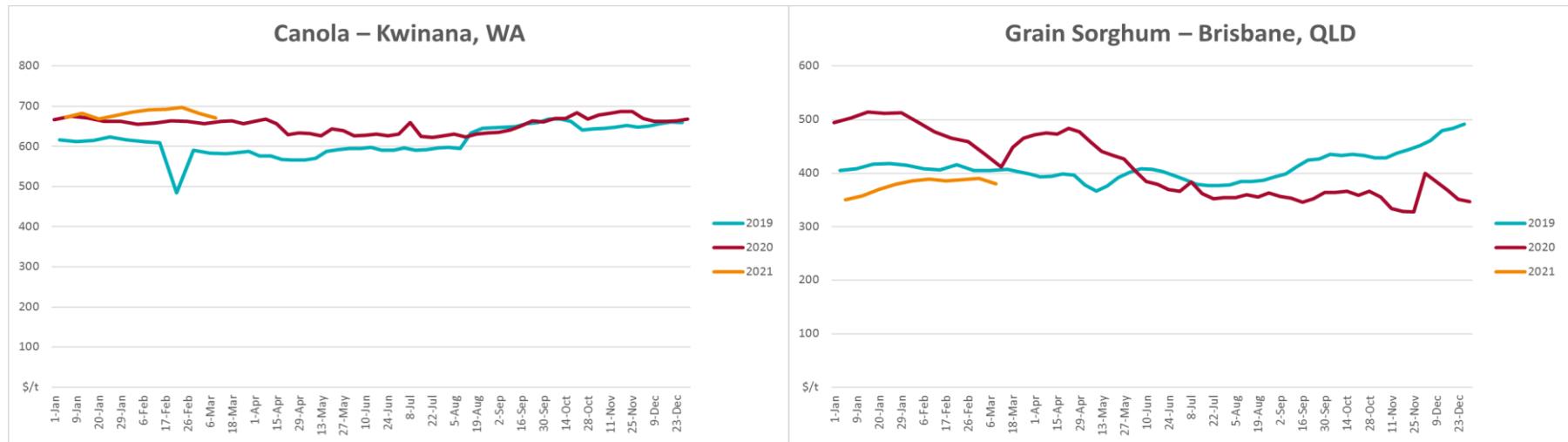
3.1. Selected world indicator prices



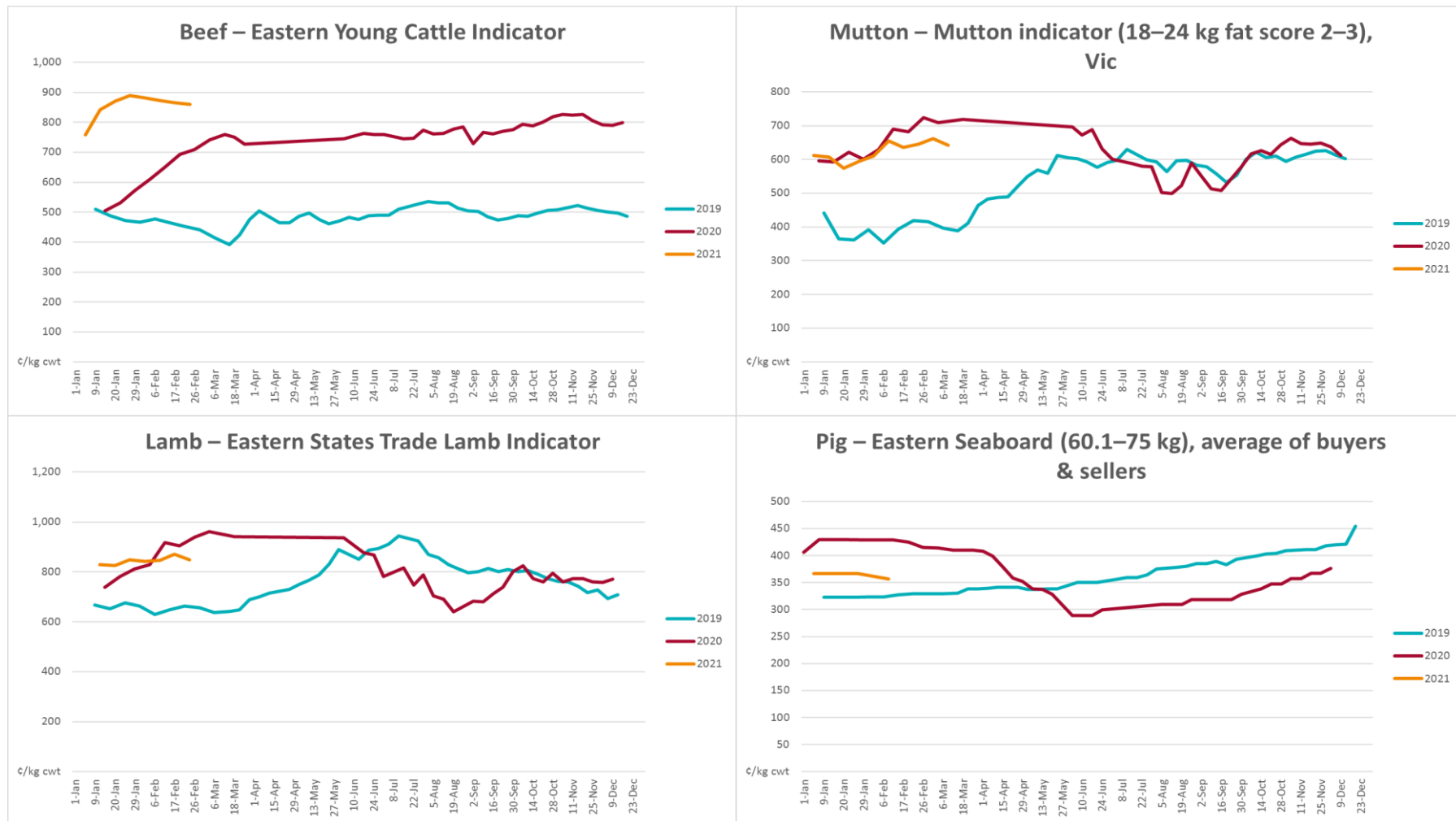


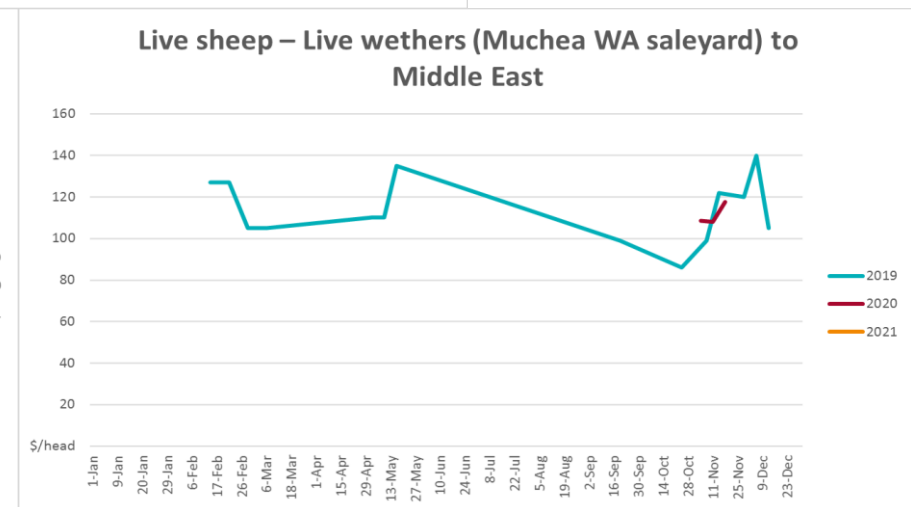
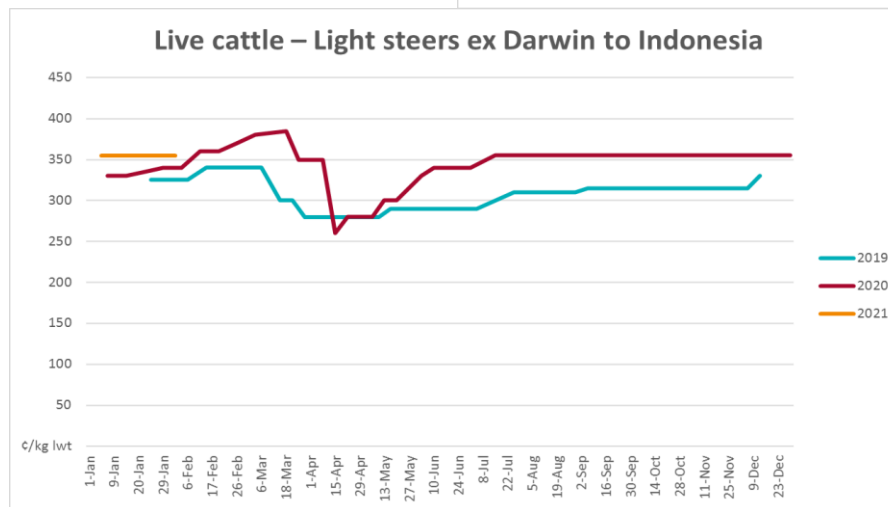
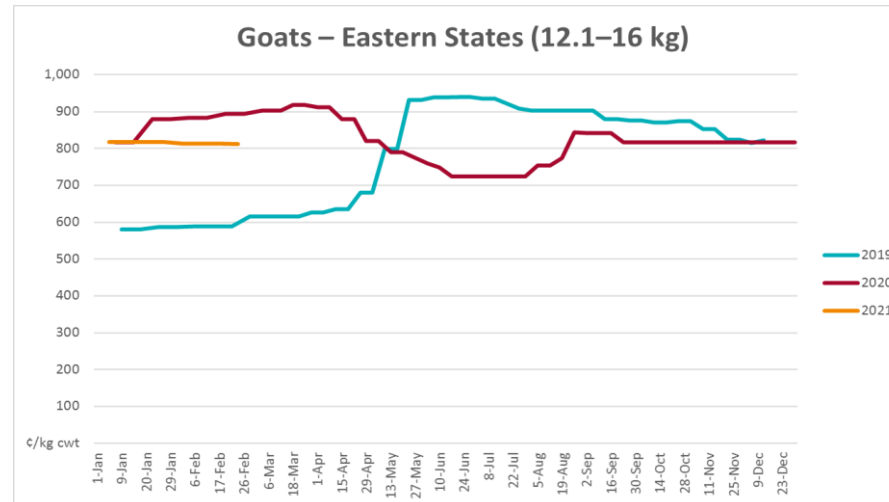
3.2. Selected domestic crop indicator prices



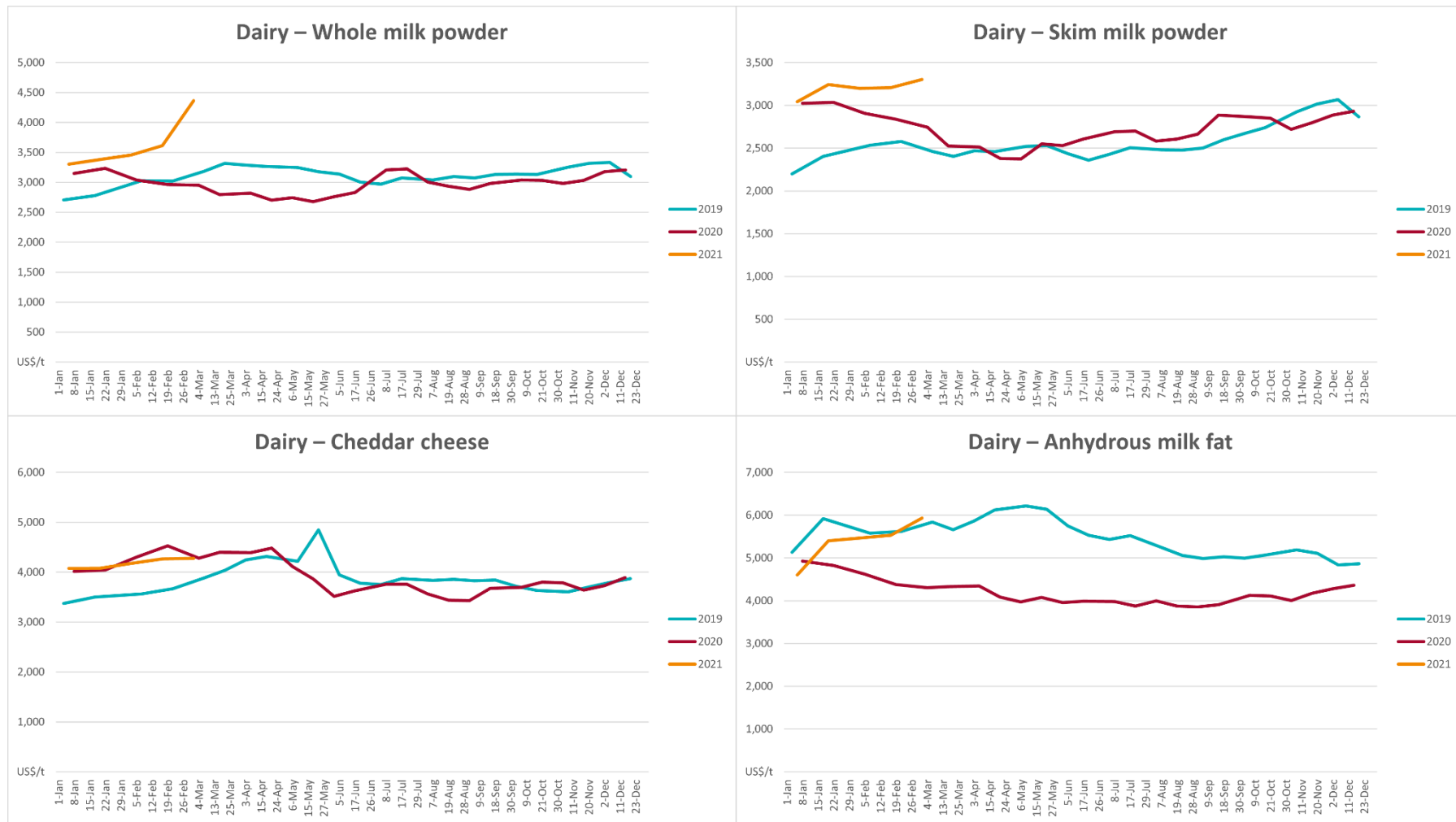


3.3. Selected domestic livestock indicator prices

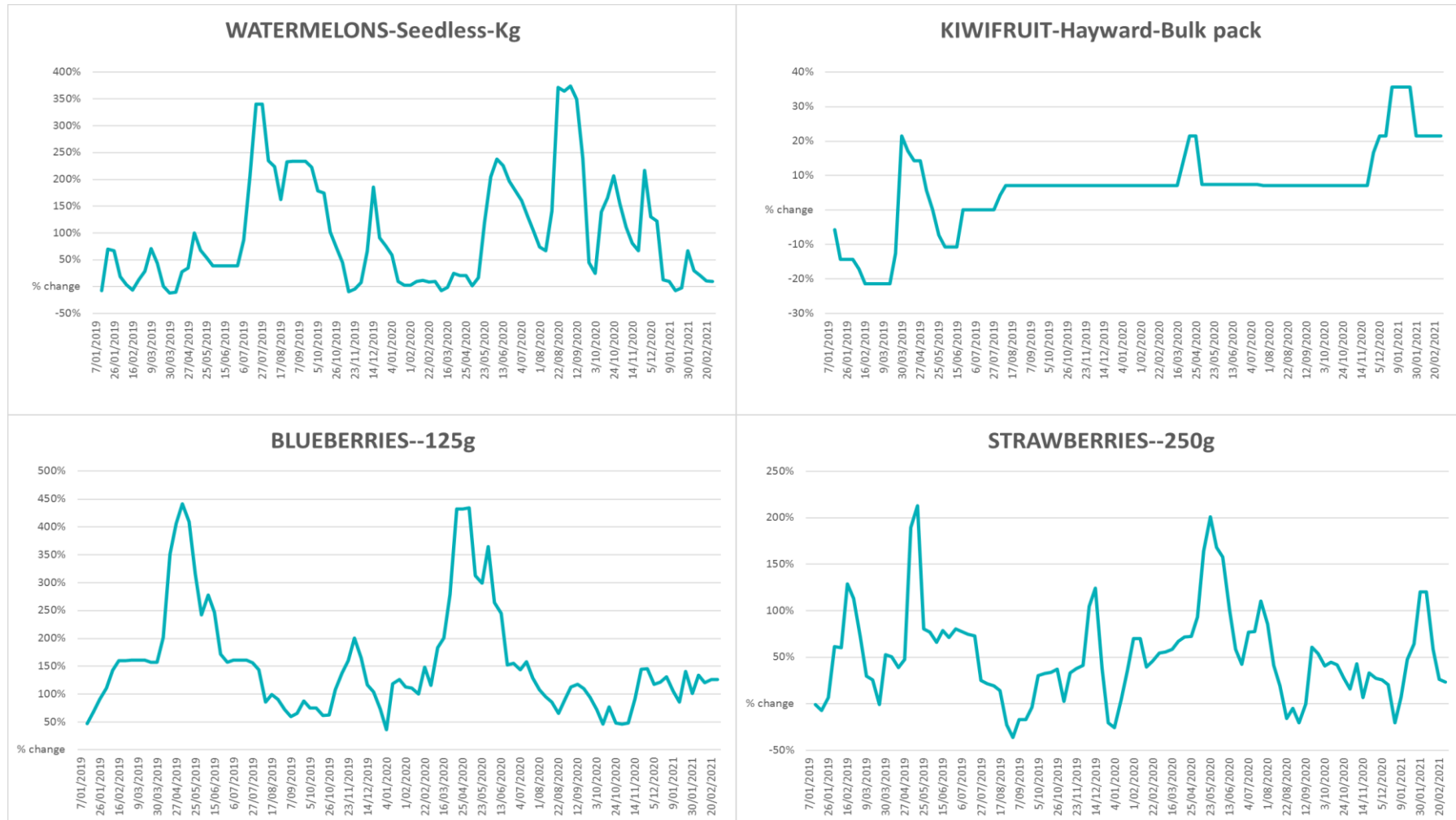


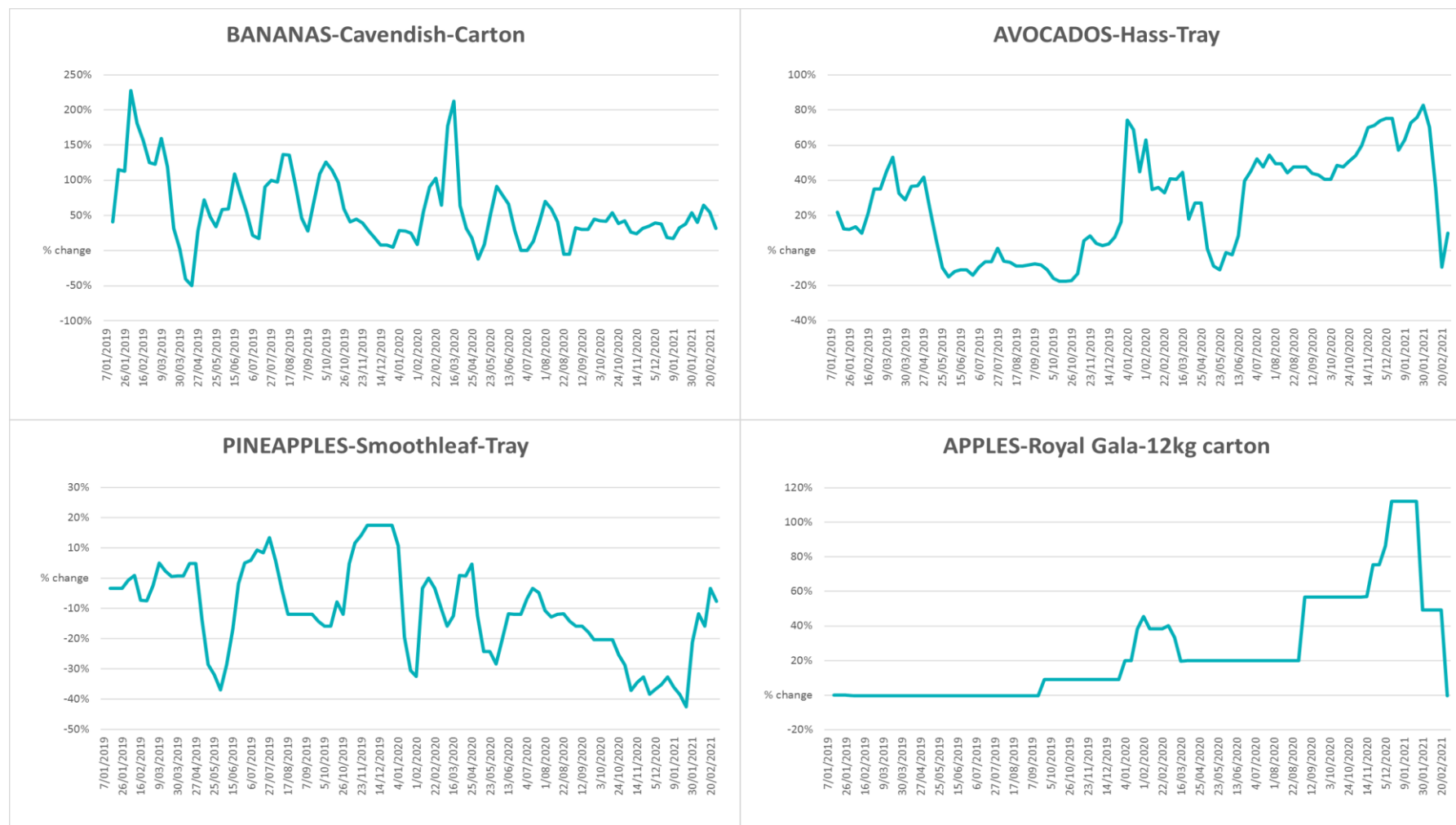


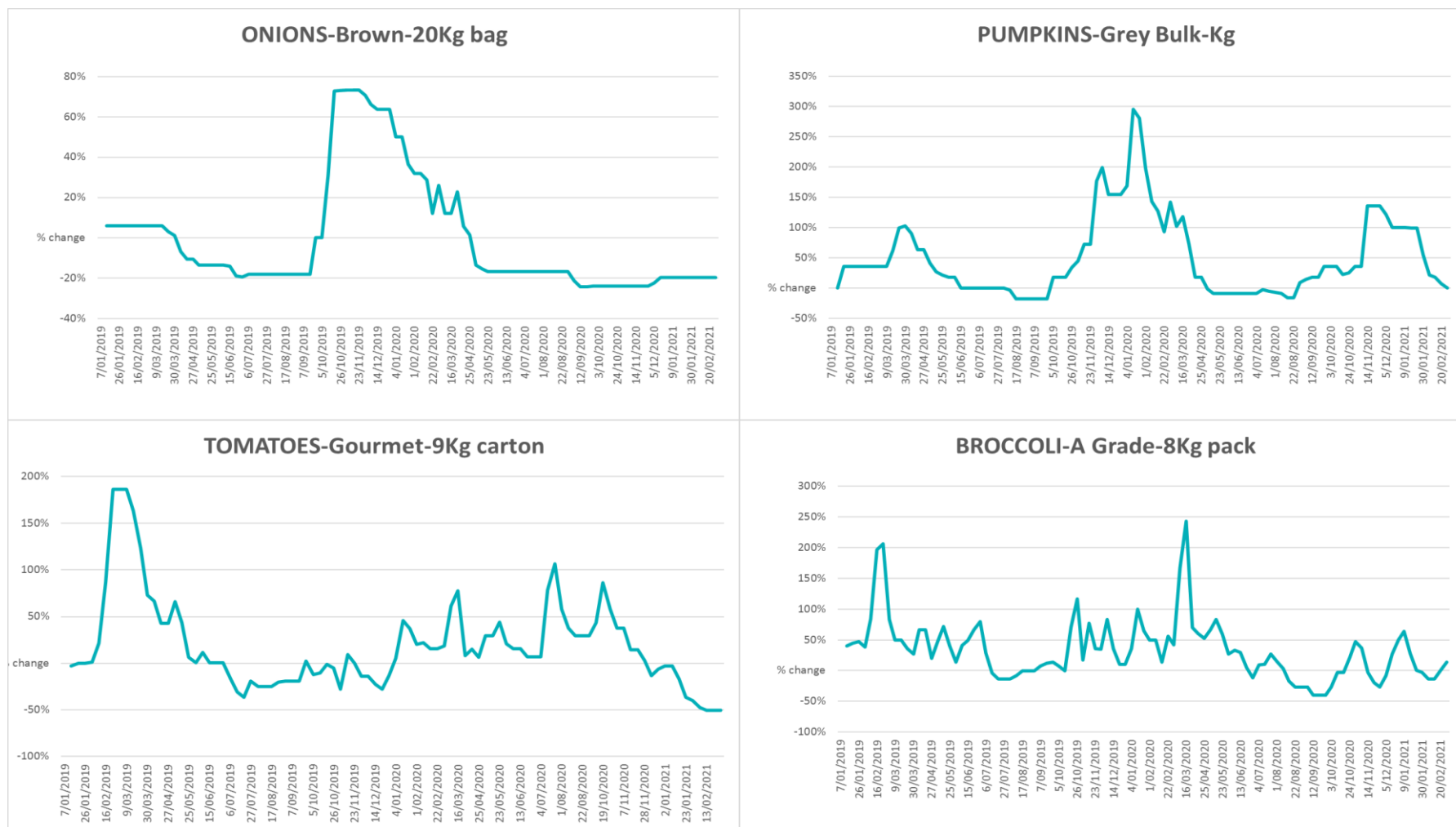
3.4. Global Dairy Trade (GDT) weighted average prices

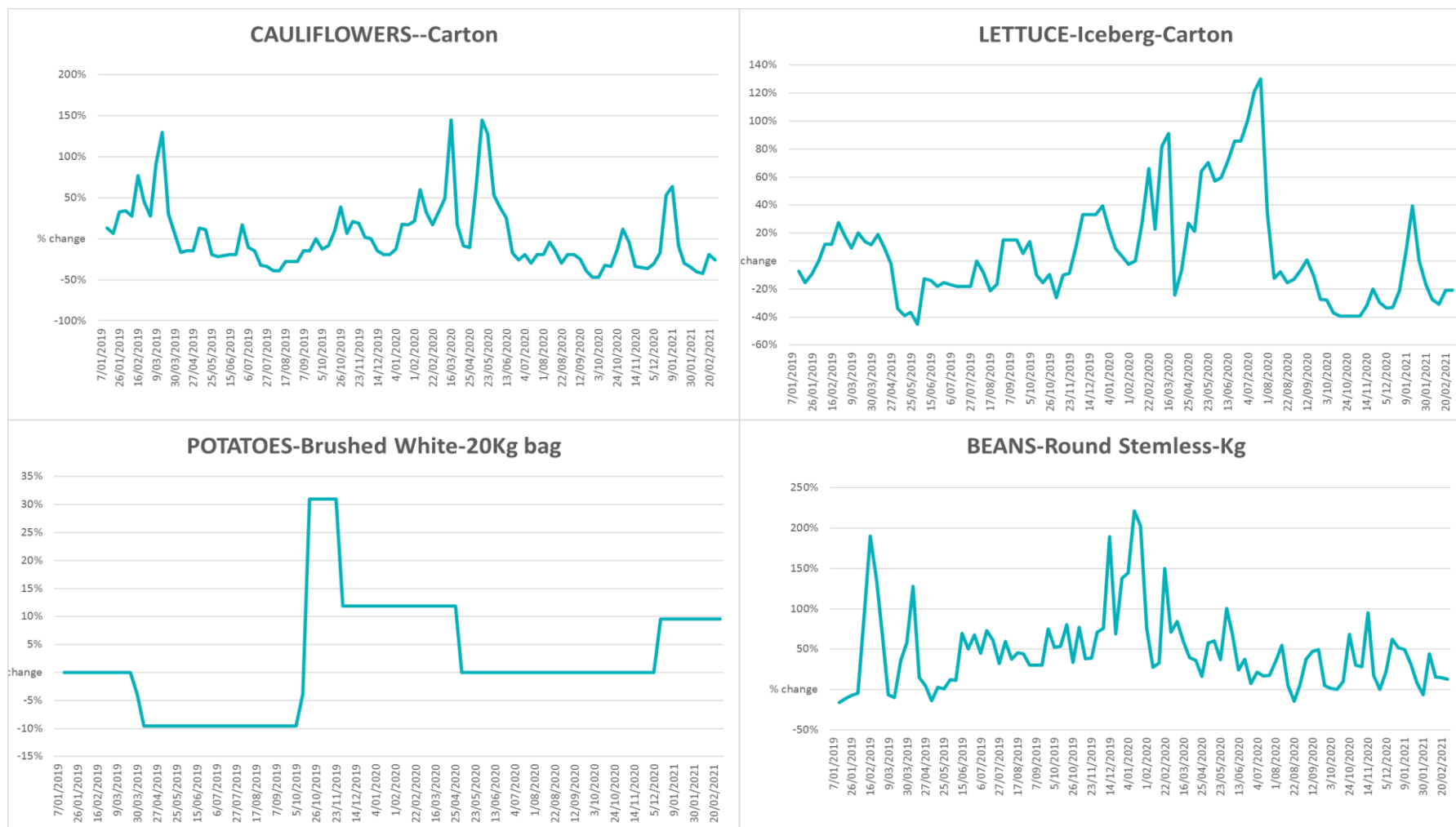


3.5. Selected fruit and vegetable prices









4. Data attribution

Climate

Bureau of Meteorology

- Weekly rainfall totals: www.bom.gov.au/jsp/awap/rain/index.jsp
- Monthly and last 3-month rainfall percentiles: www.bom.gov.au/jsp/awap/rain/index.jsp
- Temperature anomalies: www.bom.gov.au/jsp/awap/temp/index.jsp
- Rainfall forecast: www.bom.gov.au/jsp/watl/rainfall/pme.jsp
- Seasonal outlook: www.bom.gov.au/climate/outlooks/#/overview/summary/
- Drought statement: www.bom.gov.au/climate/drought/drought.shtml
- Soil moisture: 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
- Available water determinations register: www.water.nsw.gov.au/water-licensing/registers

Queensland

- Sunwater: 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
- South Australian Department of Environment, Water and Natural Resources: www.environment.sa.gov.au

Victoria

- Goulburn–Murray Water: www.g-mwater.com.au

Commodities

Fruit and vegetables

- Datafresh: www.freshstate.com.au

Pigs

- Australian Pork Limited: www.australianpork.com.au

Dairy

- Global Dairy Trade: 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/

World sugar

- New York Stock Exchange - Intercontinental Exchange

Wool

- Australian Wool Exchange: 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

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