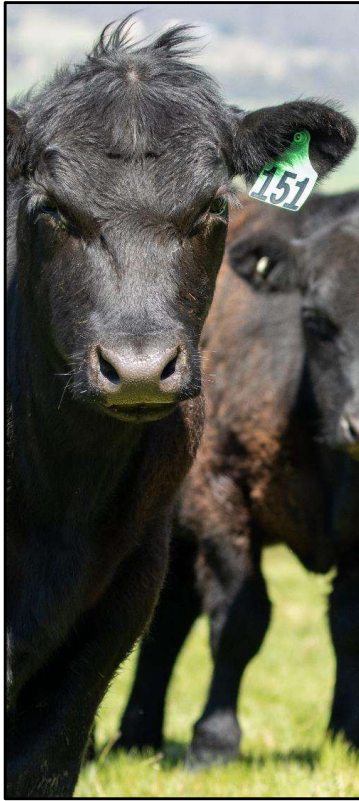




TFS Spring Seasonal Outlook

13 September 2022 | Goulburn NSW

Matthew Lieschke
Senior Agricultural Advisor | Goulburn



Outline



How are things shaping up? Spring 2021 outlook vs 2022

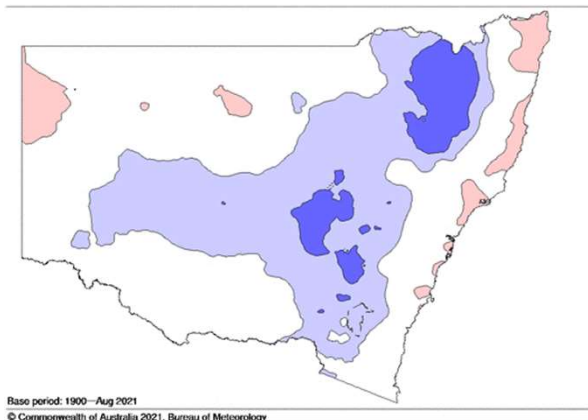
- Soil moisture
 - Rainfall
 - Pasture availability
-

What will be some of the major challenges this spring/summer?

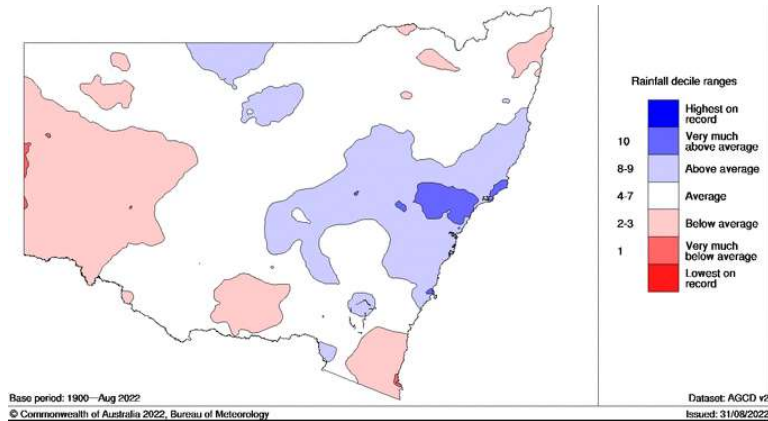
Winter rainfall deciles



Winter 2021



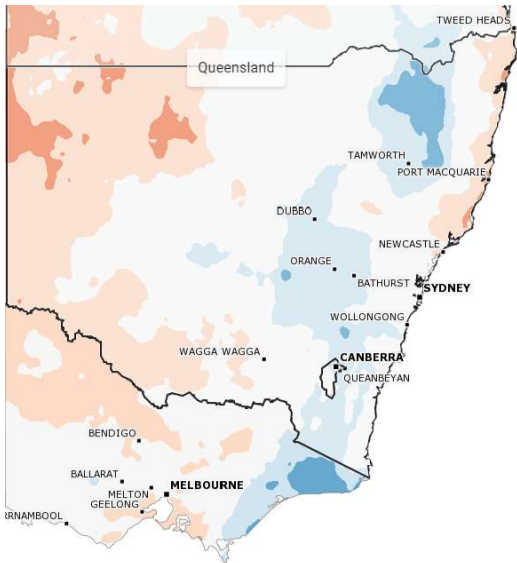
Winter 2022



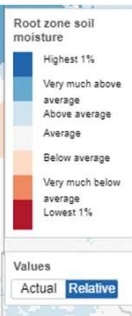
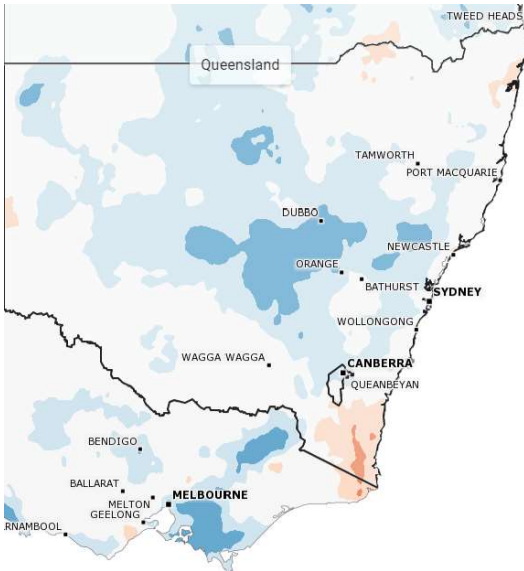
Root Zone Soil Moisture - wetter than last year...



31 Aug 2021



31 Aug 2022



Local Land Services

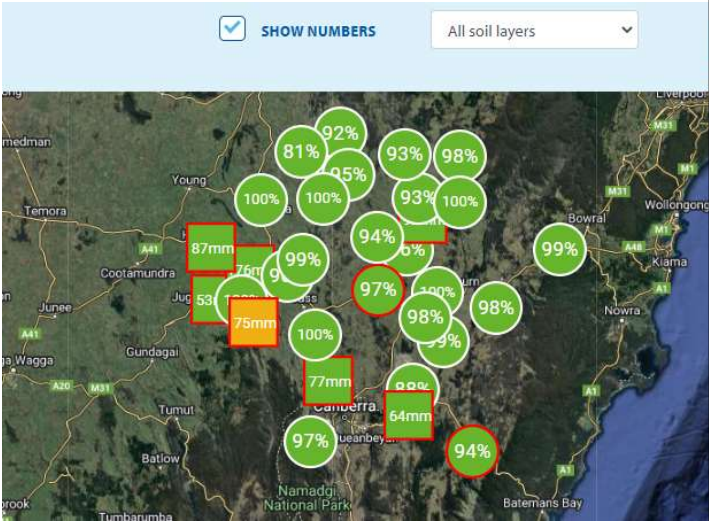
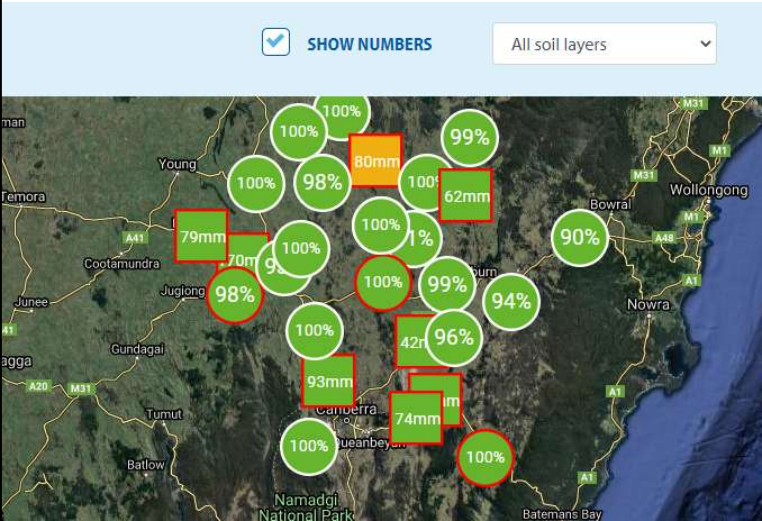
Source: Australian Water Outlook (BOM)

Farming Forecaster: year-on-year comparison



7 Sept 2021

7 Sept 2022



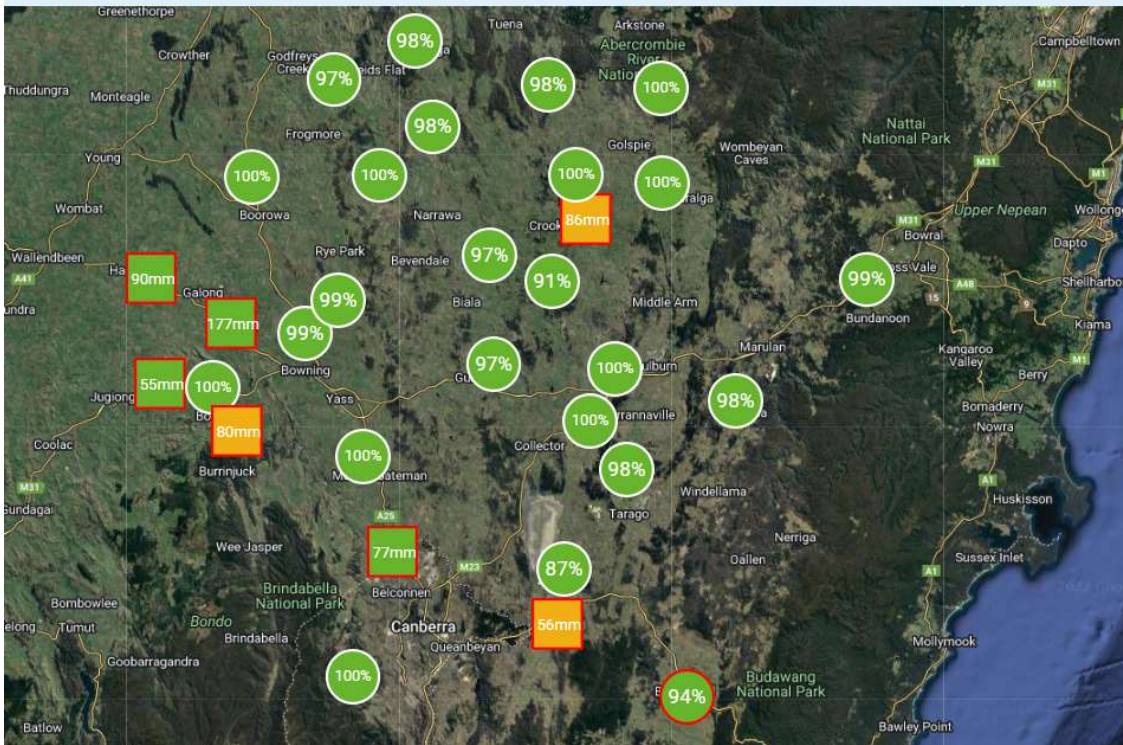
12 Sept 2022

Probe Network

☒ SHOW NUMBERS

All soil layers

Login



What can we expect this spring?

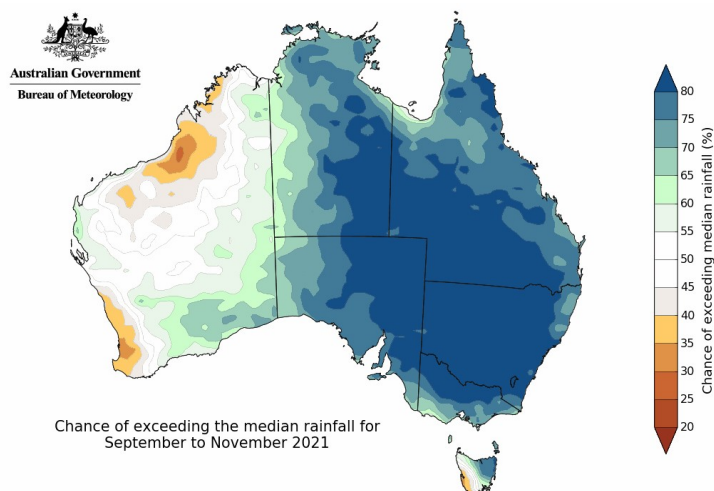


Local Land Services

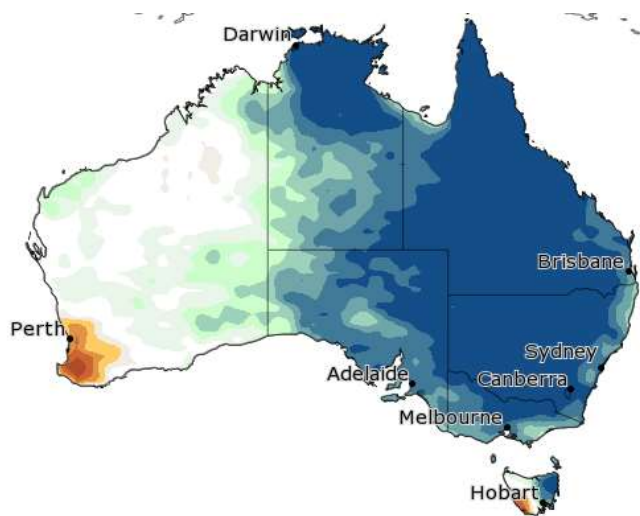
Photo: Andrea Mitchell

BOM Forecast | Spring '21 vs '22

Sept to Nov 2021 Forecast



Sept to Nov 2022 Forecast



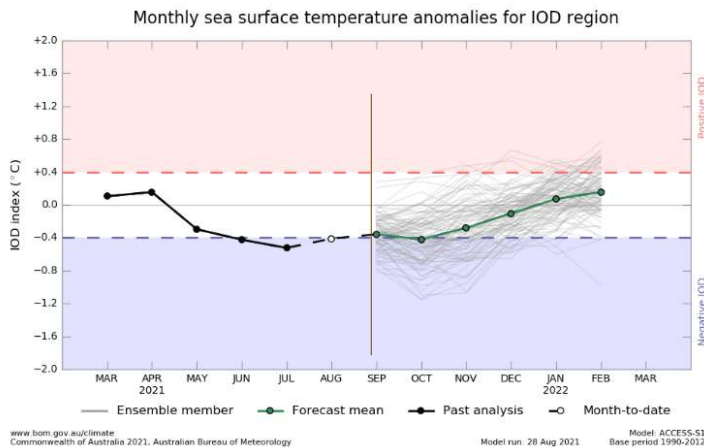
A very similar forecast to this time last year.

What's driving this outlook?

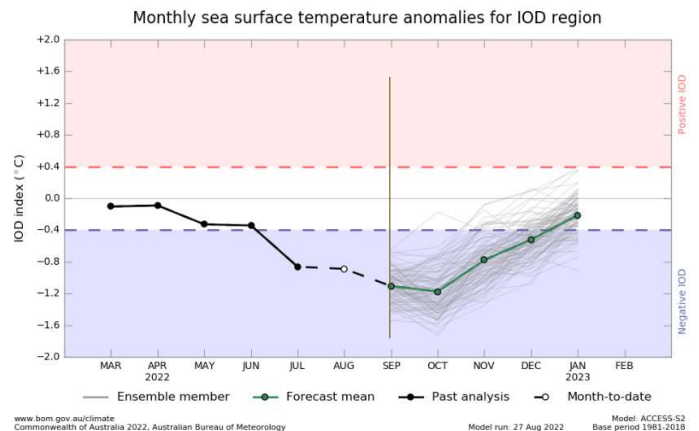
IOD: stronger than last spring



IOD Forecast: 28 Aug 21



IOD Forecast: 27 Aug 21



The Indian Ocean Dipole in Indian Ocean and the El Niño–Southern Oscillation in the Pacific region are 2 major climate drivers and have a big say in our weather at different times of the year. BOM provide an update on their status every fortnight.

The LHS screen shot is the IOD forecast from 28 Aug 2021. The IOD spends most of its time in the white band (neutral zone), but from time to time it will venture into either the positive phase (red) or negative phase (blue). A negative phase (blue) typically sees above average winter-spring rainfall in Australia, while a positive phase brings drier than average conditions.

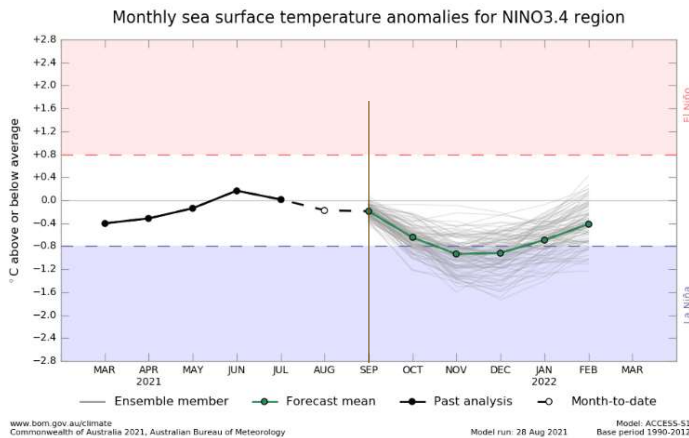
If we compare the current IOD position we can see the IOD is very much in the negative phase and much stronger than this time last year.

The IOD tends to break down in spring as the tropical wet season in the north cranks up, but the big message here is the IOD is much stronger at present compared to this time last year. **It is the strength of the negative IOD that is largely driving the wet outlook for spring.**

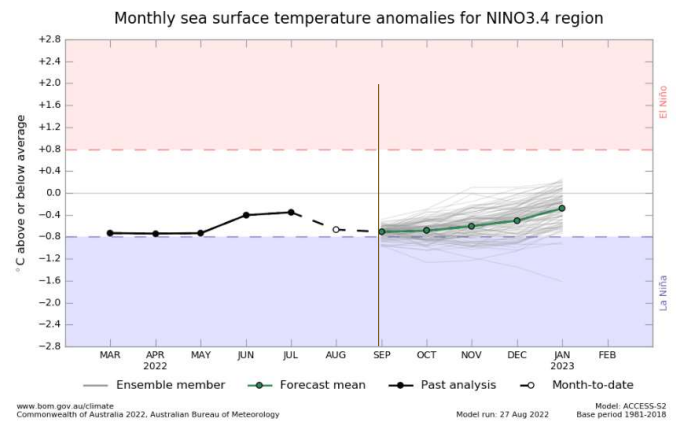
ENSO: stronger starting position; weaker outlook



ENSO Forecast: 28 Aug 21



ENSO Forecast: 27 Aug 21



What's happening in the Pacific?

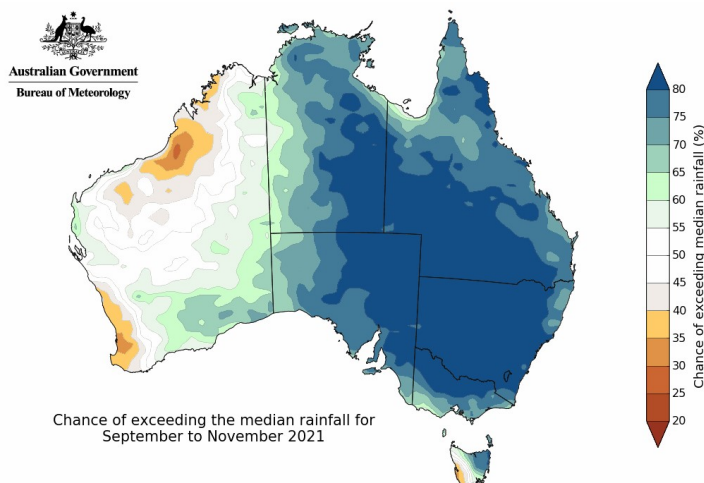
What happened last year? the El Niño–Southern Oscillation was neutral coming out of winter but quickly shifted to ‘WATCH’ (14 Sept) and ALERT (12 Oct) as ocean temps cooled in the Pacific Ocean. La Nina became established in late Nov 2021, peaked in Feb 2022 and weakened during autumn.

2022? Right now the ENSO is sitting closer to the blue line compared to this time last year and hence the “Alert” status. However, the signals for an ENSO to develop aren’t overly strong at this stage, but this could change in the coming months. So it would be worth **keeping a close eye on ENSO. If it does develop it would increase the chances of wet conditions continuing into summer.**

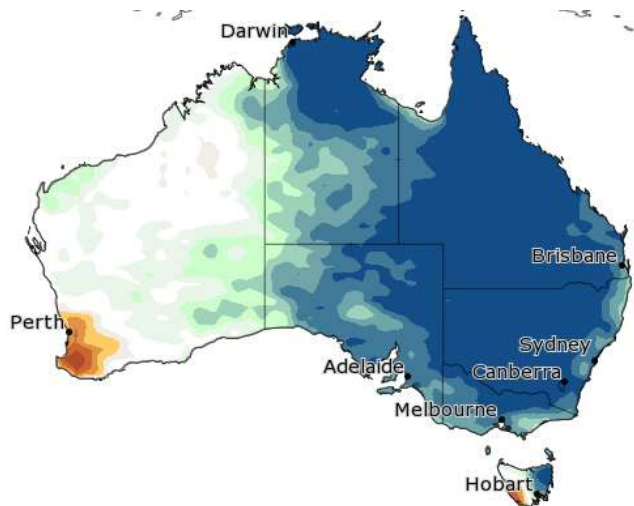
BOM Forecast | Spring '21 vs '22



Sept to Nov 2021 Forecast



Sept to Nov 2022 Forecast



So in summary, the strong IOD is a major driver behind the wetter than average spring outlook, and there is a chance that La Nina could establish in the coming months. If it does, it's likely the wetter than normal outlook will continue into summer.

Pasture Forecast | Spring '21 vs '22

Spring 2021 Forecast



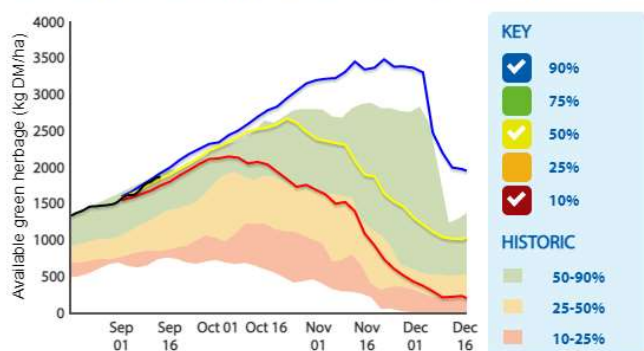
Pasture Forecast

Last Update: 3 days ago

Gunning

Provided by CSIRO

Projected green herbage available relative to historic variation



Spring 2022 Forecast



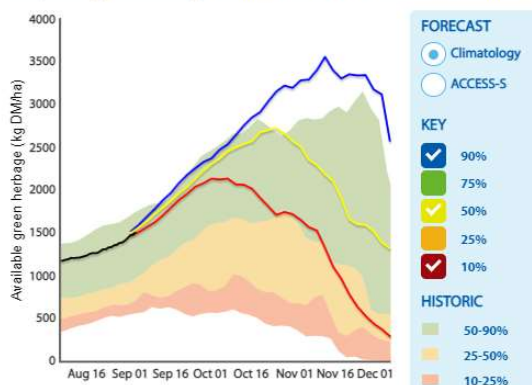
Pasture Forecast

Last Update: 3 days ago

Gunning

Provided by CSIRO

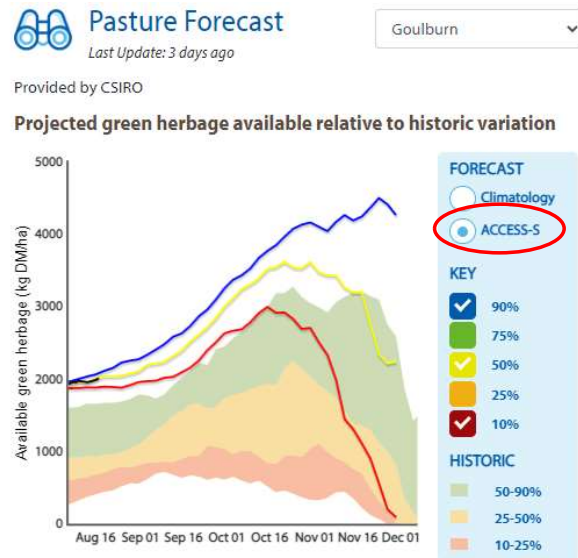
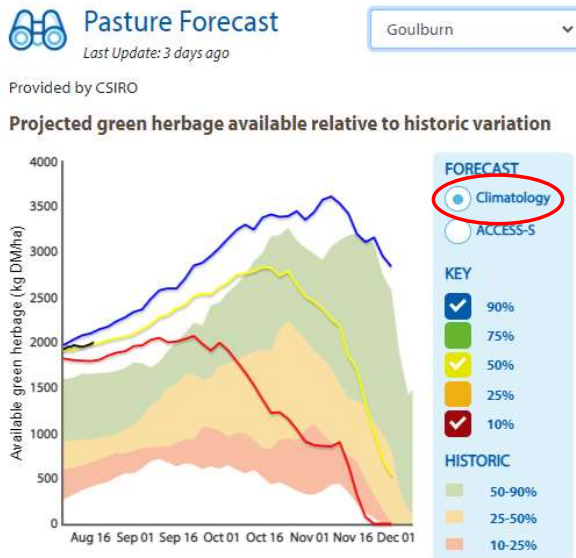
Projected green herbage available relative to historic variation



What does this mean in terms of pasture supply this spring?

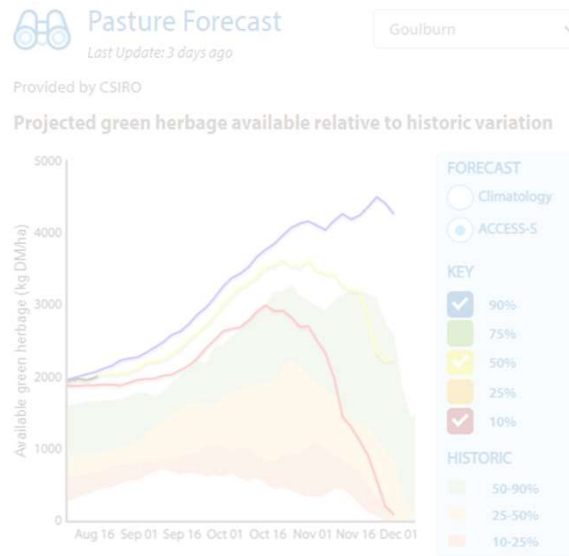
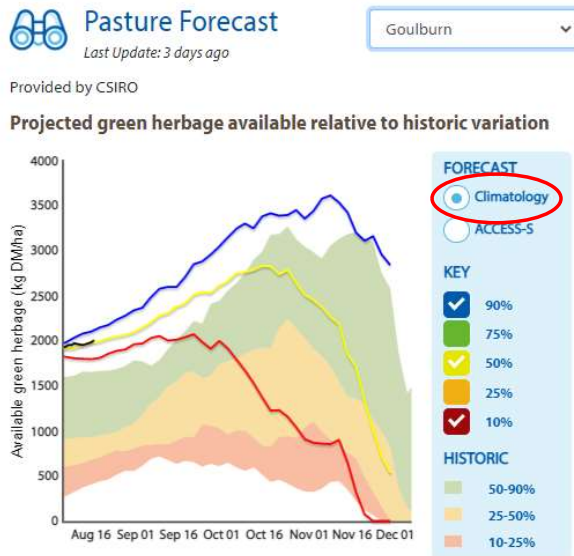
Two screen shots for Gunning side by side. The starting point was a touch higher last year in terms of herbage mass, but the overall shape and projection of the 3 coloured lines is very similar to this time last year.

Pasture Forecast | Climatology vs ACCESS-S



We now have 2 different pasture forecasts. Climatology and Access-S.

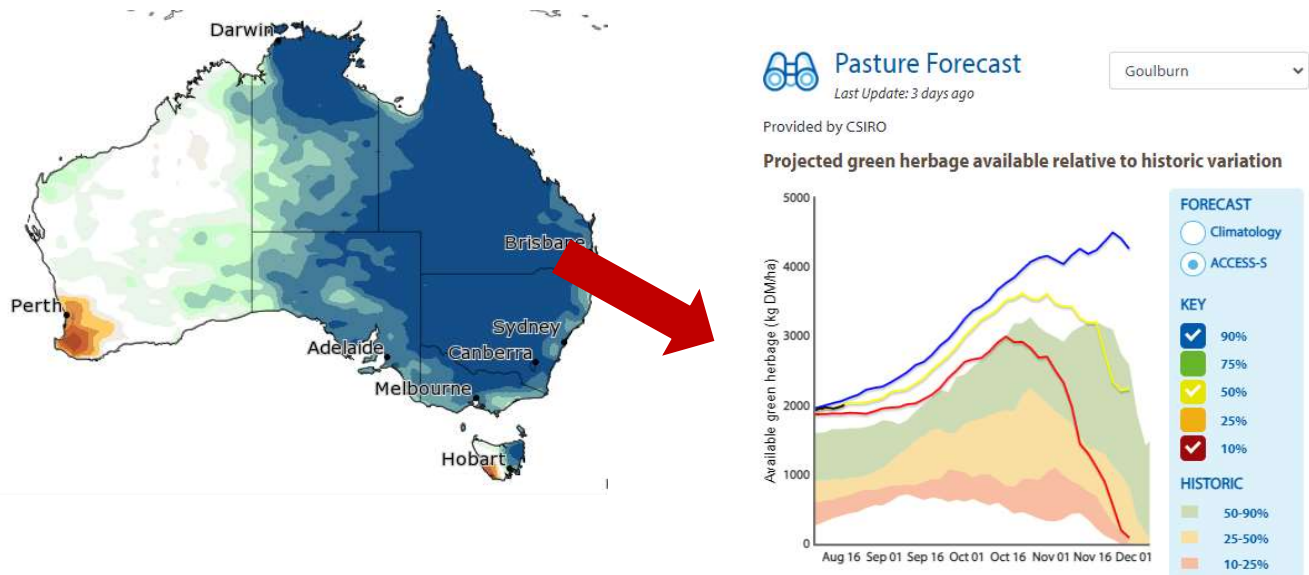
Pasture Forecast | Climatology vs ACCESS-S



Climatology – this is what we have always used to produce the pasture forecast. The GrassGro farm model for each location uses the last 30 years of daily weather for the planning period to generate 30 potential pasture outcomes from the starting point at the beginning of every month. There is an equal chance of all outcomes occurring.

The comment used to be, “look at the 3 month outlook from BOM and decide which line we are likely to follow”.

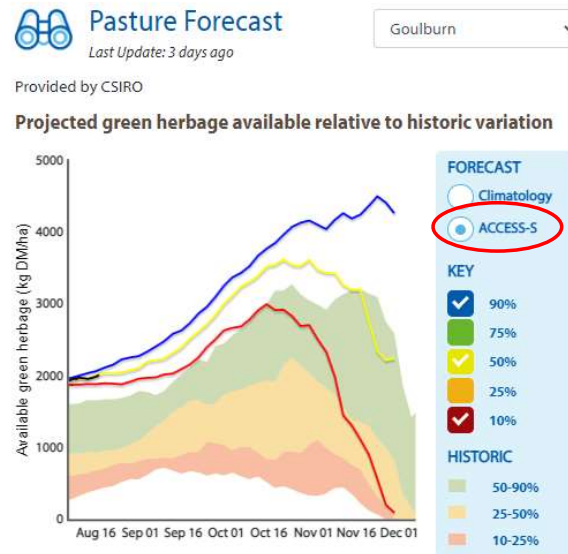
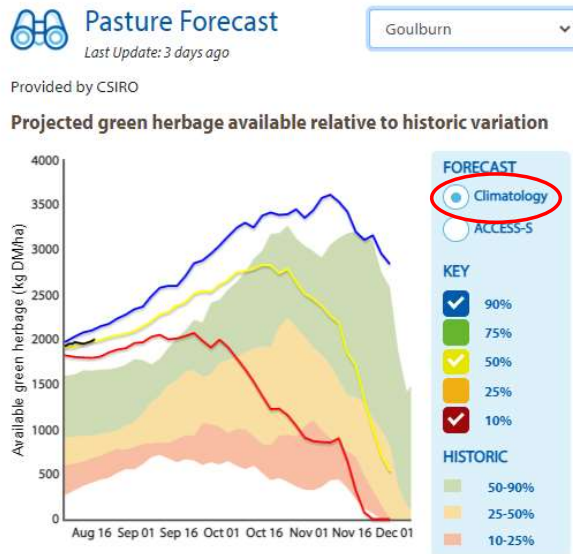
Pasture Forecast | Climatology vs ACCESS-S



ACCESS-S – this is the model that BOM uses to do their seasonal forecasts.

Rather than using historical data (i.e. climatology), ACCESS-S looks at what the various climate drivers are doing (e.g. IOD, ENSO, SAM etc) and using this information, it produces 33 daily weather sets for next 4 months. This data set is then used by the GrassGro model to produce 33 potential pasture graphs, from the same starting point as used by climatology.

Pasture Forecast | Climatology vs ACCESS-S



What's the difference between the 2 pasture forecasts?

The pasture projections in the ACCESS-S version stay tighter together for longer. This is due to the very positive rainfall outlook for spring.

During winter there was very little difference between these 2 forecasts because water was not limiting and temperature was the over-riding factor. Now we are starting to see differences.

Both versions of the pasture forecast provide valuable information. The key part is to recognise when the forecasts are different and to think through why that might be occurring.

Issues this spring/summer

ANIMAL HEALTH

- **Worms**
 - Liver fluke
 - Feet
 - Flies
- } Nutrition

PASTURES

- Pasture quality in the short term → lactating and young livestock
- Setting up paddocks for the future → removing overburden to let more light in =
 - ✓ better worm management
 - ✓ better pasture growth
 - ✓ better pasture quality/ legume

While the outlook for pasture growth is looking very positive, unfortunately the next 4-6 months is shaping up to be an extremely challenging period in terms of animal health.

While meeting nutritional requirements of livestock is always important to ensure they grow and perform, nutrition becomes even more important in years like this when livestock are under immense pressure from internal parasites.

With pastures, it's the same old story we've seen over the last couple of seasons. You can only manage what you can manage. Applying grazing pressure on key paddocks during spring will be important to prolong pasture quality and drive livestock performance.

Not only do we need to meet current livestock requirements, we also need to be looking further ahead and setting up paddocks for the future. How you manage certain paddocks in the coming months will have long lasting effects into next season in terms of worm management, pasture quality and production for next autumn/winter.

Pasture management



Setting up paddocks for the future – what are some of the options?

- Grazing (worms?!)
- Slashing/ mulching
- Cool burn (autumn 2023)
- Agistment/ trading stock → a break-even scenario on a trade is still worth considering due to benefits you'll pick up in future production
- Fodder crops
- Pasture renovation - bring program forward and utilise grazing crops?

Grazing: Need to be mindful of what class of stock you are using and future paddock use so you don't run into big worm problems down the track.

Slashing/ mulching: Enables you to keep pastures in check without contributing to worm load. The main disadvantage is the time involved. Also, many paddocks are not suitable for a range of reasons (rocks, stumps, holes etc.). It's important to remember that **you don't need to slash the entire paddock; even just slashing parts of paddocks will help**. Stock will graze slashed areas. Slashing a track to watering points is important.

Burning: If you are considering a cool burn next autumn to reduce the overburden of dead material, slash a good width around the perimeter of the paddock to form a green firebreak this spring.

Agistment/ trading stock: even a break even on a trade is still worth considering due to benefits it will bring further down the track.

Fodder crops – might be an option, but wet conditions are making this difficult.

Pasture renovation – could be a good option to bring the program forward, but again, the wet conditions are likely to make this challenging.

Sheep: worm management

Drench at lamb marking?

- Worm test 10 – 14 days prior to marking to see if this is needed
- **If the WEC results from ewes indicates a drench is required, also drench the lambs at marking (draft lambs by size/weight and read label directions)**

Prepare weaner paddocks (at least 3 months in advance)

- Slashing → even just slashing certain areas and tracks to water is an advantage
- Graze with cattle (cow and calves → yearling cattle)
- Graze with adult dry sheep (drench, graze for up to 25 days and remove)
- Hay/silage paddocks, fodder crops?

Sheep: worm management (cont'd)

Weaning

- If worm contamination in lambing paddocks is high, wean lambs at 12 weeks
- 'Imprint' lambs prior to weaning
- **Drench and WEC every 4 weeks**
- Supplement after weaning if green is lacking

Last year we had cases of lambs dying before weaning due to the level of worm contamination in lambing paddocks. The longer lambs stay on mum, the greater the risk of this occurring.

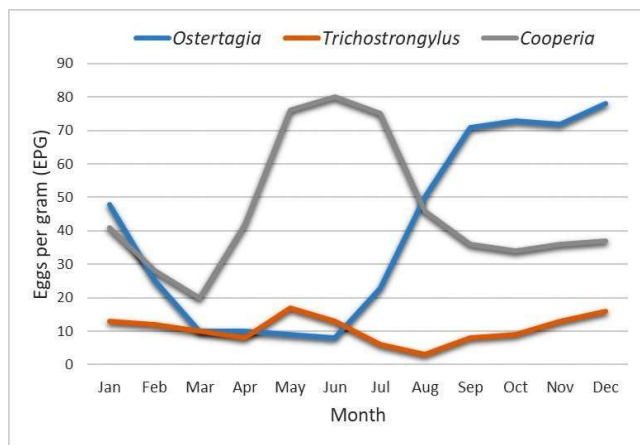
Even though there is a lot of feed around, pasture quality will be an issue as will worms, so imprint feeding becomes even more important to get lambs successfully off mum and quickly transitioned onto a supplement if high quality feed is lacking.

Drench at weaning and continue to monitor using WECs every 4 weeks. We've had cases this year with deaths within a month of drenching, so you can't drench and walk away assuming everything will be ok for a while. Even with long acting products, still need to monitor.

Cattle: worm management



- Small brown stomach worm (*Ostertagia ostertagi*) is the most harmful worm in our region
- *Cooperia* spp (Small Intestinal worm) is very common in young cattle and can be important at higher stocking rates
- Barbers pole worm of cattle (*Haemonchus placei*) has been found on some properties, especially eastern fall country
- **Young cattle are most susceptible**



Source: Wormboss

Ostertagia is still our major cattle worm. Infection is usually picked up in spring and early summer, producing loss of appetite, anorexia, a profuse watery diarrhoea and rapid loss in live weight.

Cooperia spp (Small Intestinal worm) is very common in young cattle and can be important at higher stocking rates. Often the most prevalent worm in larval cultures during winter. Can affect weight gain, especially in younger animals. As small intestinal worm eggs are typically 'strongyle type' and can be identified through a larval culture or DNA test.

Barbers pole worm of cattle (*Haemonchus placei*) is commonly found in Queensland and northern half of NSW where summer rainfall is dominant, but we are seeing more of it moving south post-drought with restocking and cattle coming down from the north.

Young cattle are much more susceptible to worms than adult cattle, so we really need to keep a close eye on stock under 2 years of age.

Cattle: worm management (cont'd)



- See Cattle Parasite Atlas (MLA) for region specific recommendations
- **Drench at weaning and move onto safe pastures** → paddock planning and preparation is key
- **Monitor using worm egg counts on cattle < 18 months of age**

Cattle parasite atlas (MLA website)

Calendar for worm and fluke control

Spring calving herds

Age group	Mar-May	Jul	Sep	Dec
Weaners	✓ Weaning	✓	(✓) May be required if previous drench was not an ML	✓
Yearlings/1st calvers	✓	(✓) Pre-calving		(✓)
2nd calvers		(✓) Pre-calving		
Adult cows	Adult cattle have strong resistance to <i>Ostertagia</i> – individual cows showing signs of internal parasitism (diarrhoea, weight loss and ill thrift) should be treated			
Bulls				✓ Pre-joining
Liver fluke control				
All weaned cattle	Fi		F	(Fi)

- ✓ Strategic worm treatment given each year
- (✓) Not a routine treatment. Indicators for treatment include scouring, sudden loss of condition and a condition score of 2 or less, especially if feed availability is less than 1,000kg DM/ha. Treatment will be more effective if combined with a change to 'low-risk' pastures, especially for young stock.
- Fi Both adult and immature fluke present – select a drench that kills all fluke stages
- (Fi) Adult and immature fluke present. This drench may not be needed on properties with a low fluke risk.
- F Only adult fluke present. Use a drench other than triclobandazole to help slow the development of resistance.
- ML Macrocytic lactone

Local Land Services

Liver fluke

- Ongoing wet conditions have been ideal for fluke
- Liver fluke = reduced weight gain in young stock, ill thrift/ illness & sometimes death
- Lots of fluke were produced in late summer and autumn and picked up by stock through autumn/early winter
- **Now (late winter/early spring) is a good time to do a preventative fluke drench** to reduce pasture contamination before the snails and fluke become active
- Watch for Ill-thrift and diagnose using:
 - Blood antigen test (ELISA)
 - Faecal antigen test (ELISA)
 - Faecal Egg Count



Photo: Liver fluke (*Fasciola hepatica*) from sheep (NSW DPI)



Photo: Sheep with bottle jaw (oedema) due to liver fluke (NSW DPI)

Ongoing wet conditions have been ideal for the host snail and fluke numbers have built up.

Sheep do not develop resistance as they get older, therefore fluke can affect sheep of all ages. Cattle develop natural resistance → disease is more likely in young cattle.

Just like Barber's Pole worm, the infective stages of fluke larvae (*Metacercariae*), which were produced in summer and autumn, will survive over winter, especially if moisture is present. So even if you've already drenched stock this year for fluke, they could still have picked up some fluke off pastures during winter and have fluke in them now, pumping out eggs onto pasture waiting for the right conditions to hatch >10°C min temp.

Now (late winter/early spring) is a good time to do a preventative fluke drench to reduce pasture contamination before the snails and fluke become active. Need to carefully read the product label as not all fluke drenches are effective against early immature stage. Note that resistance of liver fluke to triclabendazole and closantel has been reported and is becoming more common.

Summary



- The spring-summer period is looking very similar to last time around – La Nina will largely determine if the wet trend continues over summer
- Livestock health (worms, fluke, flies, feet etc) will be a bigger challenge this time
- **Regular Worm Egg Counts** will be critical (every 4 weeks)
- Pasture management will continue to be a challenge – short term needs vs setting paddocks up for the future

Grass Tetany Indicator



	Chance of Rain	Rainfall	Temperature	Warnings
Today	21%	0.4mm	1-12°C	
Tue	18%	0.4mm	-0-12°C	
Wed	8%	0.1mm	5-15°C	
Thu	96%	14mm	6-15°C	1294
Fri	92%	7mm	5-13°C	1204
Sat	88%	4mm	6-11°C	1195
Sun	49%	0.9mm	6-14°C	

- Potential exists to develop a 'Grass Tetany' warning in Farming Forecaster
- Warning system is based on soil temp (6-7°C) and air temp
- Warning appears = 'elevated' risk of GT
- Set up a 'pilot' in the TFS 'login' version of Farming Forecaster
- Establish a 'focus group' to road test the warning system in 2023

This concept is based on a MLA project in the early 2000s where two producer groups were established to trial a grass tetany warning system. Individual producers recorded soil temperature data and this data was analysed each week. Warnings were sent to the group if two properties were experiencing potentially dangerous weather conditions for grass tetany. The project was done over two seasons and appears to have been quite effective in reducing deaths from the disease.

Given that soil temperature is currently being measured and a local 7-day weather forecast is provided using BOM data, there is potential to develop an automated grass tetany warning system via Farming Forecaster. This warning would alert cattle producers when the climatic factors are favourable for Grass Tetany to occur, and hence entering an 'elevated' risk period.

Please note that we need to get approval from the Farming Forecaster committee before this type of project can commence, so at this stage we are just flagging the concept and gauging to see if the interest is there.