Narrowing the odds by knowing more about the odds

David Freebairn

Steve Raine, Brett Robinson, David McClymont, Erik Schmidt, Victor Skowronski, Jochen Eberhard and Alison McCarthy

University of Southern Queensland

Managing Climate Variability Program and Grains Research and Development Corporation

”all decisions are based on forecasts”

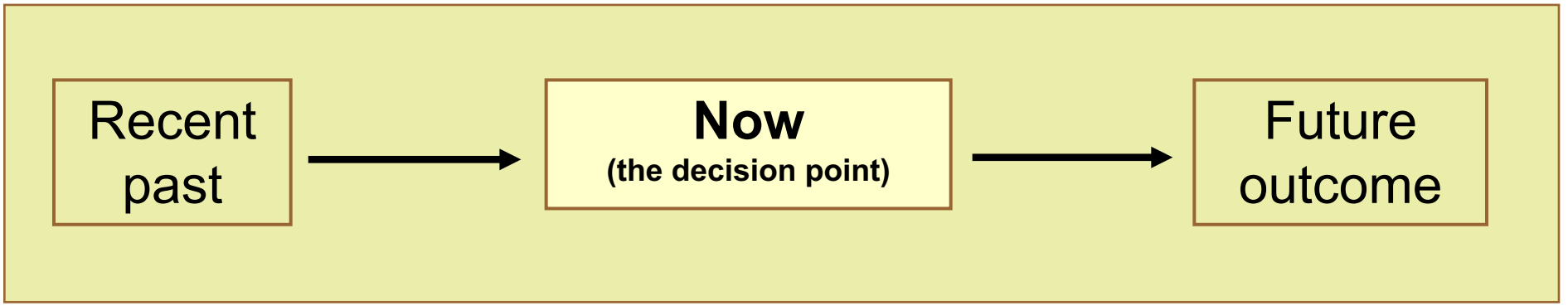
“most of us are not good at probabilities”

Dan Gardener, U Pennsylvania

from Best Practice Podcast with Richard Aidy
20th May 2016 ABC RN

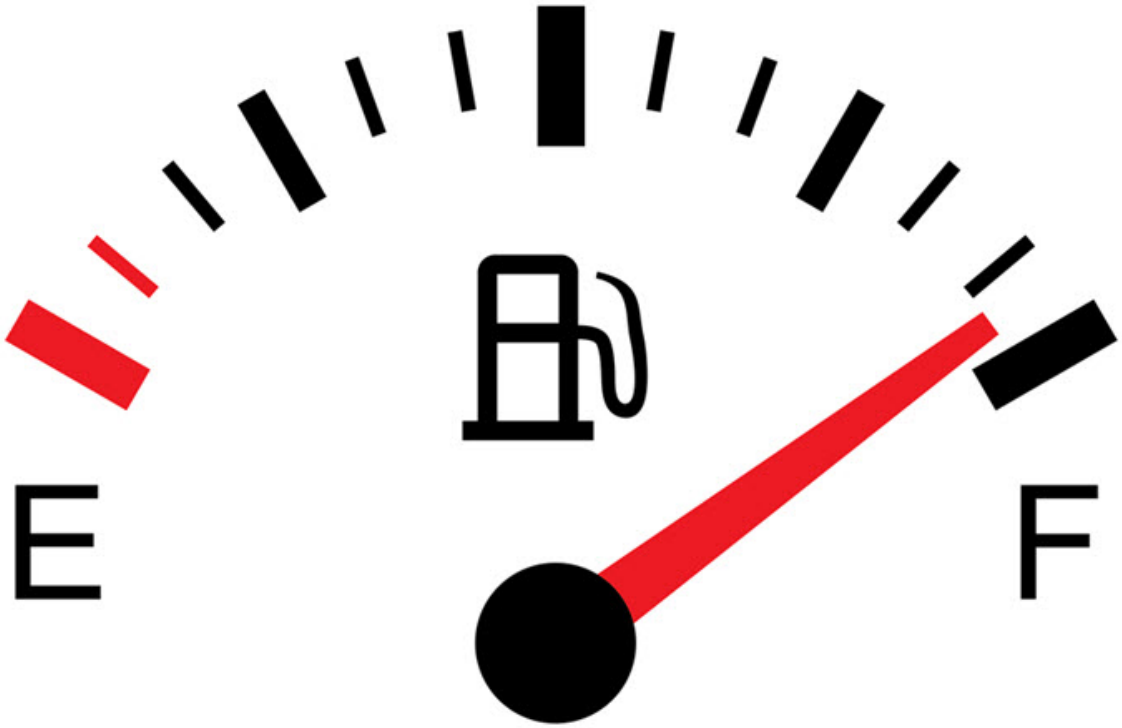
Good decision making uses understanding of …

current status + probability of future events

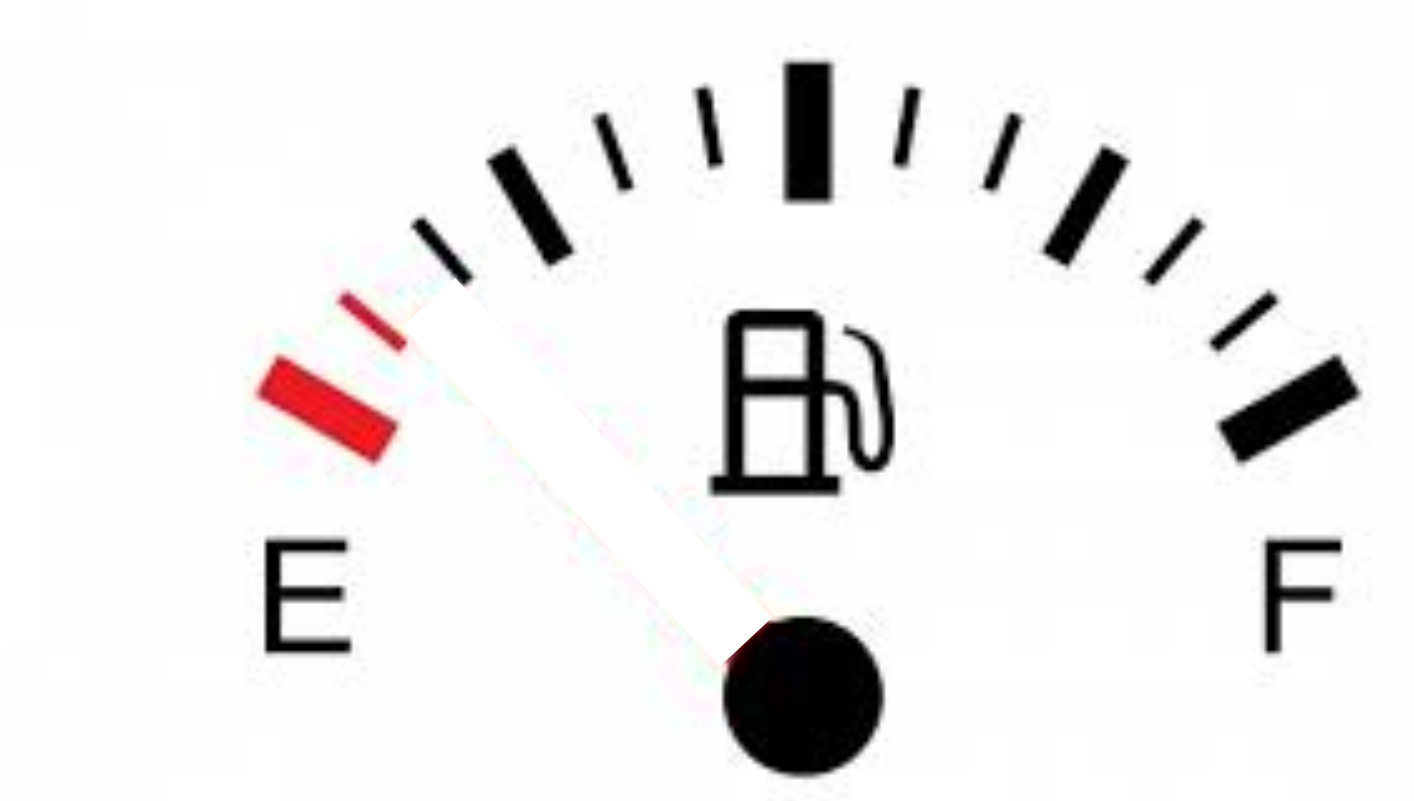


What is the value of knowing these?

A gauge is useful even though we know what is in the tank after filling – its Full

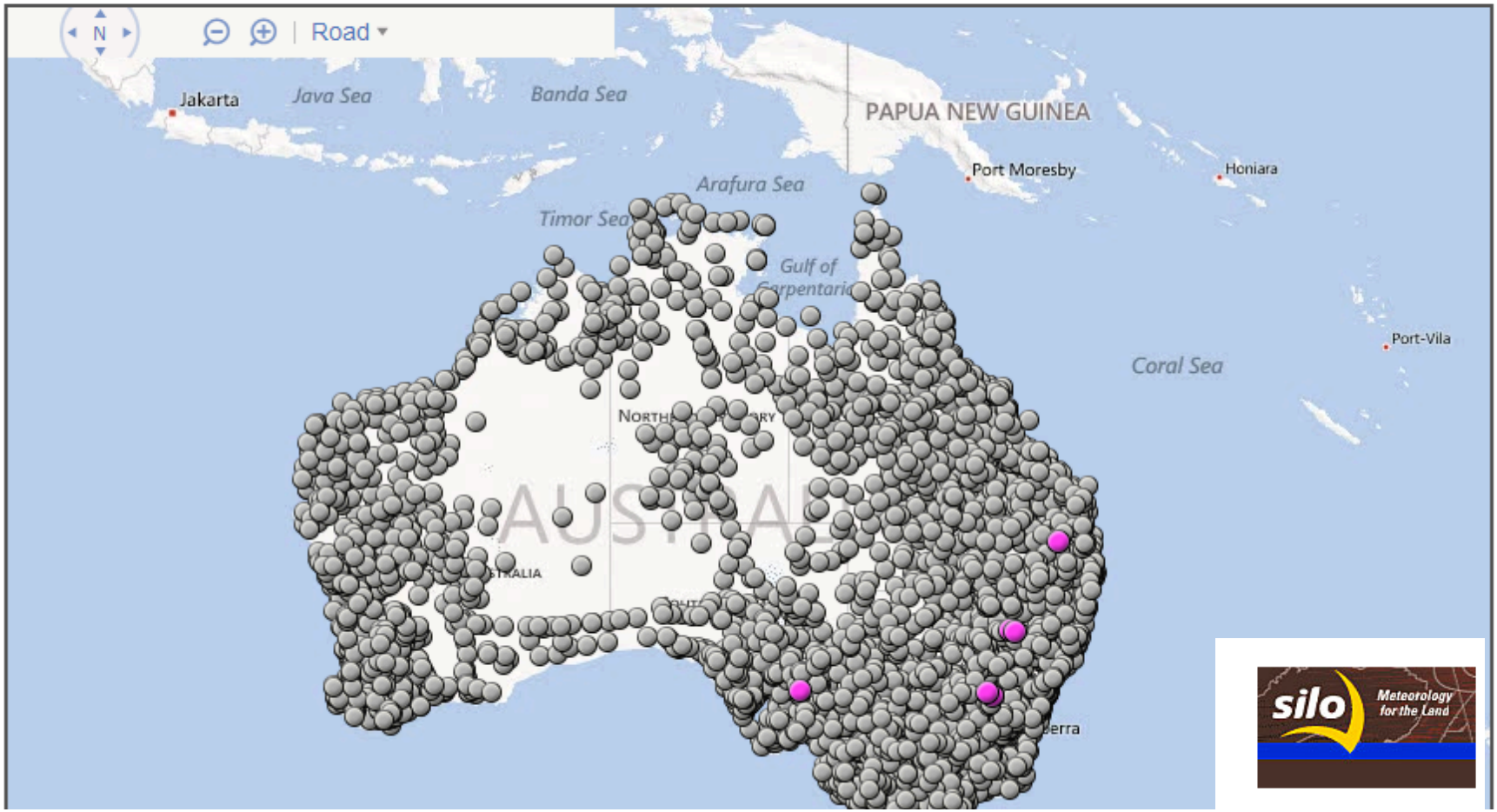


When the gauge is not working Hummmm, when did I last fill up?

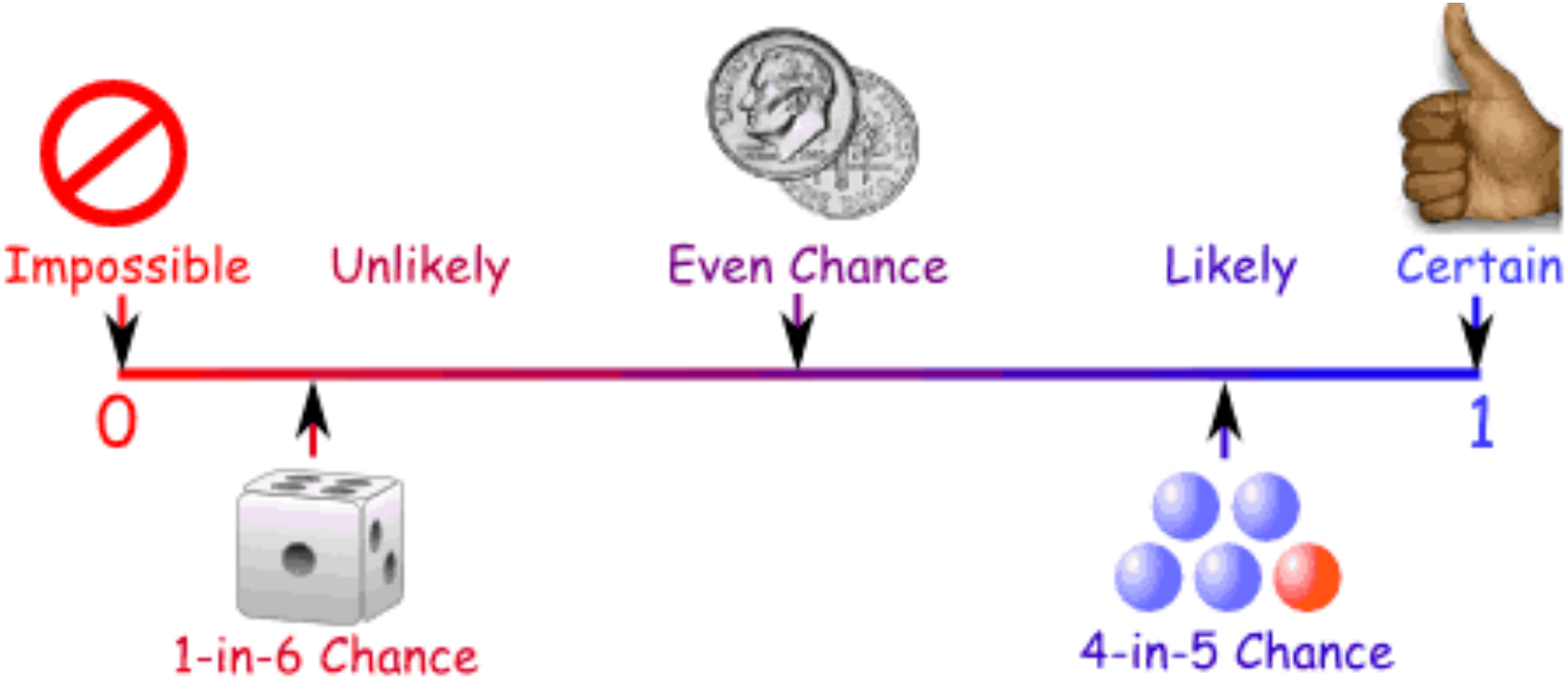


Rain fall probabilitis? Abundant climate data

(>4.500 sites with >100 vears of record)



What are the chances? The odds?

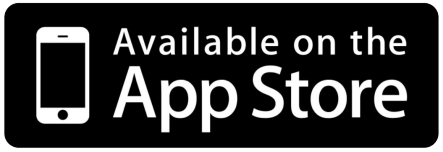


Australian

CliMate

Using weather data to estimate:

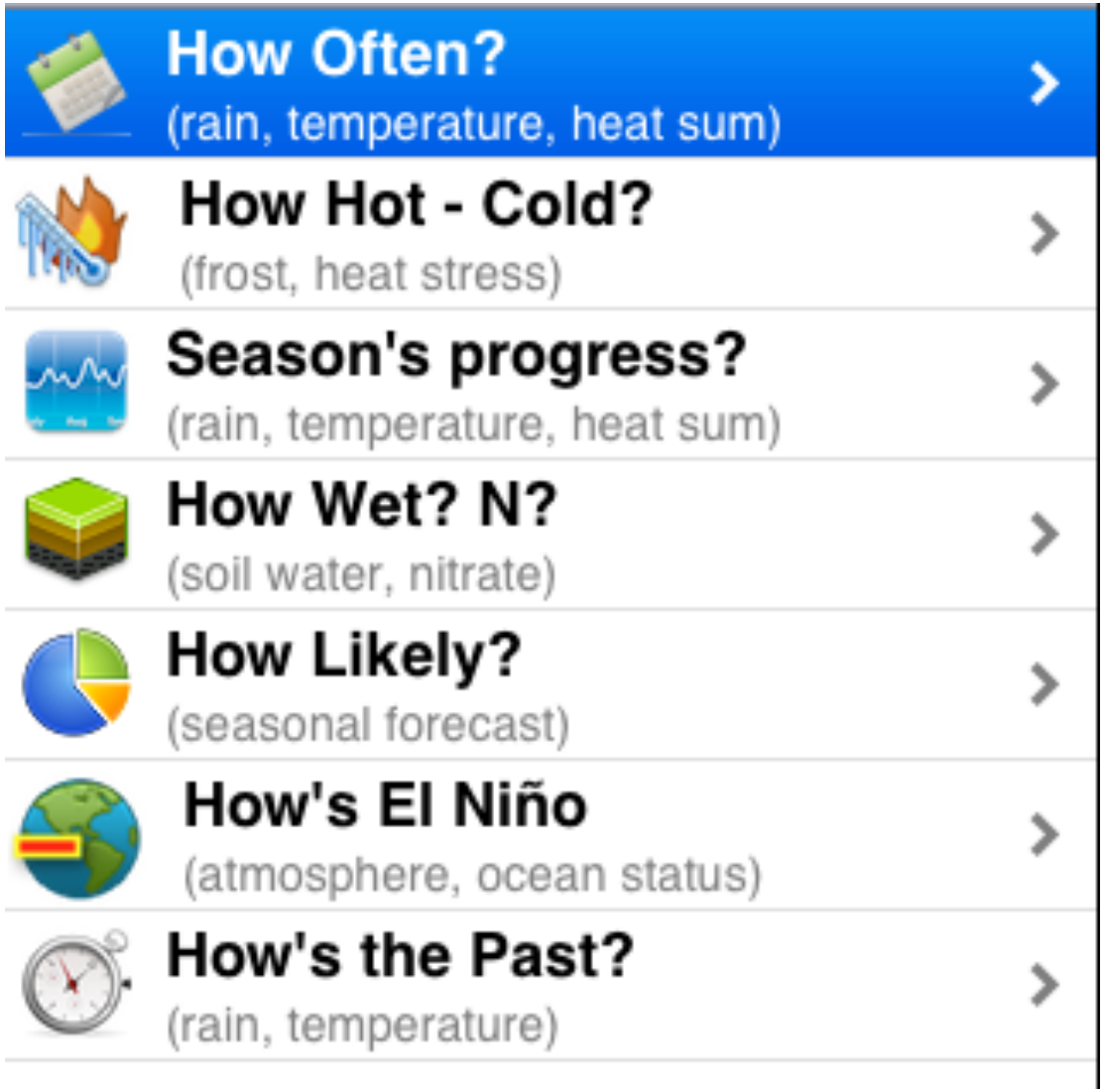
- where we are?
- probabilities of future event?



and www version for desktop, Android

www.australianclimate.net.au

Question focused analyses

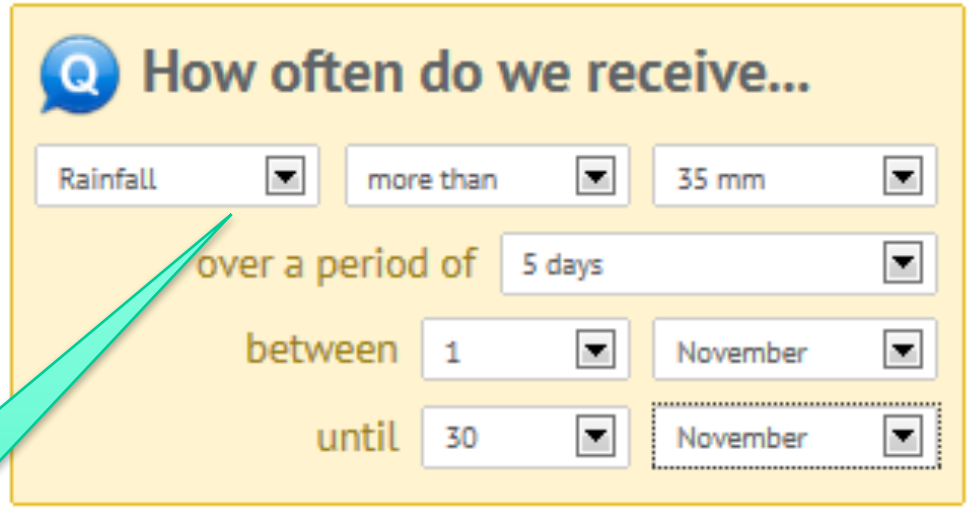


Example questions

- What are the chances of: planting rain, frost, wet harvest?
- What is the current: season’s rain, soil moisture, heat sum?

How Often?

Example of options available in each analysis



Rainfall
Min, Max temperature
Radiation

How Often chance of planting on rain?

AUSTRALIAN CliMate

Climate Tools for Decision Makers

- Home
- How Often?
- How Hot - Cold?
- Season's Progress?
- How Wet? N?
- How Likely?
- How's El Nino?
- How's the Past?
- Climate Links

MANAGING CLIMATE VARIABILITY R&D PROGRAM

CliMate is also availabe as an App for iPhone, iPad and iPod Touch devices.

Home › WEE WAA (GEORGE ST) › How Often? › Generated 02/08/2016

WEE WAA (GEORGE ST) (NSW)

How often do we receive...

Rainfall | more than | 50 mm

over a period of | 10 days

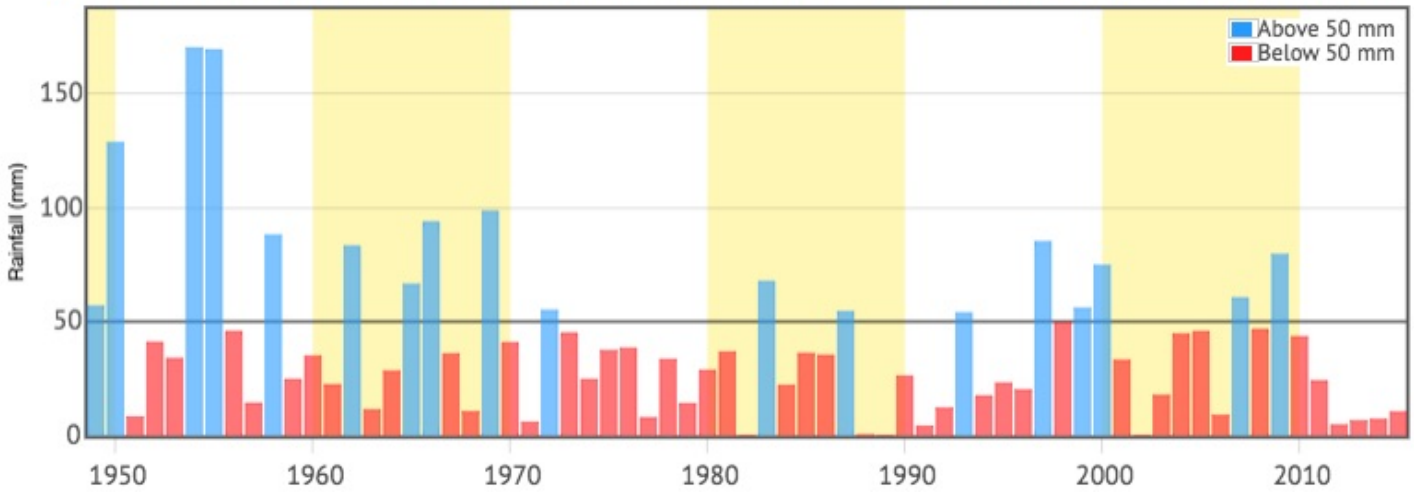
between | 1 | October

until | 30 | October

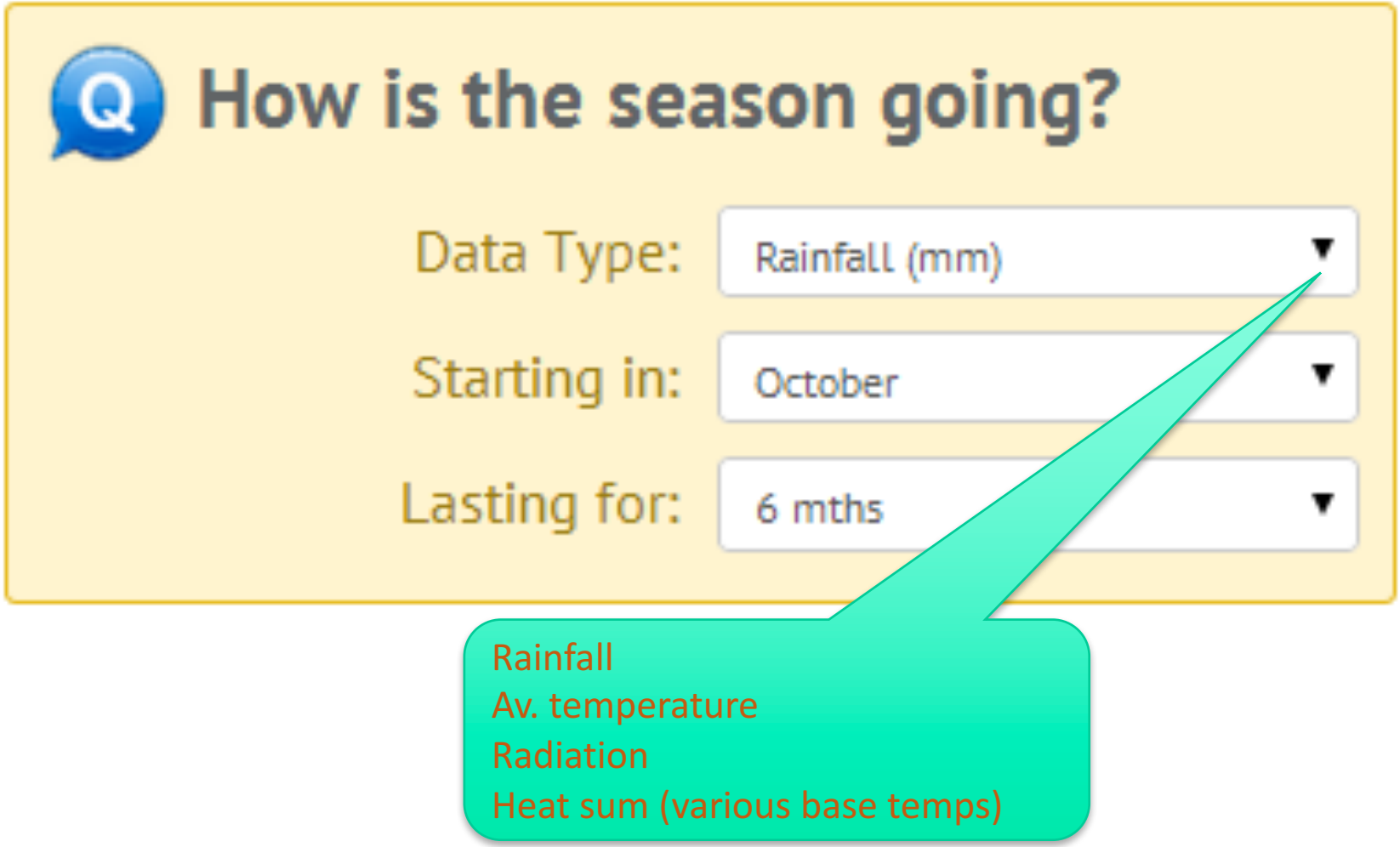
In 27% of years.

(18 of 67 years)

Highest consecutive 10 day rainfall totals, between 1st Oct and 30th Oct (30 days) each year



Seasons progress?



AUSTRALIAN CliMate

Climate Tools for Decision Makers

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COLEAMBALLY IRRIGATION (NS

How is the season going?

Data Type: Heat-Sum - Base 15°C

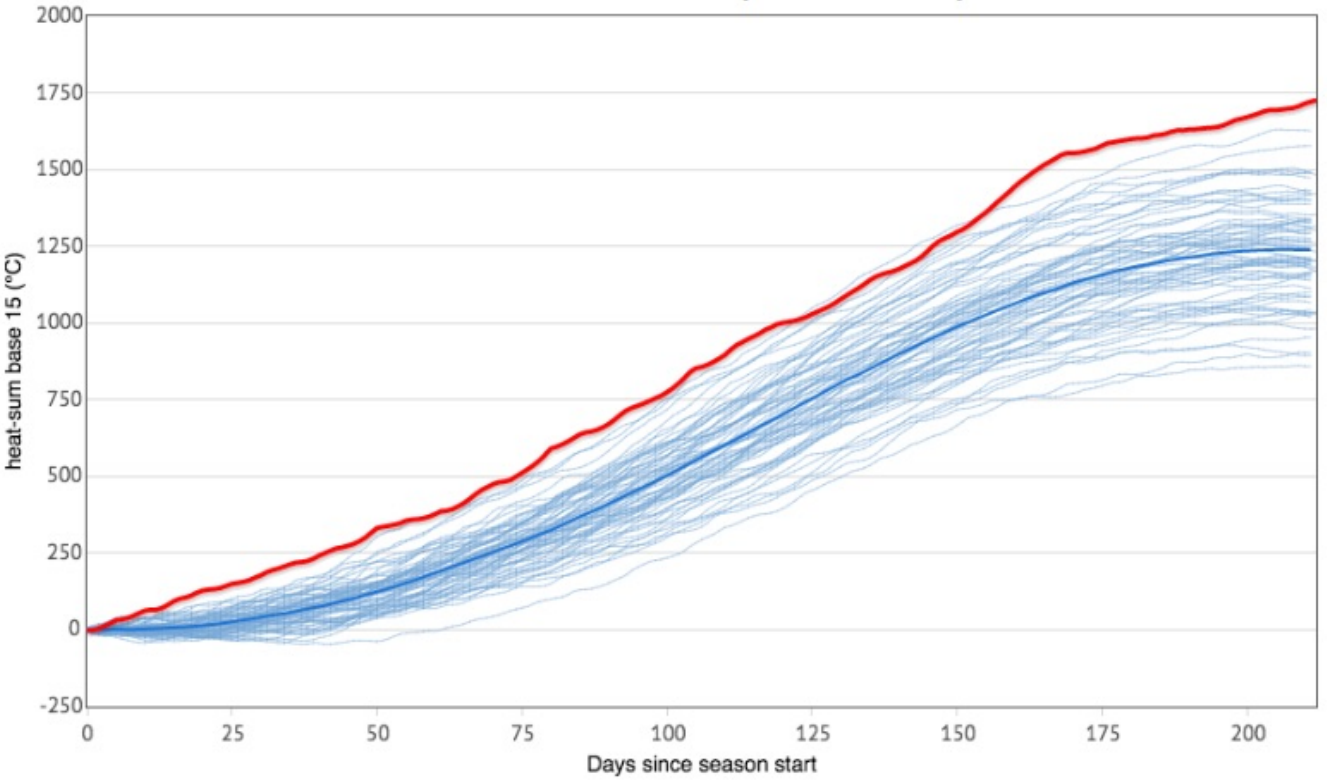
Starting in: October

Lasting for: 7 mths

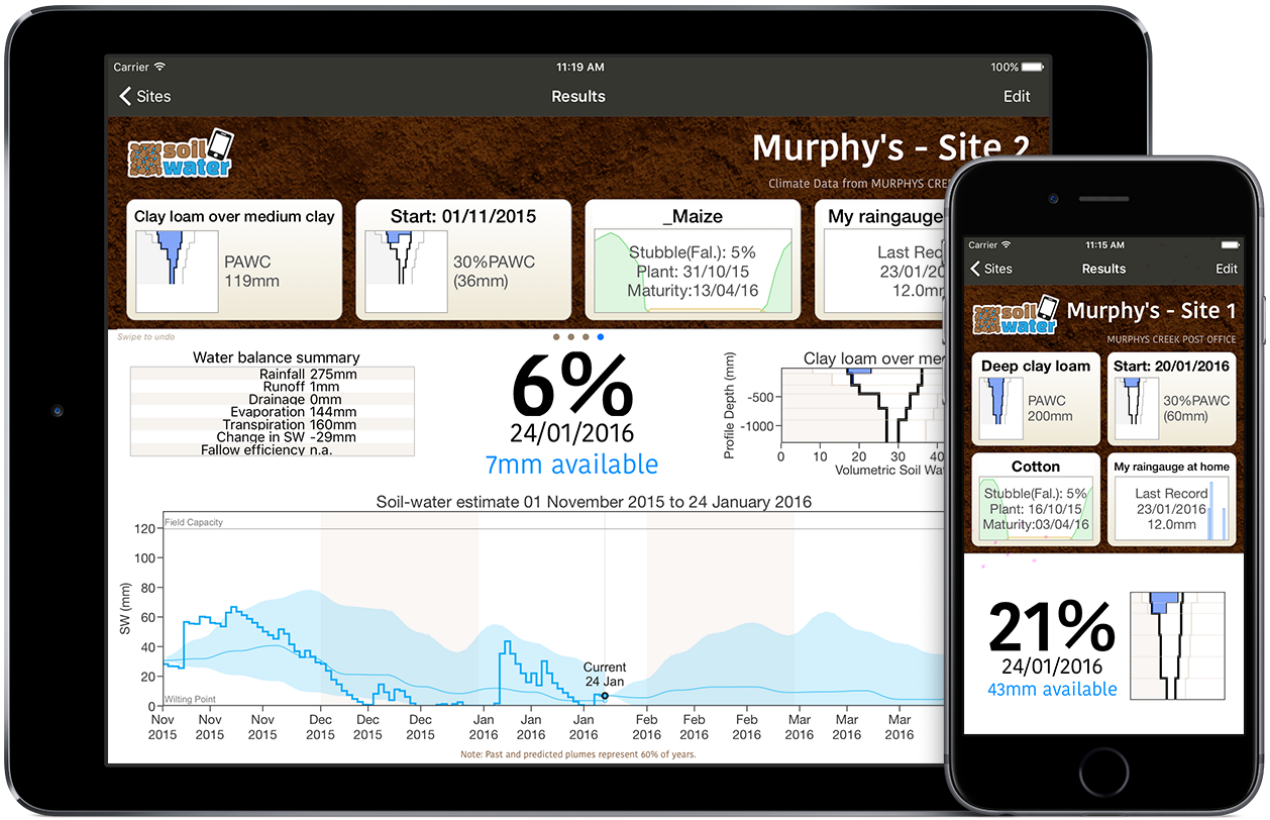
Above Average

Departure from average at the END of the October to 2015 season is,+483°C from Average (+3.0sd)

Accumulated heat-sum base 15 for the October to April season compared to historical events



SoilWater App:
- tracking soil water



Available on the App Store

www.soilwaterapp.net.au

What SoilWaterApp does?

- Estimates plant available soil water in fallow and in-crop
- Customise to soil type
- Use BoM or your own rainfall or BlueTooth rainfall
- Backup, retrieve, share data (securely)
- Soil water sensors (experimental)
- Irrigation (coming later 2016)

What SWApp tell us?

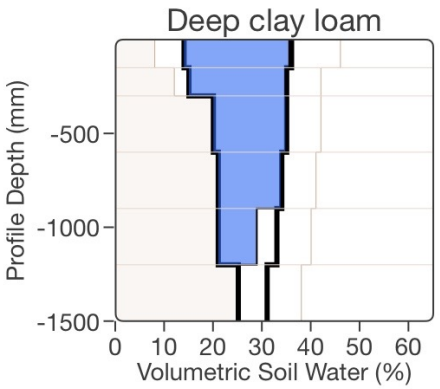
Water balance summary

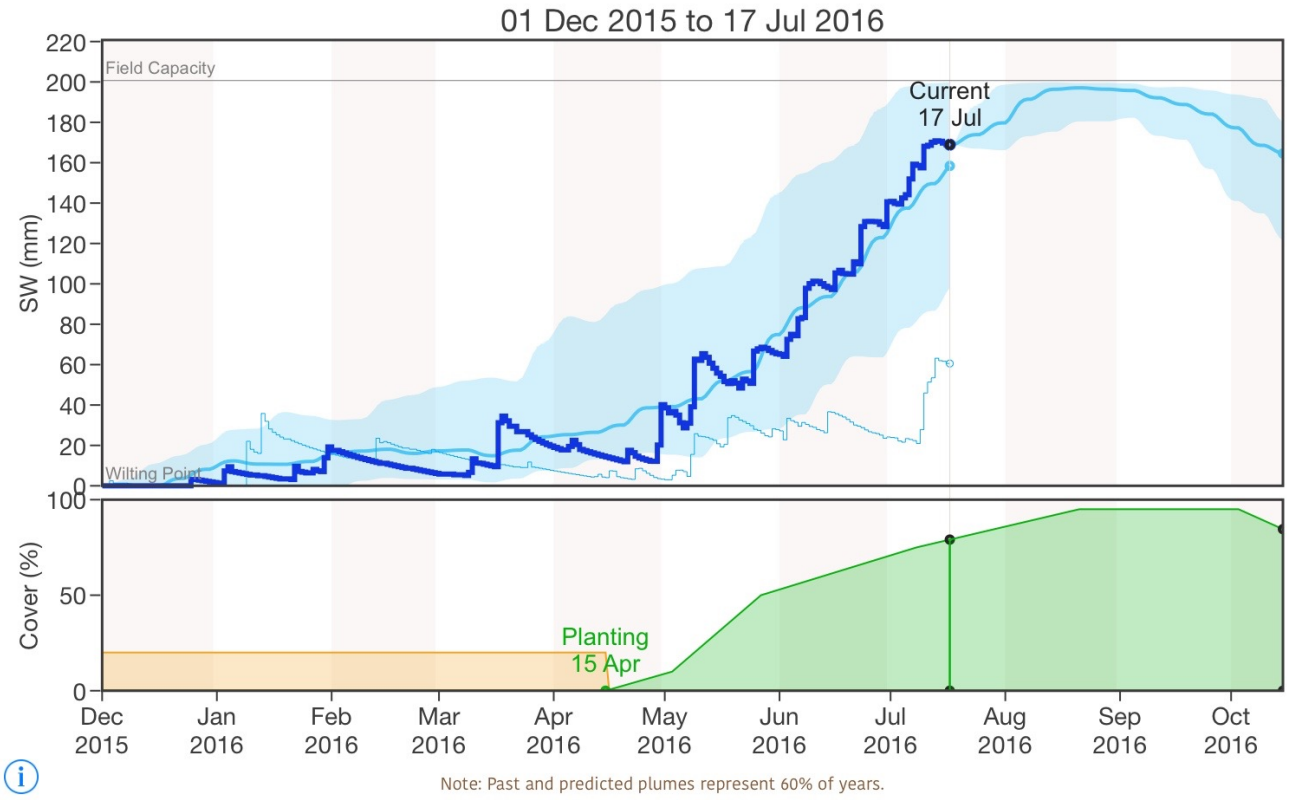
Rainfall	418mm
Runoff	0mm
Drainage	0mm
Evaporation	209mm
Transpiration	40mm
Change in SW	169mm
Fallow efficiency	n.a.

84%

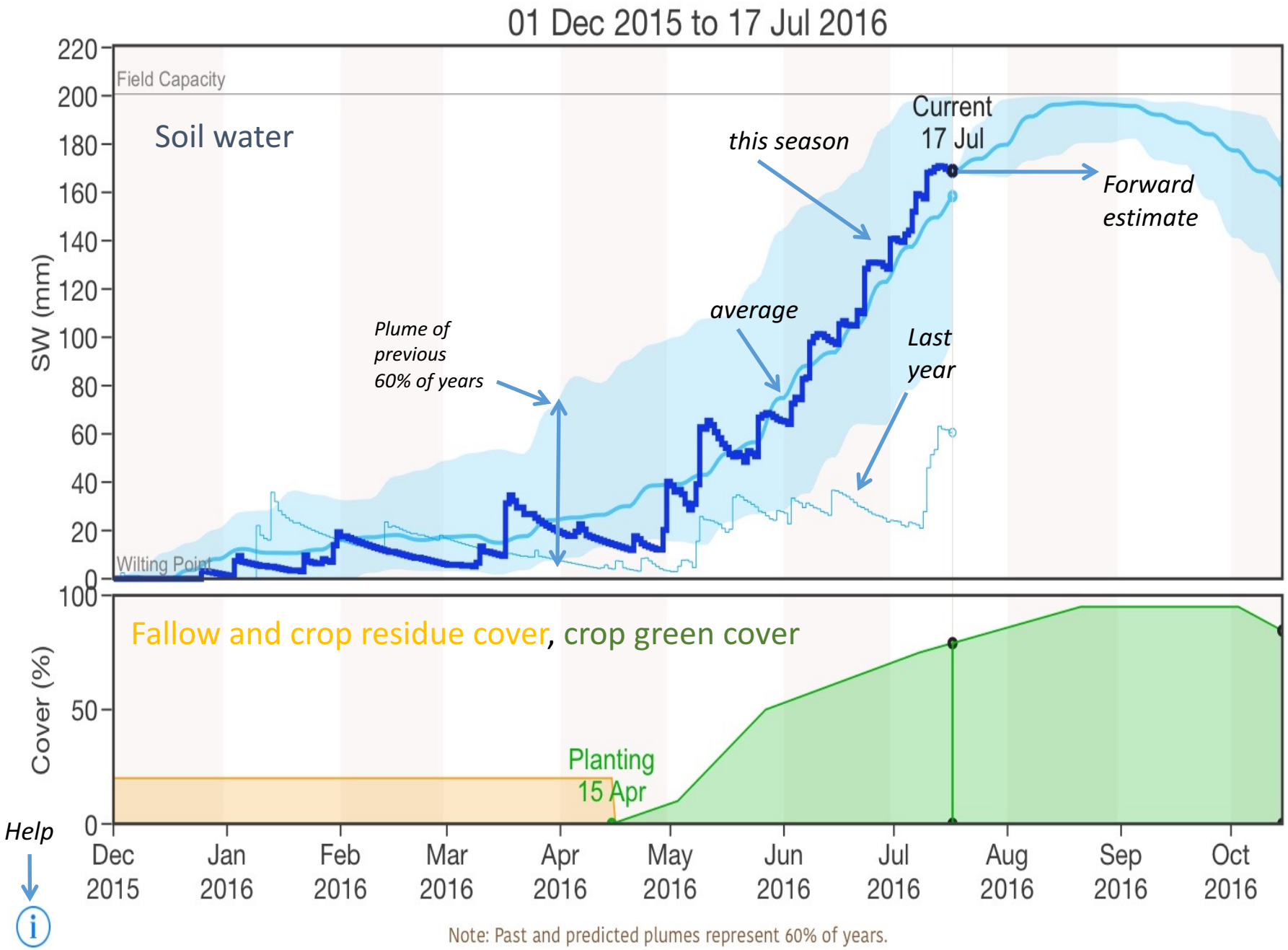
17/07/2016

169mm available





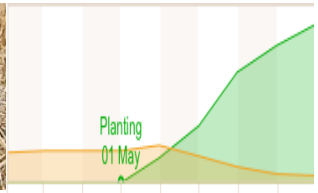
Note: Past and predicted plumes represent 60% of years.

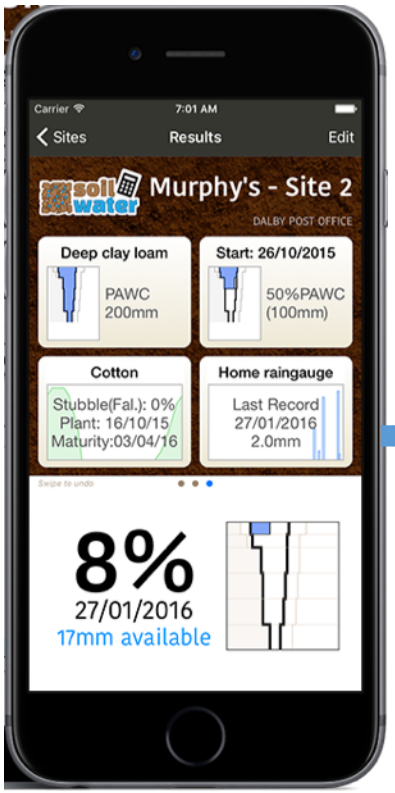

01 Dec 2015 to 17 Jul 2016
Field Capacity
Soil water
Current
17 Jul
this season
Forward
estimate
average
Plume of
previous
60% of years
Last
year
Wilting Point
SW (mm)
220
200
180
160
140
120
100
80
60
40
20
0
Fallow and crop residue cover, crop green cover
Planting
15 Apr
Cover (%)
100
50
0
Dec
2015
Jan
2016
Feb
2016
Mar
2016
Apr
2016
May
2016
Jun
2016
Jul
2016
Aug
2016
Sep
2016
Oct
2016
Help
Note: Past and predicted plumes represent 60% of years.

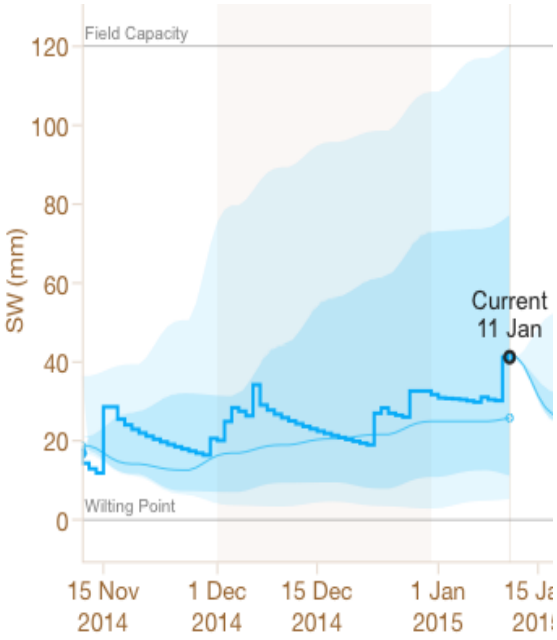
Brings information together

Australian Government
Bureau of Meteorology

(Silo)

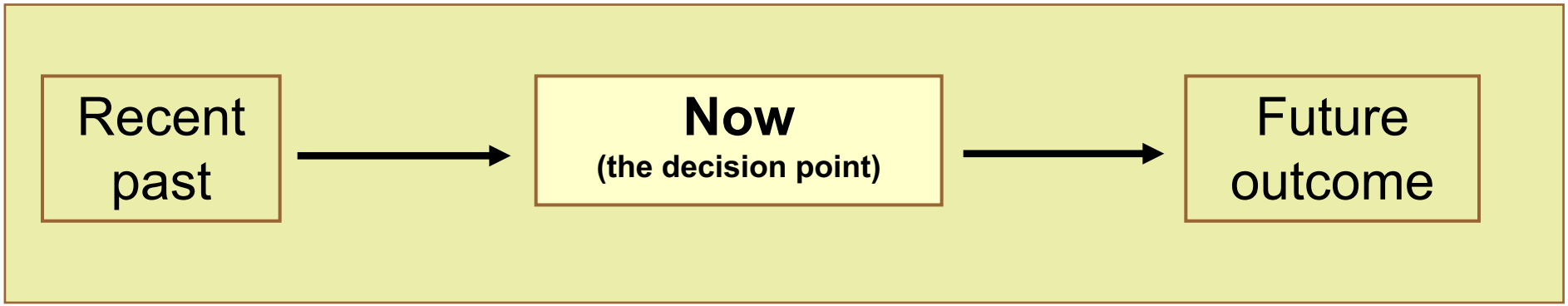






Decision making is "safer" when you know…

current status + probability of future events



Take home messages

- Bring information together, for your conditions, when and where you need it
- Better understanding of current status and future probabilities >>>rational decision making
- Simple, fast and objective

www.australianclimate.net.au www.soilwaterapp.net.au

davidmaxfreebairn@me.com

MANAGING CLIMATE VARIABILITY R&D PROGRAM

UNIVERSITY OF SOUTHERN QUEENSLAND

GRDC GRAINS RESEARCH & DEVELOPMENT CORPORATION

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