

A photograph of two beef cattle in a field. The foreground cow is dark brown with a white head and neck, facing left. The background cow is also dark brown with a white head and neck, facing right. A wire fence is visible behind them, and the ground is dry and grassy.

Beef Cattle Case Study

Week 6

Administration

- Don't forget peerwise each week
- This week is next short quiz and questions may include any material up to the end of the case study today
- Mid Semester quiz week 8 (after Easter break)
- I will have more information on EMS post Easter

Exercise 1 – sudden loss of market

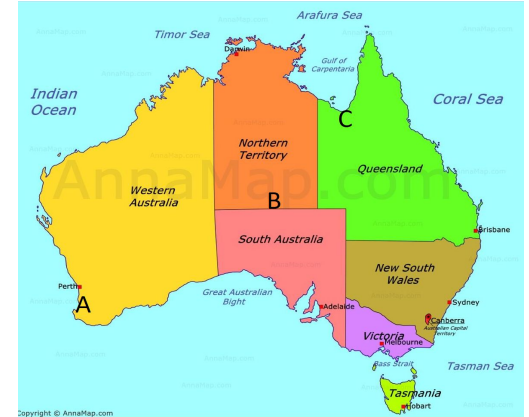
- Example – immediate suspension of live export trade, essentially due to loss of social license (from government perspective)

What options would the property manager have to manage this situation if they are unable to sell the normal draft (group) of animals they would send to Indonesia via live export?

What is the likely outcome for the property in that year, and while a ban remained in place?

If Australia doesn't send cattle to Indonesia apart from the loss of the market for Australia what is another potential concern for the Australian cattle herd?

Exercise 2



- A is located south of Perth in Western Australia,
 - B is located close to the border between South Australia and
 - C is located in northern Queensland in the gulf country.
- A) What is the likely annual rainfall at each of these three properties?
- B) What is the likely distribution of the annual rainfall? I.e. When is rainfall likely to fall and when would you anticipate pasture would grow on each property?
- C) What is the likely reliability of the rainfall eg. if rainfall similar each year or relatively variable?
- D) What are likely stocking rates for each property as what is the reason for the variation?
- E) What are the most likely months for calving to commence and finish, presuming that each enterprise is self replacing?
- F) What breeds are the most likely observed on these enterprises?
- While the notes cover some of this material, you will need to do further research to cover the potential answers.

Exercise 3 – Genetics and biosecurity

- Commercial cattle enterprise with predominantly Angus based cattle herd, using some Charolais bulls over older cows with all progeny sold
- Needs to purchase some Angus and Charolais bulls

Exercise 3 continued

- The enterprise needs to replace some Angus and Charolais bulls that have been removed from the main bull herd at a Bull Breeding Soundness Examination (BBSE) by their veterinarian.

Purchasing from two sales

- Angus

<https://angus.tech/enquiry/animal/result?tql=sale+catalogue+is+%27CA-NHZ-017%27+and+animal+is+catalogue+lot&baseType=all&sortColumnId=catLotId&sortOrder=asc>

Hazeldean Angus <https://www.hazeldean.com.au/sales-by-breed#angus>

- Charolais

- <https://rosedalecharolais.com.au/2022-annual-sale/>

Exercise 3 – Genetics and biosecurity

- a) Why would this enterprise decide to use a Charolais bull in this situation?
- b) What factors would impact how many age groups of cows could be joined to a Charolais bull on the property?
- c) If the commercial property most often sells steers into the domestic market at about 450 kilograms liveweight what bulls are the best options to pick from in the two catalogues (you can list a few if you like) ie. What are the key traits that need to be considered?
- D) Once the bulls have been purchased and arrive at the property – either via a stock carrier or by purchasers picking the bull up what should happen on their arrival at the farm?
 - What factors would impact how many age groups of cows could be joined to a Charolais bull on the property?
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Exercise 3 continued

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A photograph of two beef cattle in a field. The cattle are dark brown with white faces and necks. They are standing behind a wire fence. The background is a dry, grassy field with some small green plants. The text "Beef Cattle Case Study" is overlaid in large white letters, and the number "1" is overlaid in large white letters below it. The text "Week 5" is overlaid in smaller white letters below the number "1".

Beef Cattle Case Study

1

Week 5

Administration

- Don't forget peerwise each week
- Next week is next short quiz and questions may include any material up to the end of the case study that day
- Mid Semester quiz week 9 (after Easter break), Monday 9am, 1 hour
- At the end of this case study Sarah and I will be available for EMS related questions

Exercise 1 – sudden loss of market

- Example – immediate suspension of live export trade, essentially due to loss of social license (from government perspective)

What options would the property manager have to manage this situation if they are unable to sell the normal draft (group) of animals they would send to Indonesia via live export?

- Sale of same category elsewhere? (what price available?)
 - Domestic v export
- Sale of another category? (pricing)
 - Local abattoirs? (very limited numbers, most road transport)
- Lease/agist on other property (?timeline before reopens)
 - May be feasible but what is long term market for these animals? Can they be sold once processed here and retain profit margin?

Exercise 1 – sudden loss of market (continued)

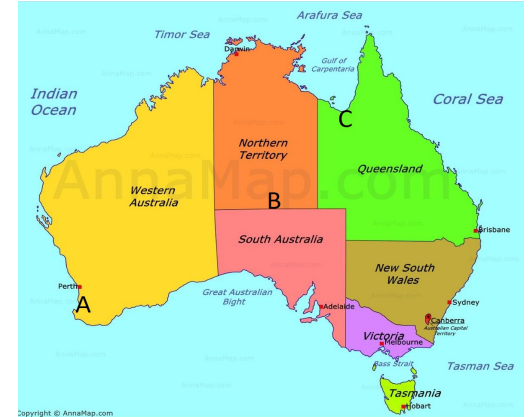
What is the likely outcome for the property in that year, and while a ban remained in place?

- Cant retain all stock as will lead to unsustainable overgrazing
- Have to sell stock or destroy stock, not an option to retain due to lack of feed, particularly over the dry season
- Likely prices will drop significantly for that particular class of animal – maybe be able to increase sales of older cows and retain some extra heifers if heifer price is low and cattle price high
- Significant pressure on managers to find a solution rapidly given time of year and speed of ban

Exercise 1 – sudden loss of market (continued)

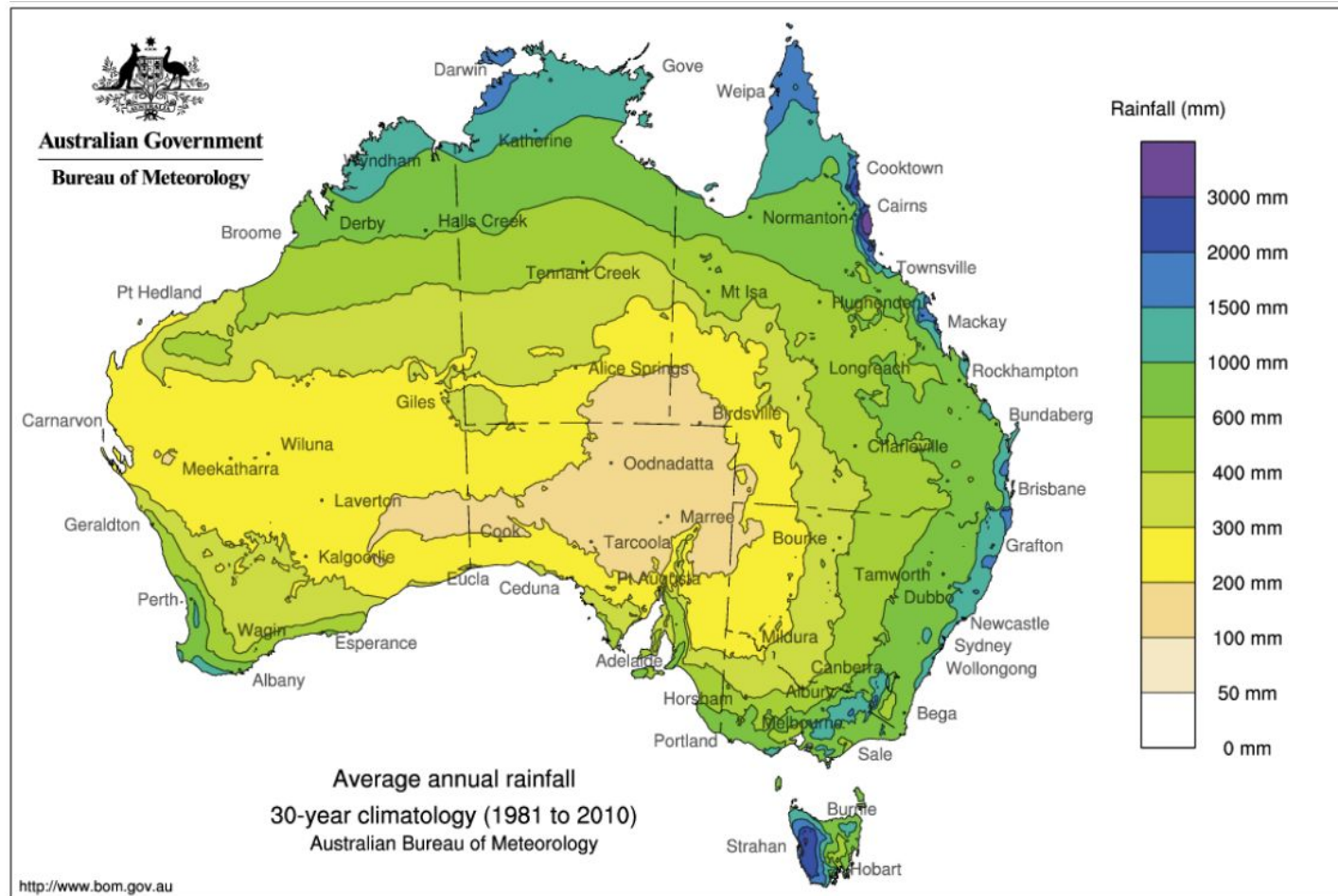
- If Australia doesn't send cattle to Indonesia apart from the loss of the market for Australia what is another potential concern for the Australian cattle herd?
- What is likely source of other beef?
 - Segment of market using Indian buffalo and imports from other countries that are not free of FMD, potentially lead to FMD in Indonesia which is geographically very close to Australia (Indonesia currently free of FMD)
 - Other (obvious loss of finance for enterprises supplying)

Exercise 2

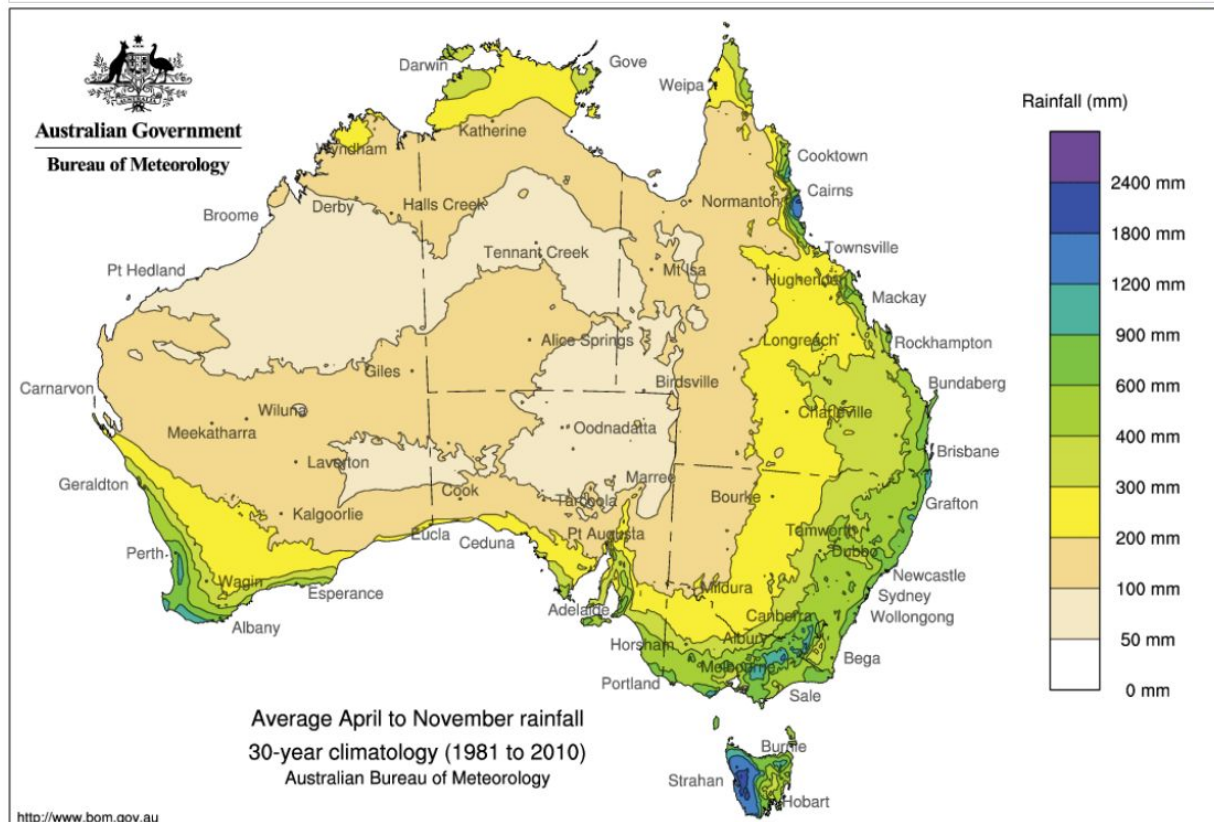


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- C) What is the likely reliability of the rainfall eg. if rainfall similar each year or relatively variable?
- D) What are likely stocking rates for each property as what is the reason for the variation?
- E) What are the most likely months for calving to commence and finish, presuming that each enterprise is self replacing?
- F) What breeds are the most likely observed on these enterprises?
- While the notes cover some of this material, you will need to do further research to cover the potential answers.

Comparing rainfall



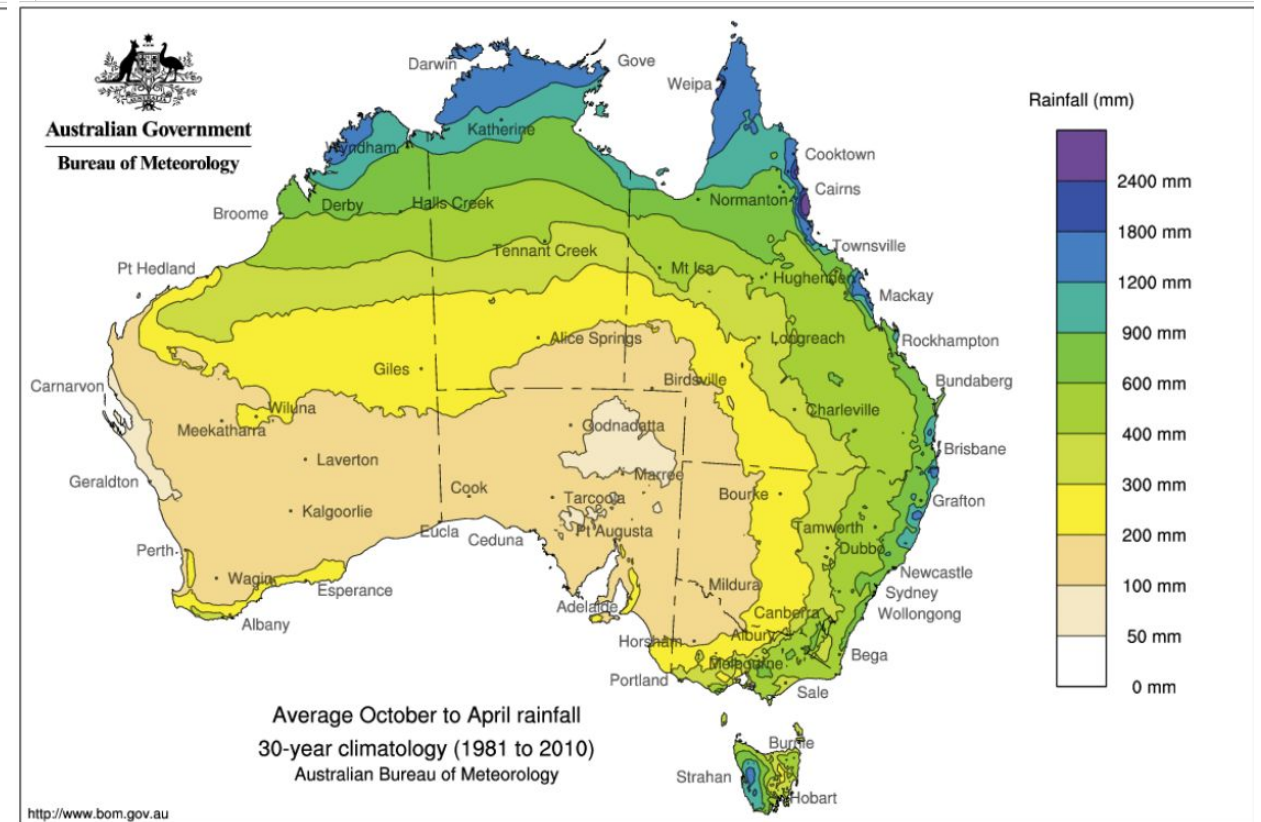
Rainfall distribution



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Product Code: IDCJCM004

Issued: 28/08/2020



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Product Code: IDCJCM004

Issued: 28/08/2020

Central Australia – low rainfall

- <https://www.ntnews.com.au/news/centralian-advocate/research-project-in-central-australia-pays-off-for-graziers/news-story/b1133bf118037dfd6ed9f45b0cdece7c>
- Very low stocking rate as very low rainfall and highly variable

Stocking rate

- WA property according to French equation as relatively similar environment to Northern Victoria for rainfall
- Central Australia SR – highly variable as depends on soil type and pasture/tree cover but generally measured in beasts per square kilometre e.g. might be stocked at two steers per square kilometre (a square kilometre = 100ha)
- Gulf country of QLD – variable depending on how close to the coast and increased rainfall. Guide to SR on different native grasses here http://www.ga.gov.au/webtemp/image_cache/GA10691.pdf
- Example of challenge in gulf country <https://www.queenslandcountrylife.com.au/story/5898800/aaco-confirms-big-flood-losses-to-its-gulf-herds/>
- C4 type grasses so lose quality as get tall – maybe an animal per 10-50ha (varies significantly also due to rainfall timing and length wet season). Stock lose weight during dry

When should calving start?

- A = aim to calve mid autumn as Mediterranean environment where winter growth is better than Vic. Spring also finishes earlier than Vic (see rainfall chart). Keep duration short
- B = will depend on historical rainfall chart but given range of rainfall timing more about pasture management and ensuring enough good quality pasture for fresh calved cows, may have extended joining period
- C = calve at start of wet season – Nov/Dec approximately (again, depends on how close to coast and local rainfall history). May be hard to restrict joining due to flooding during joining period. Expect low pregnancy rates in this type of country.

Likely breeds

- A – British Breed, Other, European Breed
- B – British Breed, some Tropical infusion (possibly $3/8^{\text{th}}$ $5/8^{\text{th}}$ composite such as Brangus, Braford, Charbray etc)
- C – higher percentage Bos indicus to cope with tropical conditions and ticks
- Some breed decisions based on availability of high quality bulls, coat colour, history of breed locally etc
- <https://www.beefcentral.com/genetics/weekly-genetics-review-pastoral-companies-big-on-composite-breeding-programs-2/> (an article describing some of the breeds in gulf country mixes)

Exercise 3 – Genetics and biosecurity

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Exercise 3 Continued

- a) What factors would impact how many age groups of cows could be joined to a Charolais bull on the property?

Exercise 3 continued

- The enterprise needs to replace some Angus and Charolais bulls that have been removed from the main bull herd at a Bull Breeding Soundness Examination (BBSE) by their veterinarian.

a) What would be likely reasons for a bull to fail a BBSE?

- Physical – legs/hips
- Scrotal circumference too small (especially young bulls)
- Scrotal or penile injury/problem
- If doing a serving capacity test this often picks up skeletal/leg issues

Purchasing from two sales

- Angus

- Charolais

Exercise 3 continued

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Exercise 3 continued

- a) If the commercial property most often sells steers into the domestic market at about 450 kilograms liveweight what bulls are the best options to pick from in the two catalogues (you can list a few if you like) ie. What are the key traits that need to be considered?

What are the important selection criteria?

400 day growth

Frame score (intermediate)

Moderate fat/muscle

Not particular need for IMF (mostly export market demand)

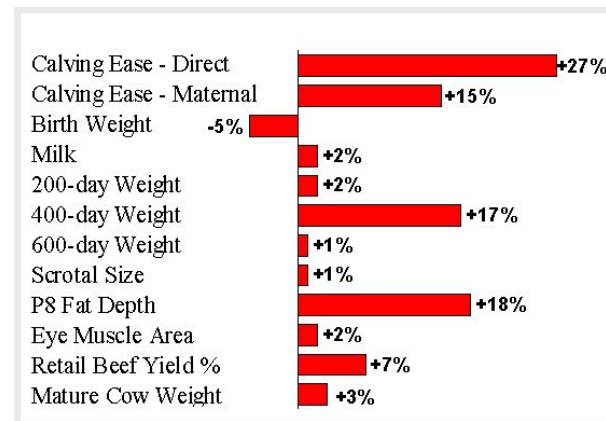
<https://www.angusaustralia.com.au/education/breeding-and-genetics/understanding-ebvs-and-indexes/31-angus-breeding-index/>

Exercise 3 continued

- Charolais acting as terminal sire in this enterprise
- Still aiming at heavy domestic index, rather than export.
- Depends on if selling “over the hooks” versus in yards as to total selection ie. What are they being paid for
- Similar selection process – want easy birth and then high growth with appropriate muscle,fat

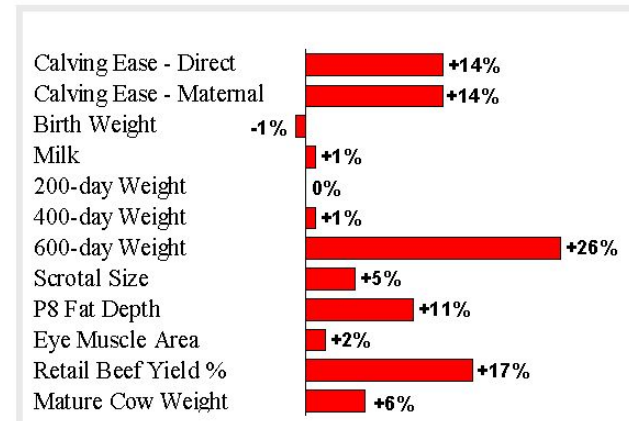
EBV emphases (%):

Domestic



EBV emphases (%):

Export



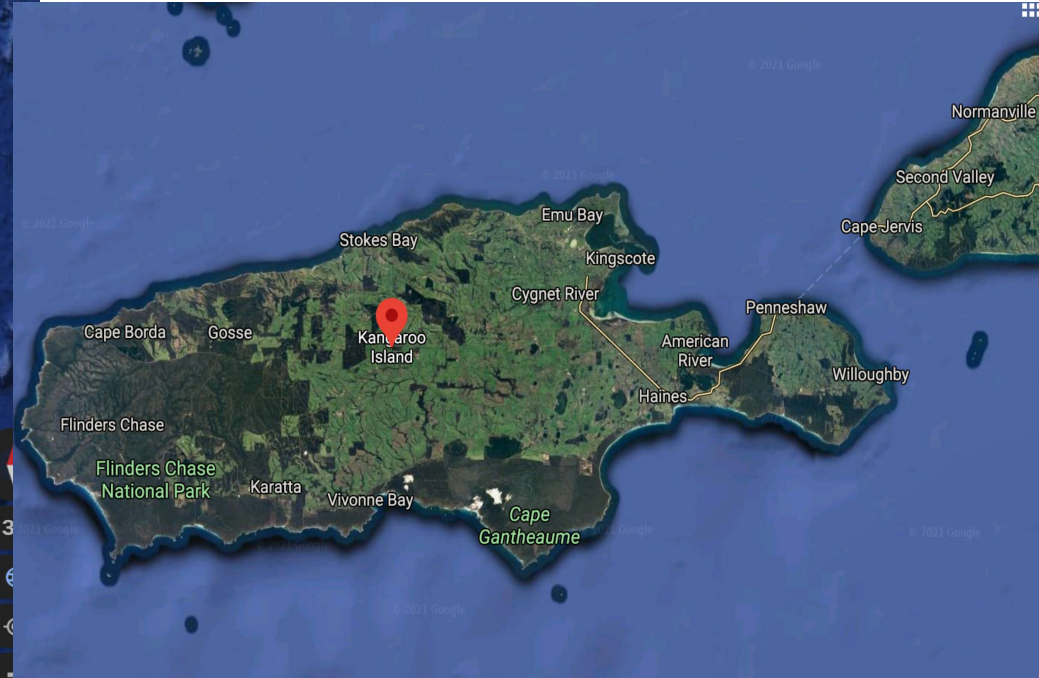
Exercise 3 continued

- Once the bulls have been purchased and arrive at the property – either via a stock carrier or by purchasers picking the bull up what should happen on their arrival at the farm
- Biosecurity plan
- Drench on arrival with multiactive product for nematodes
- Check Vendor declaration – how long to quarantine, what diseases are we concerned about?
 - -JD (likely data on testing)

Exercise 4: Beef operation on Kangaroo Island



Where is Kangaroo Island?



Kangaroo Island (Parndana)

Estimated daily pasture growth rate (mid-month) of specific pasture types (kg DM/ha/day)

Pasture Type	J	F	M	A	M	J	J	A	S	O	N	D
Annual grass, sub-clover – fertiliser	0	0	0	5	13	22	28	41	52	42	16	0
Annual grass, sub-clover – no fertiliser	0	0	0	1	4	11	14	19	31	63	35	0

Summary statistics PARNDANA EAST RESEARCH STATION

A summary of the major climate statistics recorded at this site is provided below. There is also an extended table with more statistics available. More [detailed data for individual sites](#) is available.

Site information

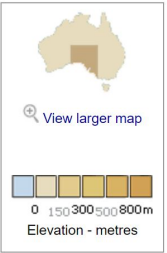
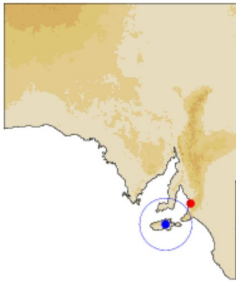
Site name: PARNDANA EAST RESEARCH STATION
Site number: 022814
Latitude: 35.80 °S Longitude: 137.33 °E
Elevation: 155 m
Commenced: 1954 Status: Closed 31 Dec 1984
Latest available data: 01 Dec 1984

Additional information

Additional site information

Nearest alternative sites

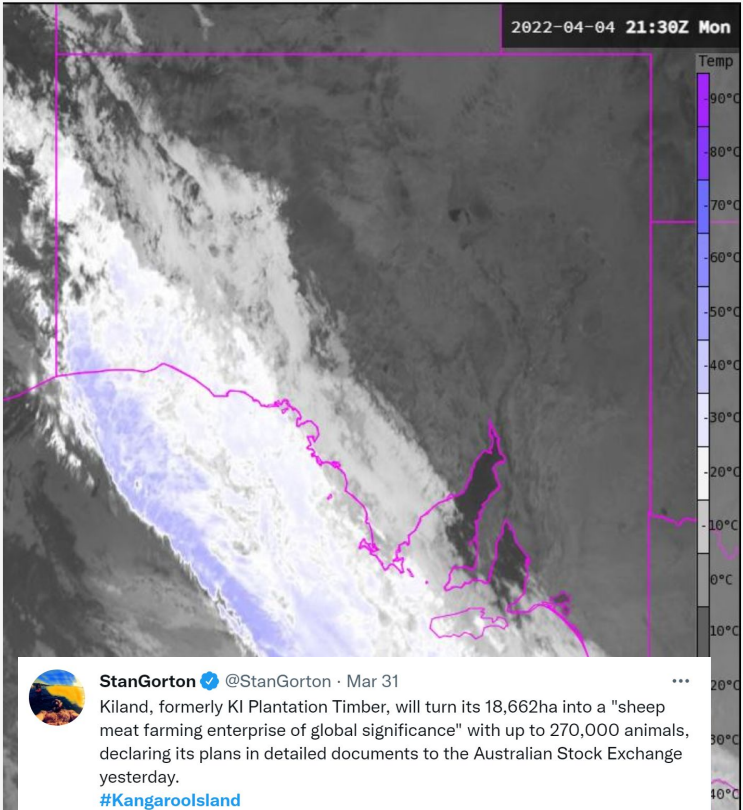
- 022841 KINGSCOTE AERO (19.6km)
- 022807 KINGSCOTE (31.6km)
- 022029 ALTHORPE ISLAND (63.6km)



Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Years	Plot	Map
Temperature																
Mean maximum temperature (°C)	24.8	25.2	22.7	20.1	16.6	14.2	13.5	14.1	15.4	17.7	20.5	23.1	19.0	26	1954-1984	
Mean minimum temperature (°C)	12.5	13.3	12.2	10.6	8.9	7.3	6.5	6.5	7.0	8.1	9.3	11.0	9.4	26	1954-1984	
Rainfall																
Mean rainfall (mm)	16.5	21.1	29.0	49.2	74.4	87.9	101.5	86.1	63.9	45.4	28.7	23.6	627.4	29	1954-1984	
Decile 5 (median) rainfall (mm)	8.2	9.6	24.5	42.4	70.0	75.6	99.0	82.0	63.1	40.3	23.8	21.8	621.5	31	1954-1984	
Mean number of days of rain ≥ 1 mm	2.9	3.1	5.1	8.3	11.7	13.7	16.1	15.1	12.1	8.3	5.7	4.9	107.0	31	1954-1984	

Bureau of Meteorology, South Australia @BOM_SA · 6h

A trough over western #SouthAustralia will move eastwards bringing showers to the agricultural area and west today, with storms possible in the west. Falls of 2-5mm over southern coasts, ranges, the Lower South East and with storms. Keep up to date at [bom.gov.au/sa/](#)



Stan Gorton @StanGorton · Mar 31
Kiland, formerly KI Plantation Timber, will turn its 18,662ha into a "sheep meat farming enterprise of global significance" with up to 270,000 animals, declaring its plans in detailed documents to the Australian Stock Exchange yesterday.
[#KangaroosIsland](#)



[theislanderonline.com.au](#)
Tree change as Kangaroo Island firm reveals 'global' sheep plan

Management tasks

- Your task is to work out what management tasks should be applied in a beef enterprise and when should these occur
- You should be specific as to how procedures will be done and what products used and why
- Must be a breeding enterprise of some sort, you can decide on the outputs but you should list what the output from the enterprise will be and when sold (including what weight)
- You will likely to do a bit of research to work through this scenario

Management tasks – what are they, which ones, how applied, when

MONTH	PROCEDURE
January (Summer)	
February (Summer)	
March	
April	
May	
June (Winter)	
July (Winter)	
August (Winter)	
September	
October	
November	
December (Summer)	

Exercise 2: Pasture and supplementary feed

- One of the issues with an annual pasture on Kangaroo Island is that in an average year from January through April there is minimal growth of any feed and once dry feed is consumed stock would require supplementary feeding.
- Using current prices for grain/hay/straw and any other feedstuffs you wish along with feed value tables work out what the best value feed for cattle on the property would be at the moment (you can find a range of feed value tables on Department of Agriculture websites, MLA, DA - have a look at any drought publications).
- The property may need to purchase some feed in as existing reserves are almost finished and it is unlikely rain will arrive before more feed is needed. What total volume of feedstuffs will be required for the enterprise (detail your assumptions – there are likely to be a few separate assumptions) - list the weekly cost for the enterprise.
- Suggested sources of feed pricings include rural newspapers and Dairy Australia – you should endeavour to choose the nearest location for feedstuff pricing and likely will need to add at least \$40 per tonne extra for transport given the challenges of getting feed onto Kangaroo Island by truck on a ferry.

Exercise 3

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- The link below takes you to the national Standards and Guidelines for cattle:
- <http://www.animalwelfarestandards.net.au/cattle/>
- It also notes the progress for where this has been implemented in each state. In Victoria the regulations for the standards and guidelines are still under development but it is a good idea to use these as your baseline for understanding beef cattle welfare MINIMUM requirements in Victoria (albeit noting that the Code of Practice is the current document that is actually in use).
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- For sections 1-7 of the standards and guidelines, provide a plan for how the enterprise will ensure that the standards are ALWAYS achieved, and guidelines are achieved as much as feasible. You should also review section 11 as this provides acceptable methods of humane killing of livestock which are required at times on enterprises.
-