Impact of climate variability on the red meat processing industry

AMPC Conference 2016 – The Vital Ingredient

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Building a better working world

Overview

Outline of the project

Our climate now and into the future

Event analysis and technology

Outline of the project

- Phase 1 – National Exposure and Resilience Appraisal
- Phase 2 – Risk Assessment – Supply Chain
- Project Hold Point
- Phase 3 – Detailed Risk and Opportunity Quantification
- Phase 4 – Risk Mitigation and Adaptation Strategies
- Phase 5 - Information Extension Program – Online Portal

Event Analysis – Strength of Case Studies

Case study:
Reducing financial losses during times of extreme weather events

Region: Murray Bridge, South Australia
Supply chain stage affected: production of stock and end-users
Climate vulnerabilities: Extreme weather events such as droughts, extreme hot days and floods
Impacts: decline in production stock, decline in stock growth and health

Resilience initiatives undertaken:
- Upsizing feedlots (refer to case study '*use of feedlots as a resilience mechanism*')
- For smaller livestock, purchasing increasing numbers of sheep "over the hook", whereby producers deliver direct to the abattoir.

Image source: ABC 2016

Case study:
Use of feedlots as a resilience mechanism

Region: most regions in Queensland
Supply chain stage affected: production of stock, processing operations and end users
Climate vulnerabilities: Extreme weather events such as droughts, extreme hot days and floods
Impacts: stock fatalities and infrastructure damage, fluctuation in grain prices (poor growing seasons)

Resilience initiatives undertaken:
- The use of feedlots by processors to ensure consistent supply of stock
- Feedlots provide processor's with ample control over the timing and method of suitable slaughter weight.

Image source: MLA2016

Case study:
Geographic relocation

Region: King Island, Tasmania
Supply chain stage affected: production of stock
Climate vulnerabilities: Prolonged drought and its frequent occurrence
Impacts: decline in production stock, decline in stock growth and health

Resilience initiatives undertaken:
- Business owner moved farm operations from Darling Downs, Queensland to King Island, Tasmania to reduce impacts to livestock in drought - stricken environments
- The new environment has a higher carrying capacity of the land
- Change into producing 'King Island Beef', a premium brand that consumers consistently pay higher prices for.

Image source: https://www.wursthaus.com.au/products/meat/king-island-beef.htm

Case study:
Addressing water supply during a drought

Region: Warragul, Victoria
Supply chain stage affected: production of stock and processing operations
Climate vulnerabilities: Prolonged drought, reduced soil moisture and runoff
Impacts: decline in water resources especially in relation to the processing operations

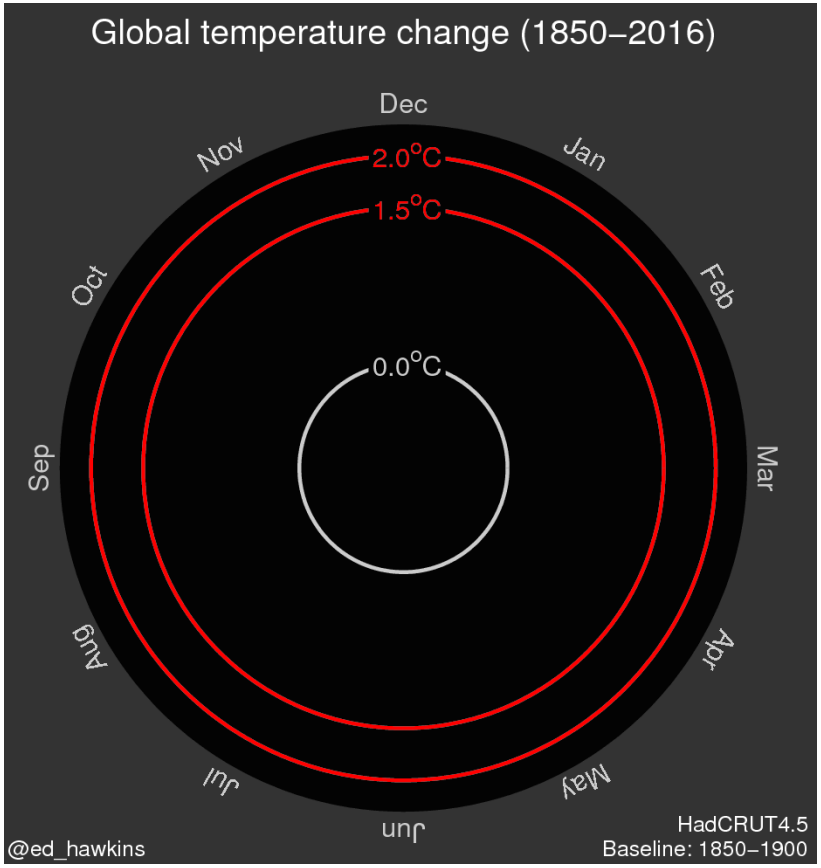
Resilience initiatives undertaken:
- Installation of an ultrafiltration system that recycles majority of the wastewater used at the processing plant
- The refrigeration plant has been modified to capture all defrost water leading to energy efficiencies I the plant's cooling towers.

Image source: AusIndustry 2010

Our climate now and into the future

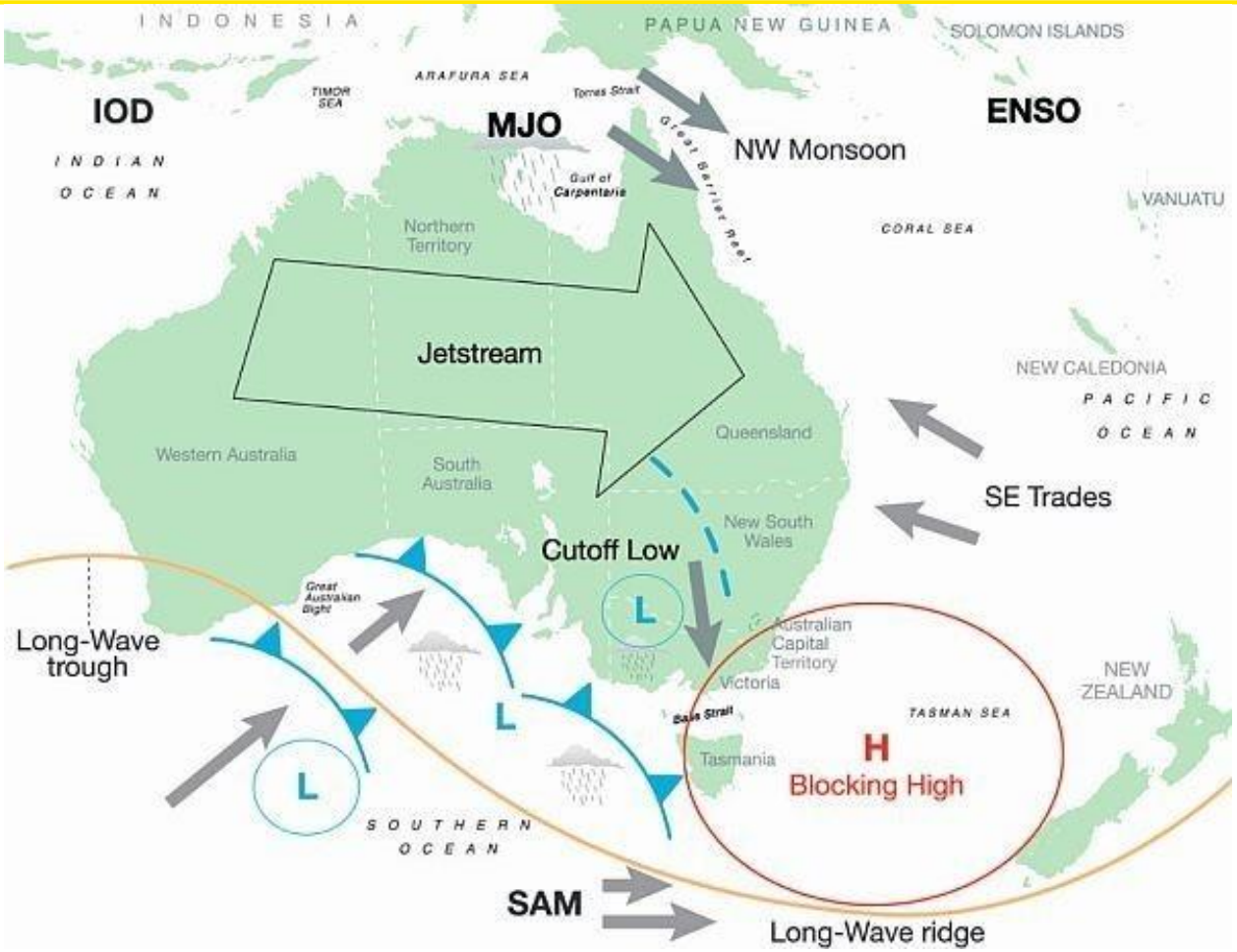
- The climate is changing and that change is accelerating.
- How the changing climate will impact on Australia's local industry is important.
- Most shocks to the industry are due to the strength of Australia's local weather drivers.
- In the short to medium term, a significant amount of localised research is required to not only understand, but predict the behaviour of these drivers.

Our global climate - what's changed and how quickly?



Ed Hawkins (University of Reading)

Australia's climate drivers



Schematic representation of the main drivers of rainfall variability in the Australian region. SOURCE: Risbey, J., M. Pook, P. McIntosh, M. Wheeler, and H. Hendon 2009: On the remote drivers of rainfall variability in Australia. {Mon. Wea. Rev.}, {137} (10), 3233--3253.

Event analysis and technology

- Event analysis and learnings from the past drive opportunities to build resilience. Currently Australia is undergoing a re-herding cycle as a result of stock loss due to a lengthy drought period in Queensland.

- This analysis needs to captured and linked with a future response under our changing climate.

- Technology is a big unknown in relation to its support of the industry – logistics has seen some rapid changes.

Thank you

Questions?

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