

GRDC Grains Research Update



Economic analyses of cropping options in future climates

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Key Messages

- Economic analysis of farming systems options
 - using information provided by participating farmers
 - against historic and reduced levels of production
- Implementation of currently available options
 - can improve net farm income and return on assets under a climate scenario
- Indicate some ability to maintain profitability
 - albeit with increased variability of net farm income and return on assets

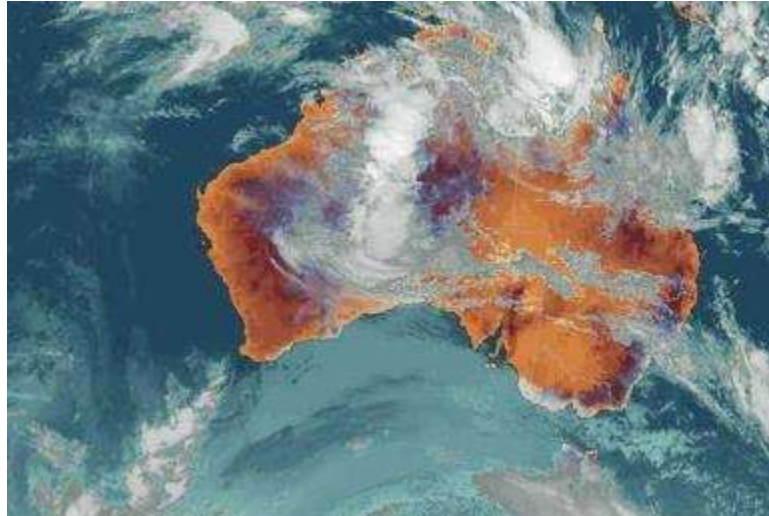
Method

- Workshops across seven farming districts across Australia
 - average of 10 participants per workshop (range 4 to 18)
- Farmers provided non-sensitive, non-identifiable details about their farm businesses
 - area of farm, arable area, area of crop and pasture, crops grown
 - value of cropping and livestock infrastructure, overhead costs, variable costs
 - levels of production and prices considered to be low, medium, and high

Method (cont.)

- Two farming systems for each district
- Distributions of yield and prices
- Base scenario and a climate scenario

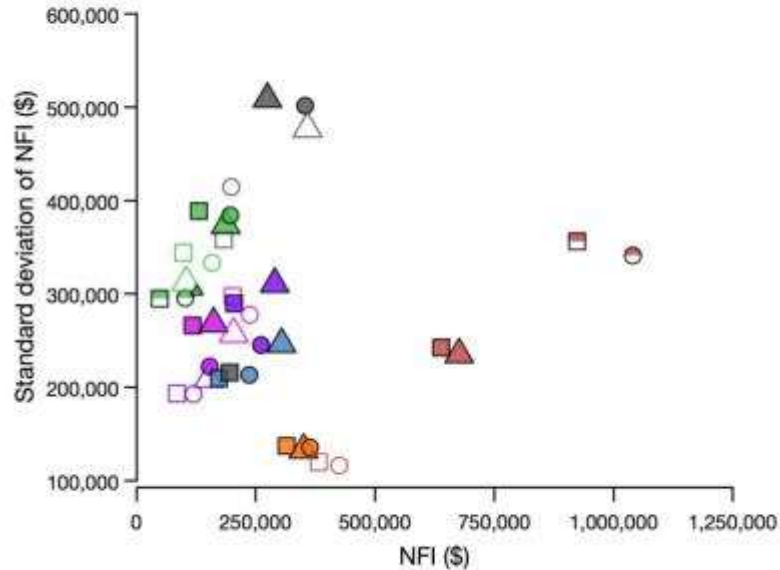
What does the future climate look like?



Method (cont.)

- Each analysis
 - computer-generated selection of 10 000 samples
 - base scenario and the climate scenario
 - options identified by the growers included under the climate scenario
 - net farm income (NFI) and return on assets (ROA)

Results—Overview



Key

Circle, base scenario

Square, climate scenario

Triangle, best performing option

■ NSW central

■ NSW southern

■ SA south-east

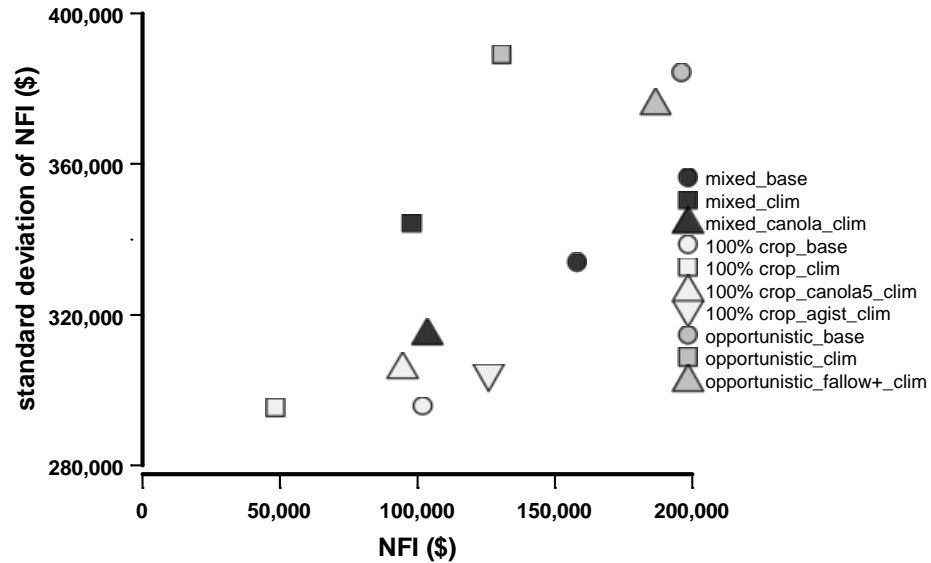
■ SA Yorke Peninsula

■ WA south-east

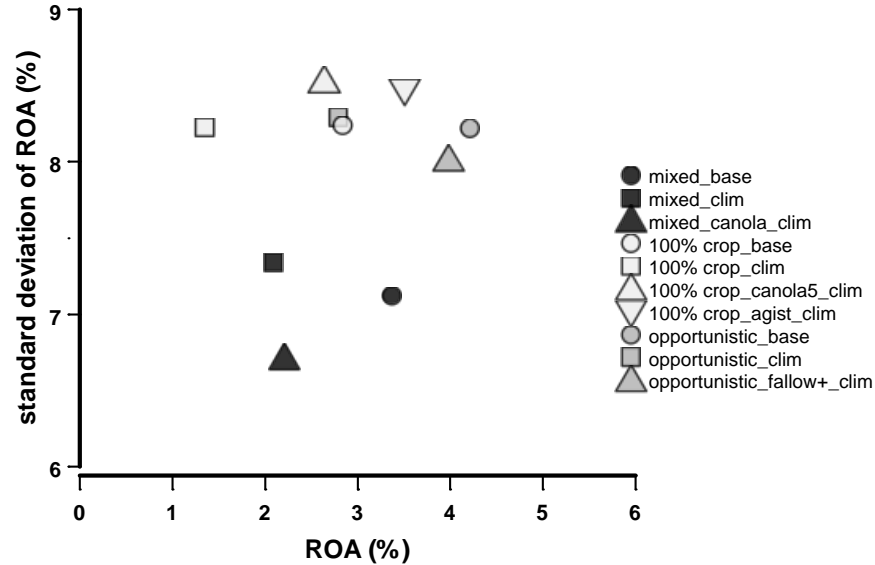
■ WA southern wheatbelt

■ WA central-east

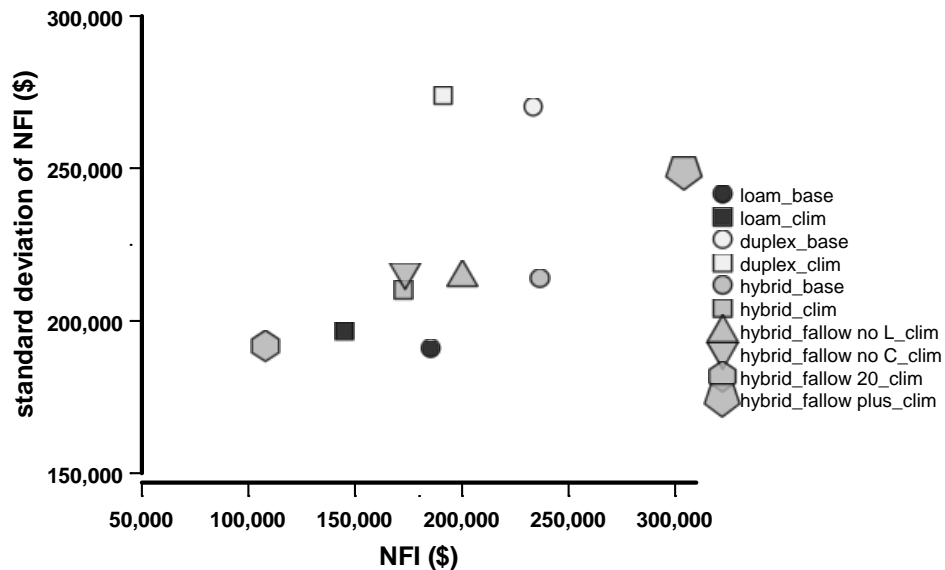
NFI—North-East Wheatbelt (Mukinbudin)



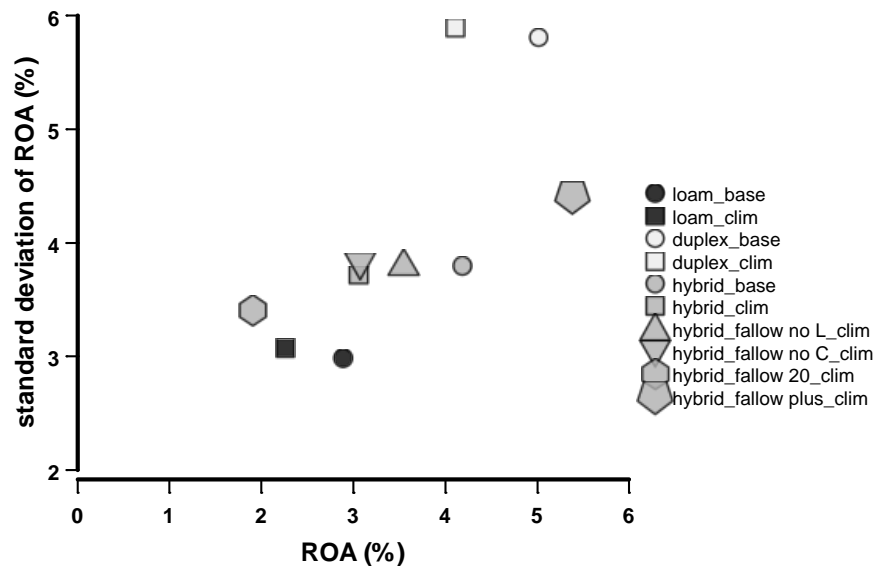
ROA—North-East Wheatbelt (Mukinbudin)



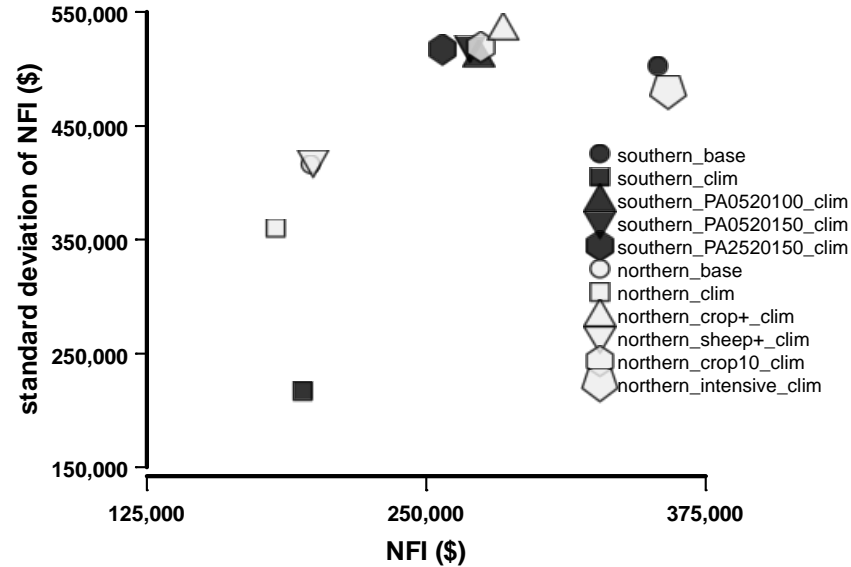
NFI—South of Eastern Wheatbelt (Lake Grace)



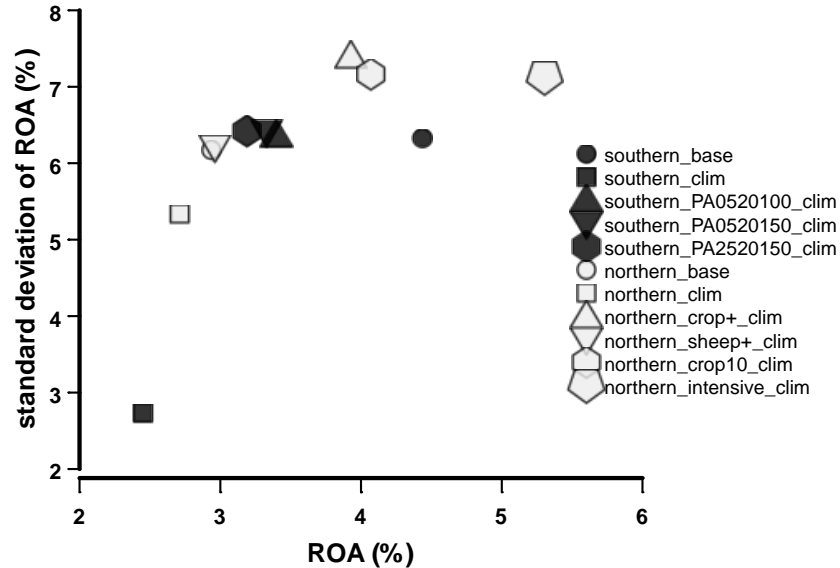
ROA—South of Eastern Wheatbelt (Lake Grace)



NFI—South-Eastern Wheatbelt (Salmon Gums)



ROA—South-Eastern Wheatbelt (Salmon Gums)



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Acknowledgements

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 - Particularly members of the:
Ninghan Group,
Lakes Information and Farming Technology Group and
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Thank you. Questions!