

Northern Australia Climate Program

NACP case study

Southern Queensland

May 2024

Producer: Glen Beasley

Property: Harsten

Location: Chinchilla, Qld

Property size: 600 ha

Enterprise: Cattle breeding for domestic and export markets

Land type: Brigalow melonhole country

Average rainfall: 600 mm

Soil type: Heavy clay & some fringing to lighter country

Main pastures: Native blue grass, fine cut Rhodes, Bambatsi, Bisset creeping blue, Premier Digitaria.

Key message: *'Competency in understanding forecasts and reading the season on the ground as it unfolds is very important.'*

Breeding cattle and managing grazing country to build resilience

Glen Beasley runs a cattle breeding enterprise on his 600 ha property, 'Harston', at Chinchilla, in southern Queensland - in collaboration with his son, Mark, who owns an adjoining property, 'Kaleula Park'. Harston is Brigalow melonhole country, with dominant pasture species comprising native blue grass, fine cut Rhodes, Bambatsi, Bisset creeping blue and Premier *Digitaria*. Soil types are heavy clay with some lighter country and average annual rainfall is 600 mm.

Glen says that the benefits of being where they are include proximity to markets and the ability to access off-farm income, while the challenges are that they are too far south for reliable monsoon rains but too far north for reliable winter rainfall.

Glen is well aware of the risks posed by climatic conditions to his enterprise. He says *'I look at breeds and review the genetic component in cattle with the view to their tolerance of extremes in climate. I already have that factor built into my breeding herd with a small component of Bos indicus in my animals that I believe will add resilience and toughness.'*

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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 (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.

NACP Climate Mate, Vicki Mayne, says *'Glen breaks the stereotype that "you can't teach an old dog new tricks." His eagerness to understand climate drivers, seasonal variability, and how future trends may impact on his livestock enterprise is impressive. Working with Glen has been a joy, particularly spending an afternoon to help him navigate the Bureau of Meteorology website and discover forecast tools like 'Chance of at Least' and MetEye's Text View option. His enthusiasm for integrating these resources into his grazing business and into his role as a volunteer Rural Fire Warden has been truly inspiring. Sharing my Climate Mate knowledge with dedicated producers like Glen has been incredibly rewarding.'*

Climate Awareness & understanding

Glen says that his understanding of the climate in his region has improved since he started interacting with the NACP in October 2020. *'NACP has given us good background information on the drivers of Australian climate and how they interact, and also in the area of future trends. As a tool, climate information is certainly beneficial. I find it totally engaging and totally relevant.'* He says that an important element of the NACP is that it has also given him the confidence to now go on and chase down further information.

According to Glen, the NACP is *'very good at providing background information to inform decisions that we all make year round based on a number of issues - time of year, soil moisture levels, feed quantity and quality - and of course gives an eye to likely outcomes.'* In particular, he endorses the NACP's emphasis on preparedness, including being 'rain ready' or 'production ready,' as particularly valuable. However, he underscores the importance of integrating climate information with on-ground monitoring to make well-informed decisions. *'It's part of a composite. It has to be used alongside the on-ground monitoring of seasons as they unfold.'* He emphasizes the importance of understanding factors like subsoil moisture levels,

grazing management, and soil history in assessing drought or drought preparedness, and says he is cautious about basing decisions solely on the forecasts due to their probabilistic nature

One of the most significant insights from the NACP for Glen revolves around future climate trends and the implications of heat stress, especially for cattle, and its potential to have multi-generational impact through epigenetics¹. *'It's doubly disturbing that, when that stress takes place, this is potentially going to have an impact through several generations. That's something that's of enormous significance to the industry.'*

Overall, Glen recognises the value of climate information in agricultural decision-making, but he advocates for a balanced approach that combines climate forecasts with on-ground observations and management strategies tailored to individual properties. *'I'm a very strong believer in developing the capacity to interpret the season as the season unfolds. Now there's a point at which, yes, the broad trends - as shown in the NACP drought monitor, for instance - are important, but it is really how I am travelling personally on my block of land at this particular point in time. I think that's square one - that's where we should be starting.'*

1. Epigenetics is an emerging area of understanding how the environment and experiences can cause changes that affect the way genes work. There is increasing evidence that these changes can be passed down through generations.

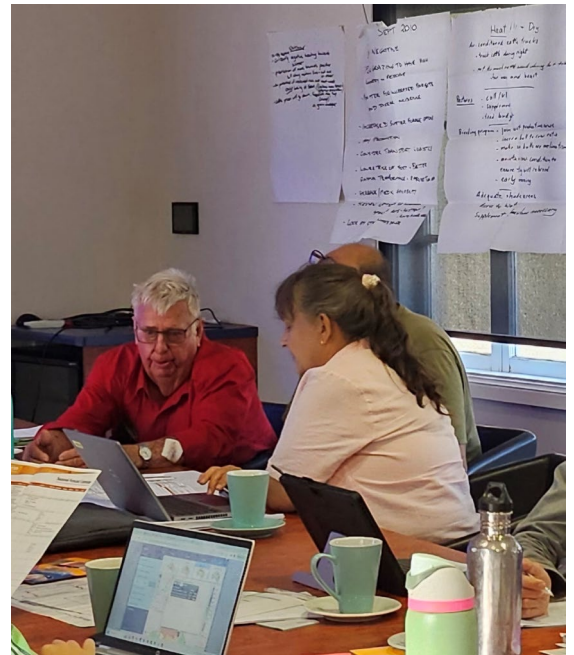
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Climate risk decision-making

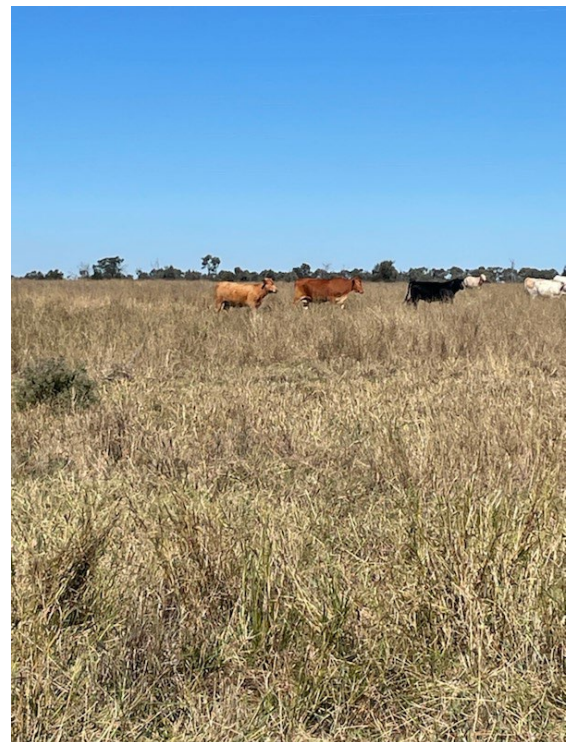
The NACP has raised Glen's awareness of the risk around heat stress in livestock. He says that this has prompted him to prioritize shade provision in stockyards and to reconsider management practices related to mustering and loading. *'So, for me personally, shade is a big deal. We've generally always had quite good tree growth in and around stockyards, but in recent years some of those trees have not survived, so one of the pressing issues in the immediate future is surrounding shade and taking on board issues around air movement, humidity and positioning of shade facilities. And we also have to be prepared to think a lot more critically about how we muster, when we load.'*

Glen says he has also thought a lot about the issue of rain readiness, which he feels is tied up with pasture condition. *'Climate forecasting goes hand in hand with many on-ground management decisions and NACP has made that clear. To me, being rain-ready is about being production-ready. So how do we measure this? I think we measure it by looking at our pasture stands and assessing how much top cover we have on the stand, how much mulch we have on the ground. How resilient is that all-important tussock down at ground level? I think resilience is essentially bound up in the strength of the tussock down at the bottom of the of the pasture stand.'*

Glen also says that his region relies predominantly on summer rainfall to sustain vegetation through the winter and into the following spring and that, by managing his pasture to promote early growth, he is able to extend his green date and ensure a more productive and resilient system. *'I think this is where the rubber hits the road - coming out of winter for us. This is of critical importance. If our effective growing season were limited to only the end of January, it is a precariously short growing period to carry us through the rest of the year. Anything we can do to extend that effective growing period is highly significant. If we're coming out of winter with still a strong tussock and top cover that hasn't been grazed into the ground through winter, we can, through management, extend that out so that we are already making progress in new season growth on the back of existing tussocks that still have green in them, still have the leaf in them, then we're going to make a huge difference and I think it's one that has enormous significance.'*



Glen in discussion in a recent NACP workshop



Climate resilient pastures on Harston

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Triple bottom line

For Glen, the training and climate services provided through NACP mean that he is both more informed about the drivers of climate and how those can be interpreted, and also more confident to now search out more information digitally. In terms of impact for his enterprise, he says that *'Working with the NACP has shown up, in my thinking, the need to think critically about every aspect of what we do ... to think creatively in how we're going to go forward in what are going to be challenging times and to work with nature as best we can.'*

In Glen's view, concerns about higher levels of climatic variability in the future mean that building climate resilience into his enterprise is more important than ever. *'We've got to act pre-emptively in many ways with the management of stocking rates and pasture ... to manage pastures in such a way that we have probably more wiggle room than we're used to having up our sleeve to manage extended dry periods and maybe peaks of wet periods too.'*

The recent conversation about heat load and heat stress in livestock and managing cattle in the yards, particularly at weaning, for heat and also chill, had a big impact on Glen's thinking. As a result, he is now working to provide additional shade structures in his yards and says that, in planning his intensive weaning, *'We'll certainly be looking at what the forecasts are telling us, largely as a result of that conversation.'*

In terms of his marketing strategy, Glen says he has a number of options if seasonal conditions are difficult. These include to market the progeny before they are weaned, sell them as weaners, or sell into the domestic market at 300 kg, rather than grow them out to export weight at 400 kg. *'There is a lot of wiggle room here to utilise feed or not utilise feed but have bailout options all along the way to go with erratic seasonal conditions. This is where competency in understanding forecasts and reading the season on the ground as it unfolds is very important.'*

