

Northern Australia Climate Program

NACP Case study

Southern Queensland
March 2020

Subject: Darren Marshall

Property: Mount Sturt block

Location: Warwick, Qld

Size: 100 acres

Enterprise: Beef cattle breeding

Breed: Black Angus

Herd size: 20 cows plus calves

Key message:

Combining seasonal climate forecast information with an understanding of the amount of pasture available and the potential for pasture growth over the coming season provides a good indication of safe carrying capacity for grazing livestock.

Using climate forecast information to inform grazing land management decisions in Southern Queensland

Southern Queensland beef cattle breeders, Darren Marshall and Jenny Cooper, run two properties – a 100 acre (40 ha) farm at Upper Freestone to the east of Warwick, where Darren and Jenny live and work, and a 165 acre (67 ha) property on Concertina Creek near Glen Innes in NSW, where Darren grew up.

Severe drought conditions in southern Queensland prompted Darren to contact Climate Mate, Paul Webb – employed through the [Northern Australia Climate Program \(NACP\)](#) – to discuss his options following receipt of a mailout of the [NACP monthly outlook](#) and regional interpretation of climate and pasture growth outlooks.

Paul and Darren discussed the forecast information for rainfall and pasture growth for both properties. Based on this, Darren made the decision to move most of his cattle to the Glen Innes property where the seasonal outlook was more favourable.

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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 (USQ) to help red meat producers in northern Australia 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 the USQ, 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.

Paul Webb, Climate Mate for Southern Queensland, says of the role 'It's a big responsibility but also very exciting for us to bring world class climate information to people I regard as world class land managers.'

Goals

Darren and Jenny's farm near Warwick is a long westerly facing slope, comprising 15 acres of scrub, 15 acres of Queensland bluegrass grassland and 70 acres of sloping country, which is contoured and has been continuously cropped - growing sorghum in summer, and wheat, barley or chickpeas in winter. Darren and Jenny plan to turn this cropped area back to pasture and to then be able to comfortably run 20 Angus cows and calves; however, the severe drought conditions experienced since the property was purchased meant these plans had to be placed on hold until recently. Rains finally fell in early 2020 in an intense rainfall event, resulting in significant soil erosion on the contoured cropping country, which required remediation. Darren says 'I just want this all back to pasture and covered, then I don't have to worry. Then those big rainfall events are all just good. Because it's really good soil.'

Darren's overall goal is to be able to turn off 40 calves and 'just run it at a rate that it's not creating work because I've got another job. And so I don't need to be running hay out and feeding and doing all of that sort of thing. I'd like to have it set up just as a small, nice sustainable herd of 40 cows across both.'

Challenges

Darren says that their biggest challenge is 'that climate stuff', but that he thinks having the two properties provides him with some options: 'If you're running into a drought season up here or down there, you've got the other place as a bit of a backup if it's in better condition. So, it's just that climatic stuff.'

When asked about the challenges of operating across the two regions, Darren said that, while he's confident about 'the cattle side of things ... the genetics and all of that', he is less so about 'handling the environment in the two different situations. Because they're so different and that's why talking to Webby has been so valuable.'

In the longer term, Darren says the key decision for them will be to balance where their cattle are - to decide which property to stock or destock. 'The plan is to have both places set up so that there is no feeding and the costs of production are minimal. Just being smart about the stocking rate.'

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Links with the NACP

In terms of using seasonal climate forecasts to help in his decision making, Darren says 'It's very early days for me. I was exposed to it through Paul and I want to learn about it.' He said that he and Paul discussed the [Forage report](#) for the property and the seasonal climate outlook for both regions, and that this discussion helped to confirm the decision, in 2019, to move all but a few of the Warwick cattle to Glen Innes, where his parents run a neighbouring property.

Darren said that while they had set up the Glen Innes property so that they would never have to feed through winter, 2019 was such a dry year that they had no choice. 'Concertina Creek ... it's never been dry since my grandfather owned it. That's 100 years ... it was dry that year.' He estimates that they spent about \$4,000 to keep those 30 head alive through winter. However, he was also confident that those costs would be recouped when the weaners were sold.

Actions taken

Darren and Jenny's decision to move their cattle and subsequently also their pasture planting decisions were informed by a combination of climate outlook and pasture advice. Darren is now optimistic about how such climate forecast information will continue to aid his operation. 'To have that prediction, you're actually a bit more informed. You can, hopefully, be one step in front of what your natural gut feeling decision might be.'

He thinks the climate forecast information will be useful as a tool to 'maybe give us a little bit of a head start to make some decisions, even if it's just down to how many heifers to keep each year or how many to cull if it's going to get worse. Let a few more of the older cattle go. We sell them at 10 anyway but you can drop it down, if you know you're coming into a tough time or not keep as many heifers. Those types of things that get you on the front foot about what potentially is coming.'



Darren and Southern Queensland NACP Climate Mate, Paul Webb, discuss seasonal climate and pasture productivity

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Impacts and benefits expected

According to Paul, what was really important for the Warwick property and the decisions Darren made is that the climate outlook did not, on its own, provide the best picture of likely carrying capacity for the property for that season. Due to the extended drought at the time, the [Longpaddock Forage](#) and [AussieGrass](#) reports for the property showed that dry soil profiles meant the pasture growth outlook was much less optimistic than the rainfall outlook. However, using these products in combination gave a more comprehensive picture and led to some good decision-making.

Paul also said that the relationship he and Darren had established from early discussions meant that there was a shared understanding of the climate and pasture information and of Darren's operational environment, which meant that he was easily able to provide ongoing support. Of this interaction, Darren said 'The information Paul shared was really beneficial; it helped me to make decisions as to where to move the cattle and when. It's meant that a few months on, things are back on track and looking really good.'

Relevance to others

Combining the seasonal climate forecast information with an understanding of the amount of pasture available and the potential for pasture growth over the coming season, provides a good indication of safe carrying capacity for grazing livestock. Climate Mates can assist producers in their area to better understand the regional drivers of climate variability and provide a point of contact for informed discussion and a sounding board, where needed, for climate sensitive stocking and land management decisions.

