Northern Australia Climate Program

NACP case study

Central Queensland

May 2024

Producers: Kate and Geoffrey Urquhart

Property: Adelong Station

Location: Aramac, Qld

Property size: 53,000 acres

Enterprise: Beef cattle

Land type: desert uplands (13 different land types identified)

Average rainfall: 450 mm

Soil type: sandy loam

Main pastures: Buffel, spinifex and native grasses

Key message:

'The NACP provides a connection for us with the climate forecasts and specialists to meet the needs of our grazing business.'

Climate information helps build a sustainable grazing business

Kate and Geoffrey Urquhart run a beef cattle breeding enterprise at Adelong Station, near Aramac, in central Queensland. Kate and Geoff moved to Adelong - a 24,450 hectare property in the desert uplands – in 2019. Since then, they have been busy re-fencing to land and pasture types and providing additional watering points to enable them to better manage stocking pressure, pasture utilisation and cattle movement around the property. They have also been controlling an infestation of rubber vine and paying particular attention to groundcover in areas susceptible to erosion.

Production on Adelong is based on a Brahman x Red Angus breeding herd with weaners sold off the cows. Part of their operation involves bringing in bulls from southern states to be able to breed progeny that meet the demands of the domestic market.

Kate says their core aims are threefold: to run a profitable economically viable business; to improve the condition of their cattle; and to maintain grass and groundcover. She adds, *'You can't have a successful grazing business without improving the land.'*

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Northern Australia Climate Program

About NACP

The Northern Australia Climate Program (NACP) is a partnership between the Queensland Government (through the Drought and Climate Adaptation Program), Meat and Livestock Australia and the University of Southern Queensland (UniSQ) to help red meat producers in northern Australia to manage drought and climate risks. A core component of the program is the 'Climate Mates' initiative, which employs and trains local climate extension experts who are connected through the program to leading climate science researchers at UniSQ, the Bureau of Meteorology (BoM) and UK Meteorological Office.

The NACP Climate Mates have two key roles: to 'translate' the best available climate information for the local regional context to help producers make informed decisions; and to pass feedback from producers back to researchers to ensure research and product development is targeted to producer needs.

Regional NACP Climate Mate, Vicky Mayne, says '*I met Geoffrey and Kate in 2021 at a Barcaldine Community Outreach Event, where we connected over climate discussions and, unexpectedly, red wagyu genetics. Since then, they've actively engaged in NACP workshops and played a pivotal role in piloting a Profitable Grazing System package. One highlight was linking them with the NACP research team to address thermal risk management when transporting bulls from Victoria to Aramac during volatile seasonal conditions. Assisting Geoffrey and Kate in integrating climate forecast skills with their expertise has been deeply fulfilling for me, both as a Climate Mate and a producer*.'

Climate Awareness & understanding

Geoff and Kate view the NACP as a valuable resource, offering comprehensive information and support regarding climate forecasting and its implications for decision-making in grazing businesses such as theirs. They particularly appreciate the role that Vicki Mayne plays, as their local NACP Climate Mate. '*There is a tremendous amount of valuable information coming through the program, and having Vicki there to help is great if you need to find something. It's all been very helpful.*'

Geoff notes that, although his perception of climate forecasting and its value in their decision making probably hasn't changed much, he now feels more informed and equipped to delve into weather-related data and check what's likely. '*I followed weather stuff before. But I'm a lot more informed now than I was.*'

Kate also says that being part of the NACP has given them a better understanding of the climate drivers. She says '*There's a lot of noise in climate forecasting coming from multiple different forecasters. That's a challenge and it was definitely a challenge when I didn't understand the drivers as well as I do now. If I want it to rain, I can probably find a forecaster out there that's telling me it's going to rain. The challenge is finding the forecaster I trust, but understanding the drivers so I know why I'm trusting them.*' Both Kate and Geoff say that the support provided by NACP facilitators such as Vicki has helped bridge the gap between the availability of complex climate information and its practical application in decision-making. Kate emphasizes the importance of having a go-to person to decipher technical jargon and provide tailored advice. '*So, we can say Vicki is a connection for us between the forecasting specialists and us being able to run our business. It's been really helpful in that space to meet our needs, to meet the needs of the grazing business.*'

Last September, Vicki also played a major role in relaying critical information, on wind direction, wind speed and temperature, to Kate and Geoff when they were faced with fighting a fire on their northern boundary. '*It ended up burning 200,000 acres. So, it was quite a substantial fire. When you're on the fire front, we don't have any service out there or anything like that. So, to be able to communicate through two-way radio and have Vicki keeping an eye on stuff in the background. Personally, that was great.*"

Climate risk decision-making

Kate and Geoff primarily use the ENSO (El Niño-Southern Oscillation) and MJO (the Madden-Julian Oscillation) to support their decision-making. '*Currently, at this time of year, being in that autumn unpredictability gap - right now we have grass, we've had rain, so we're not pushed for really wanting to know what's coming because we're OK. But in the next six months we will look more closely because that's our dry and the weather patterns will start to show something after the next few months … so, coming up, in the next few months, we will look at the ENSO - I know the other drivers have an influence, but the ENSO is the one I understand the most. And since the workshop, I'm hearing weather forecasting from a number of different avenues, and I've gone particularly to the ENSO to check the ocean temperatures to see if that matches - to get a feel.*'

Geoff says '*If it's the rainy season and it is raining, we won't panic too much about watching what's going because grass is growing in the paddock and all that sort of stuff is looking good. It's more when it's dry season and the rain hasn't come, so, then you might start looking. If you're coming closer to your green date and if they're not predicting any rain, you start watching monthly and bi-monthly to start making decisions or plans if it hasn't rained by a certain time.*' Kate adds that '*The green date – it's a point that you've sort of got to get serious about watching what the weather's doing and what we're doing with management. It's a point in time to think about decisions, and our potential … the numbers we're carrying and the grass that we have. It's a certainly a trigger point to start doing something if it hasn't rained, because what that will do to us is shorten our growing season. We will not grow as much grass. So, we monitor the seasons as they come.*'

Short-term forecasts also play an important role in operational decisions on Adelong. '*If we've got a chopper booked and contractors booked to muster, we are looking at the short-term forecast to make sure we're the dodging a heat wave or rain.*' And when they bring in bulls from Victoria or NSW, Kate and Geoff say they consider temperature differences between locations and the impact on animal welfare during transportation. '*There's a fair change of environment from where they're living or growing up to where they end up here. So, just to trying to do the best by them without damaging them.*'

Geoffrey and Kate proudly show NACP and MLA gains made in pasture renovation since taking over Adelong (May, 2022)

Triple bottom line

Kate and Geoff feel that climate services such as the NACP can play a critical role in their grazing business. Kate says that '*Climate forecasting is a vital part of a grazing business, and having someone like Vicki in place benefits me - I may not know the full extent of that, but having that person - that support - to fill the gaps that I can't fill myself is as important as having my bank manager there to go to. It's part of my bigger support team that makes me run a better business*.'

In Kate's view, participating in the NACP training has empowered them to better understand climate-related information, reducing stress and increasing their confidence and ability to link climate insights to business decisions on Adelong. '*It has reduced stress. After completing the course with Vicki, we were more aware of what we can look at in the climate space and how we can link it to our business. We're still in the early stages and Vicki's been holding our hand … the sessions with Vicki have given us a bit more knowledge to take forward and to start to understand different things ourselves, but it's still really good to have that point of contact when we need it*.'

Geoff says that climate forecasting also provides an important tool that helps them to plan controlled burns, which allow them to optimise pasture growth, and ultimately improve the condition of their breeders and weaner growth rates, translating into increased profitability per head. '*In terms of economic benefit, that's all going to have a flow on effect which means more dollars per head at the end of the day – so, it does boost your confidence that what you're doing is right*.'

He adds that '*Technically, we're grass growers and beef is the extra output, so any tools that can assist us in giving a little bit of direction with what's potentially coming in the space of rain or dry that influences the grass, that then has a flow on effect. Particularly in our sense - we're a breeder operation, so our breeder condition, the potential of cows in calf - all of it will flow on to our bottom line and our cash flow. So yes, for me, it's a tool – but a tool that does have an effect – a fairly big effect in an economic sense - in the business. I can't put a price on it at this stage because there are too many variables, but it does have an effect - you know it has a value there*.'