



Information
when you need it

Information Sources for decision making

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Cotton Info Narrabri



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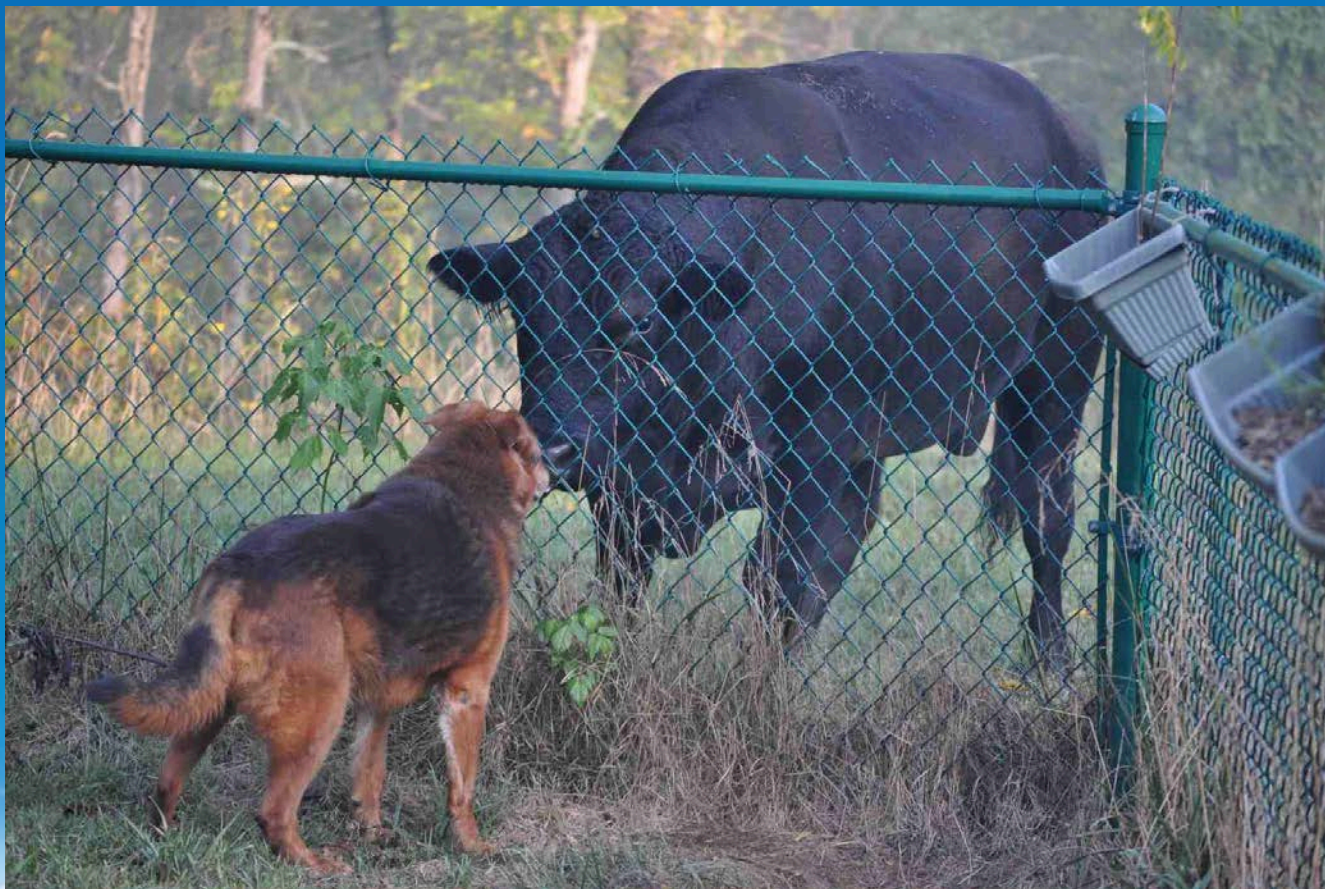


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End user vs Science/Research



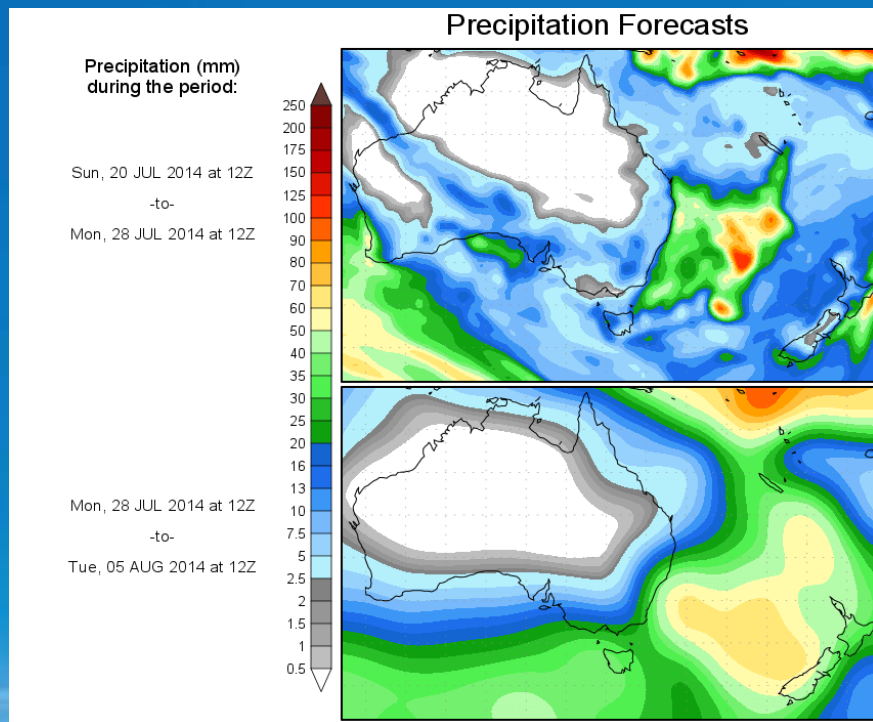
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What's your climate risk strategy?



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Perspective with decision making



Risk management event



Potential information source



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Agenda

- A risk management plan
- Overview & the moisture balance sheet
- Cotton Info; what we're doing



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1. Know your location?

What indicators drive your rainfall & water harvesting and when?

What's changing with your rainfall?

Do you know your monthly rainfall reliability?

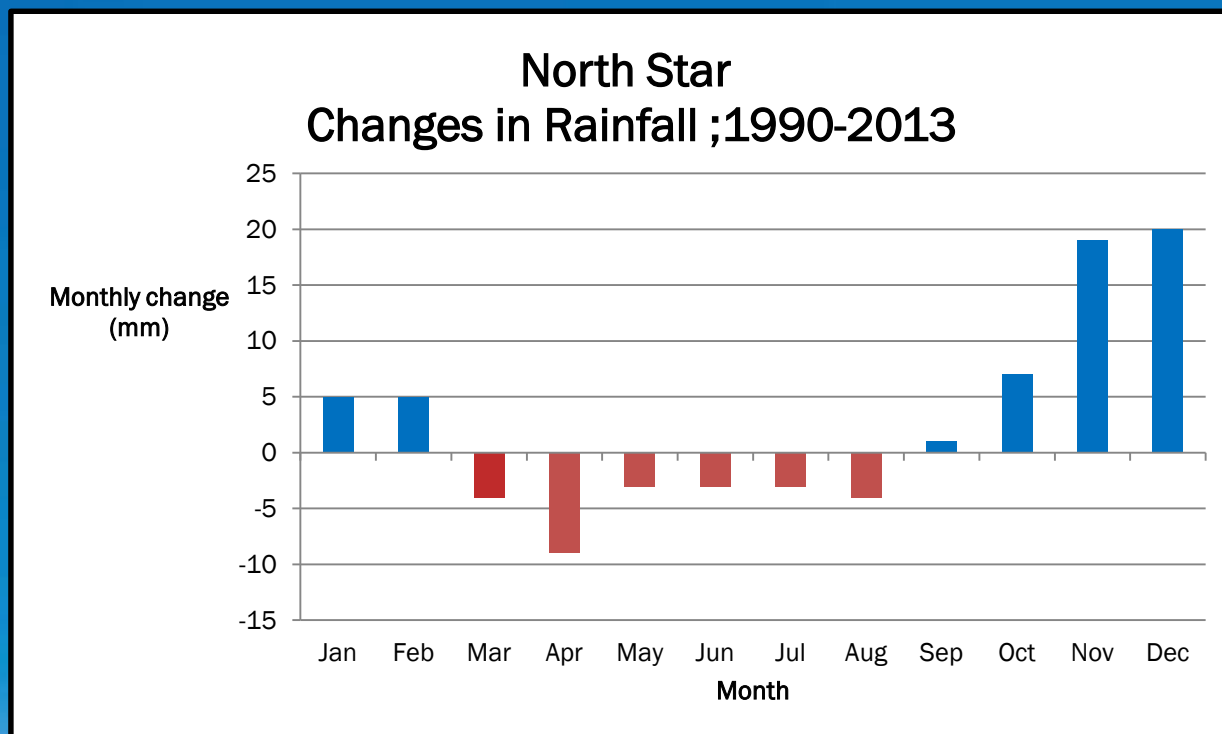


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What's changing in your district?



Northern cropping region rainfall becoming more summer dominant



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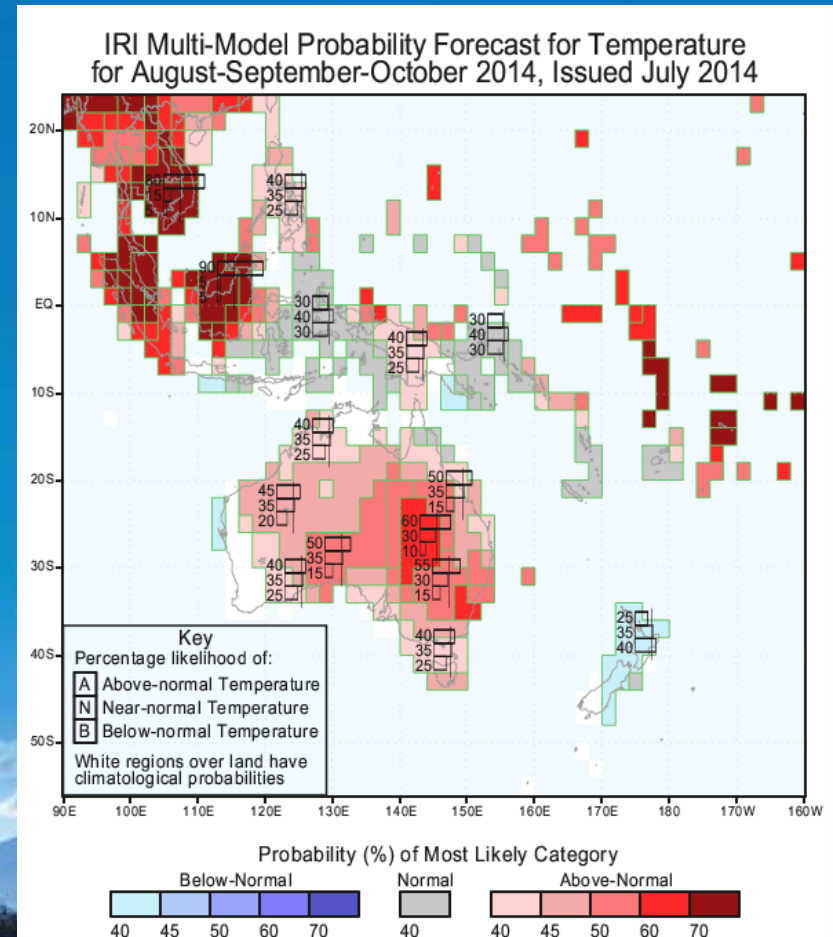


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2. Using GCM's: Seasonal (3 month) Outlooks

Vital to survey temperature outlooks together with rainfall

Due to temperature increases post 1970, droughts are occurring faster
(Ummenhofer 2009)



USER Beware: ENSO signals affect model accuracy



Recent research suggests GCM's rainfall accuracy is heavily influenced by the strength of the ENSO signal. I.e. El Niño/neutral/La Niña
Stone (2014)



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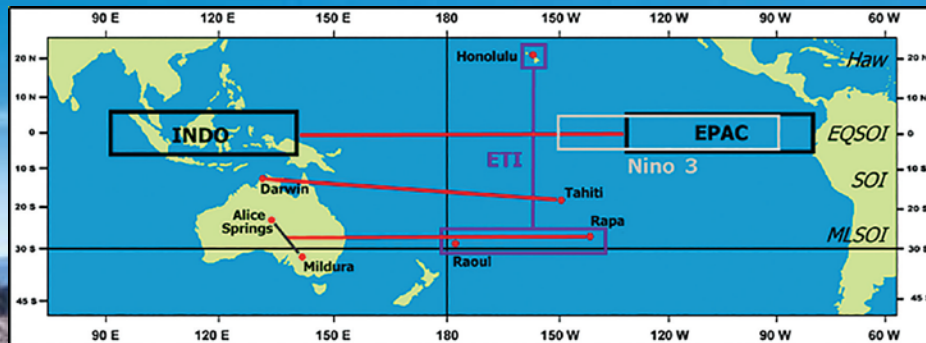
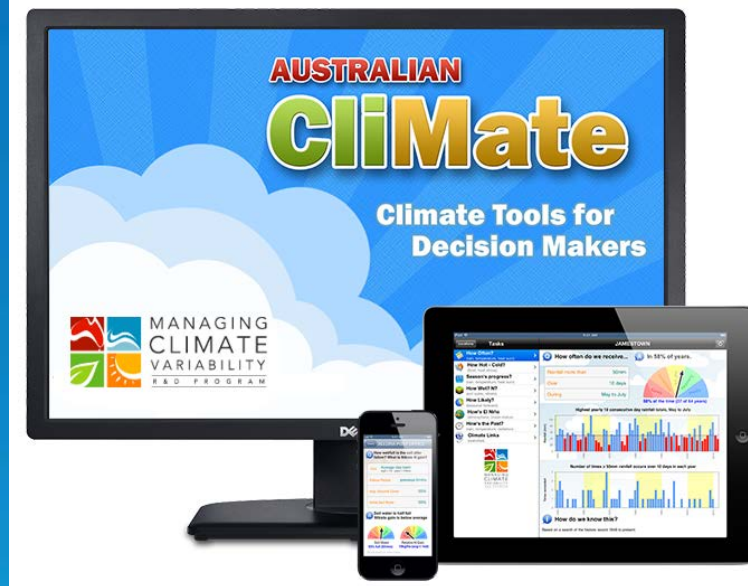
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3. Statistical Models

Probability based on
historical distribution/Stats.

1. CliMate App.

2. AEGIC “Analogue year”

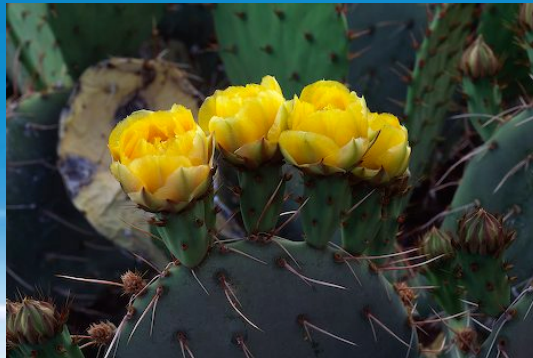
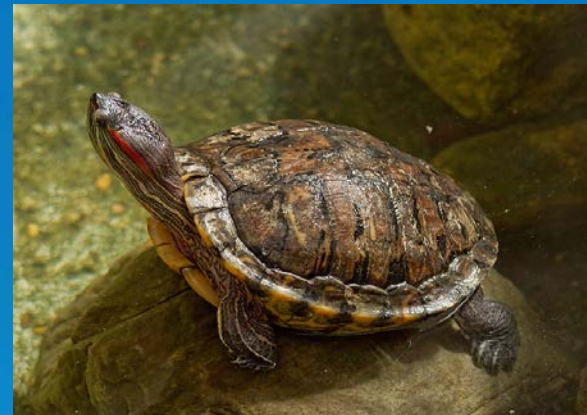


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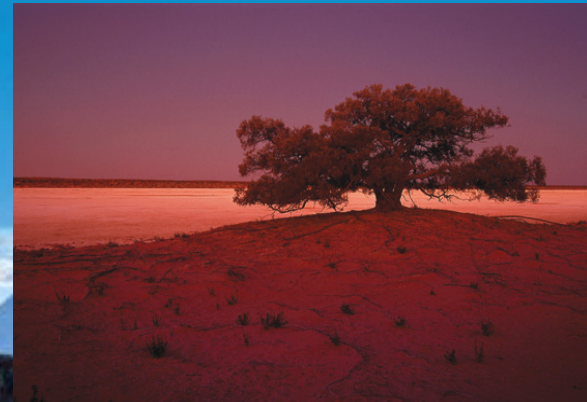


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4. Phenology – What's changing around you?



Bustamante, (2008)



Evans, (2010)

Building A Climate Risk Plan

1. Know your location; What drives your rainfall & run-off, What's your reliability, how does ENSO affect you?



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GCM's: Rain & temps

2. Consider seasonal GCM's; Rainfall and Temperature Outlooks, identify trends of a number of reputable models

1. Know your location; What drives your rainfall, What's your reliability, how does ENSO affect you?



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Historical Models

3. Statistical models; What does history say?
Analogue year, CliMate

2. Consider seasonal GCM's; Rainfall and Temperature
Outlooks, identify trends of a number of reputable models

1. Know your location; What drives your rainfall, What's your reliability, how
does ENSO affect you?



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Watl, 10 day, indicators and nature

4. Phenology; what's changing around you? Consider multi-week, 0-14 day guidance & indicators
eg.SOI raw data

3. Statistical forecasts; What does history say?
Analogue year, CliMate

2. Consider seasonal GCM's; Rainfall and Temperature Outlooks, identify trends of a number of reputable models

1. Know your location; What drives your rainfall, What's your reliability, how does ENSO affect you?



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DIY: Moisture Balance Sheet

- Consider current moisture reserves and projected S & D



Moisture Balance Sheet	
\$ Assets (+)	\$ Liabilities (-)
Stored Soil moisture (+mm)	Evapouration from fallows (-mm)
Water allocations (MI/Ha)	Losses from dams and channels (-MI)
Predicted seasonal rainfall (+mm)	Predicted seasonal temperature anomalies (-mm)



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DIY: Moisture Balance Sheet

- Look at information regularly



Moisture Balance Sheet	
\$ Assets (+)	\$ Liabilities (-)
Stored Soil moisture (+mm)	Evapouration from fallows (-mm)
Water allocations (MI/Ha)	Losses from dams and channels (-MI)
Predicted seasonal rainfall (+mm)	Predicted seasonal temperature anomalies (-mm)



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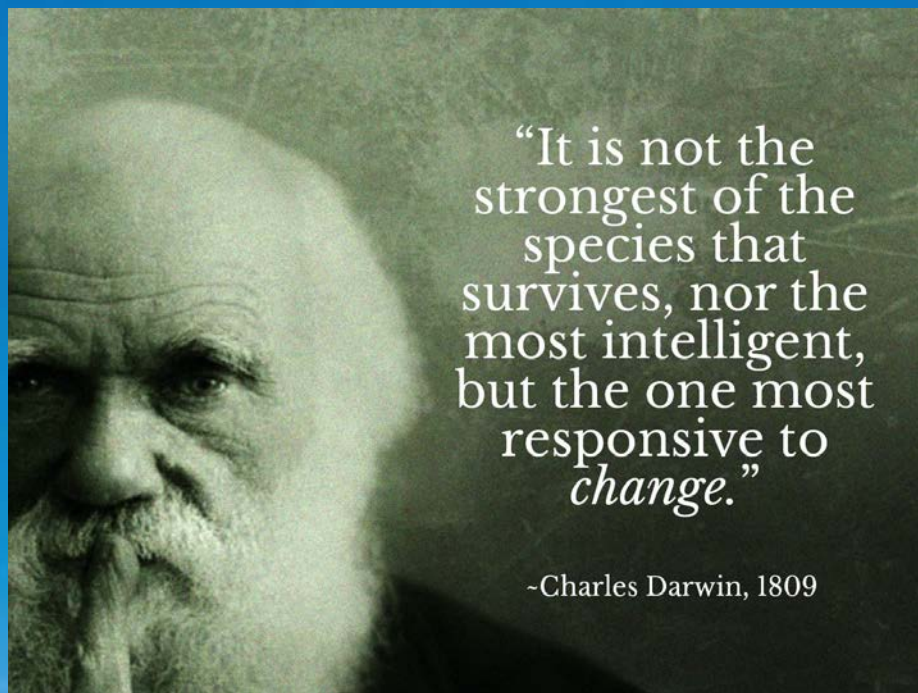


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Cotton Info – Our aim

Optimal
resource use
efficiencies on
farm; through
good decisions

Adaptation;
improve
resilience and
sustainability



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Cotton Info – What we're doing

Local Analysis; 52
Towns from
Emerald to Swan
Hill (TBA)

Statistics on
climate drivers,
rainfall reliability,
runoff & climate
change



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Cotton Info – Climate updates

- Webinars – Climate run-through
- E-news: ‘Moisture Manager’
 - Fortnightly model & indicator summaries



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Climate Risk: A step closer to confident decision making



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