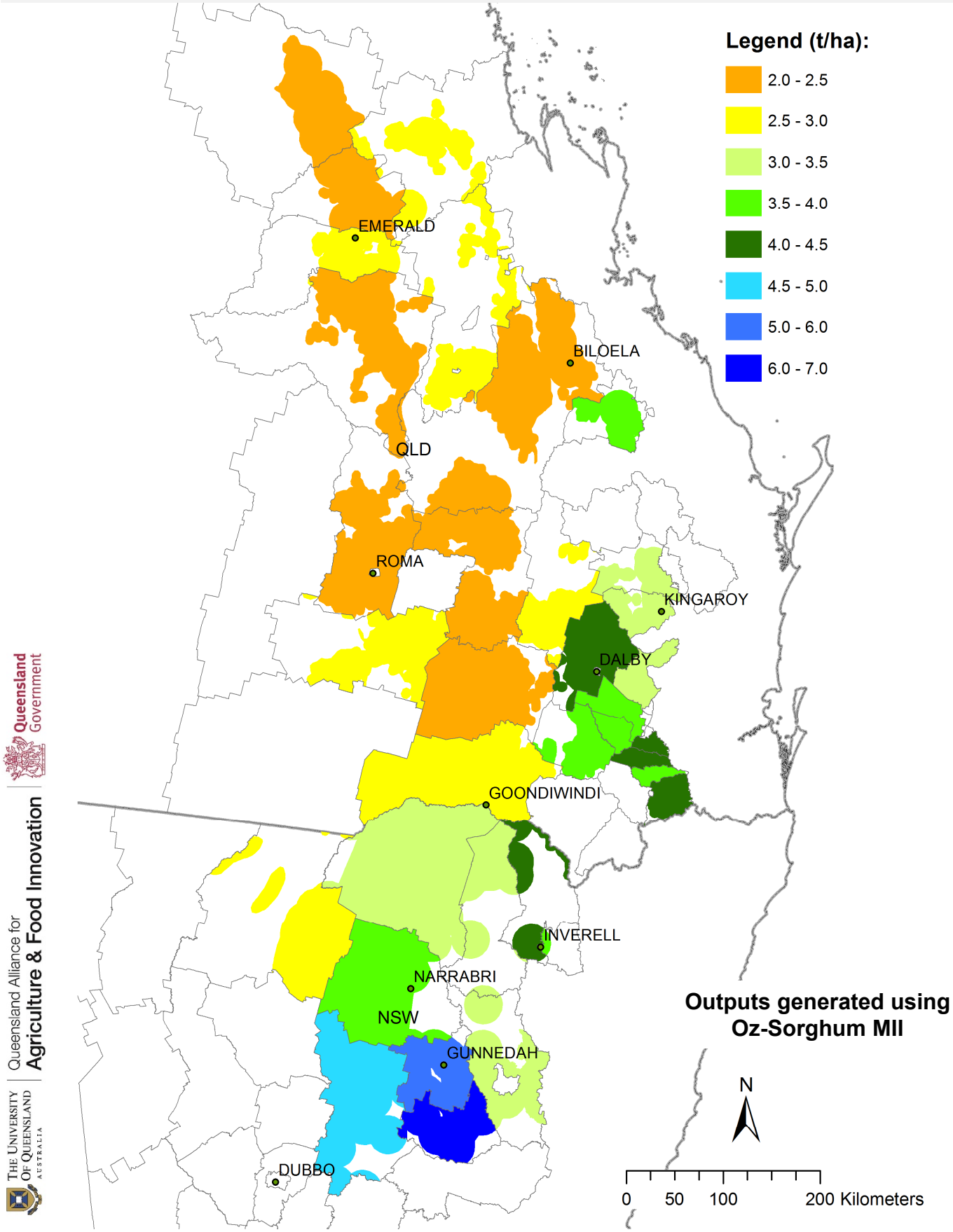
Simulated median shire sorghum yield (1901 – 2018) using 2018 technology



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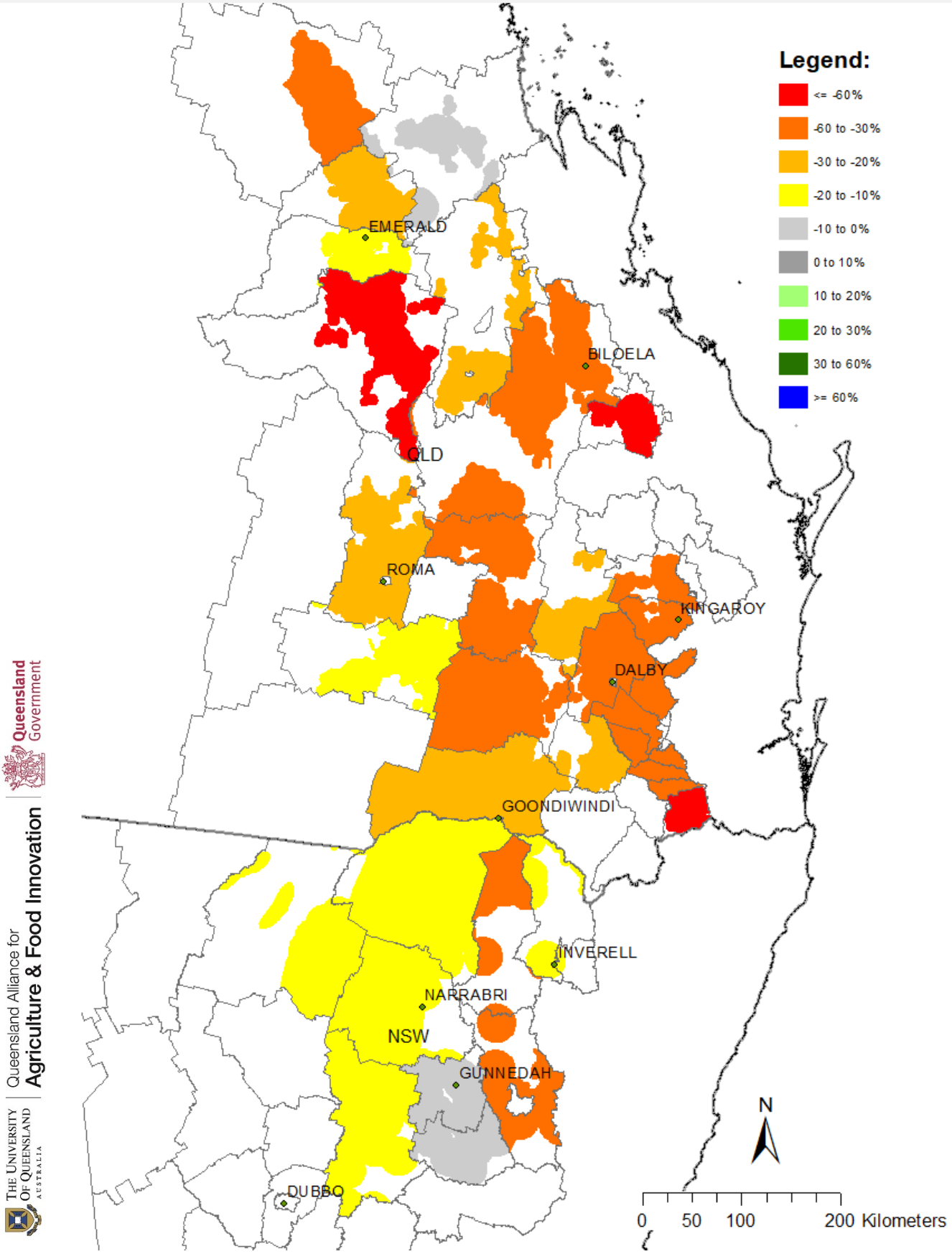
Percentage deviation of forecast median yield from long-term median sorghum yield, given SOI phase was "consistently negative" at the end of March



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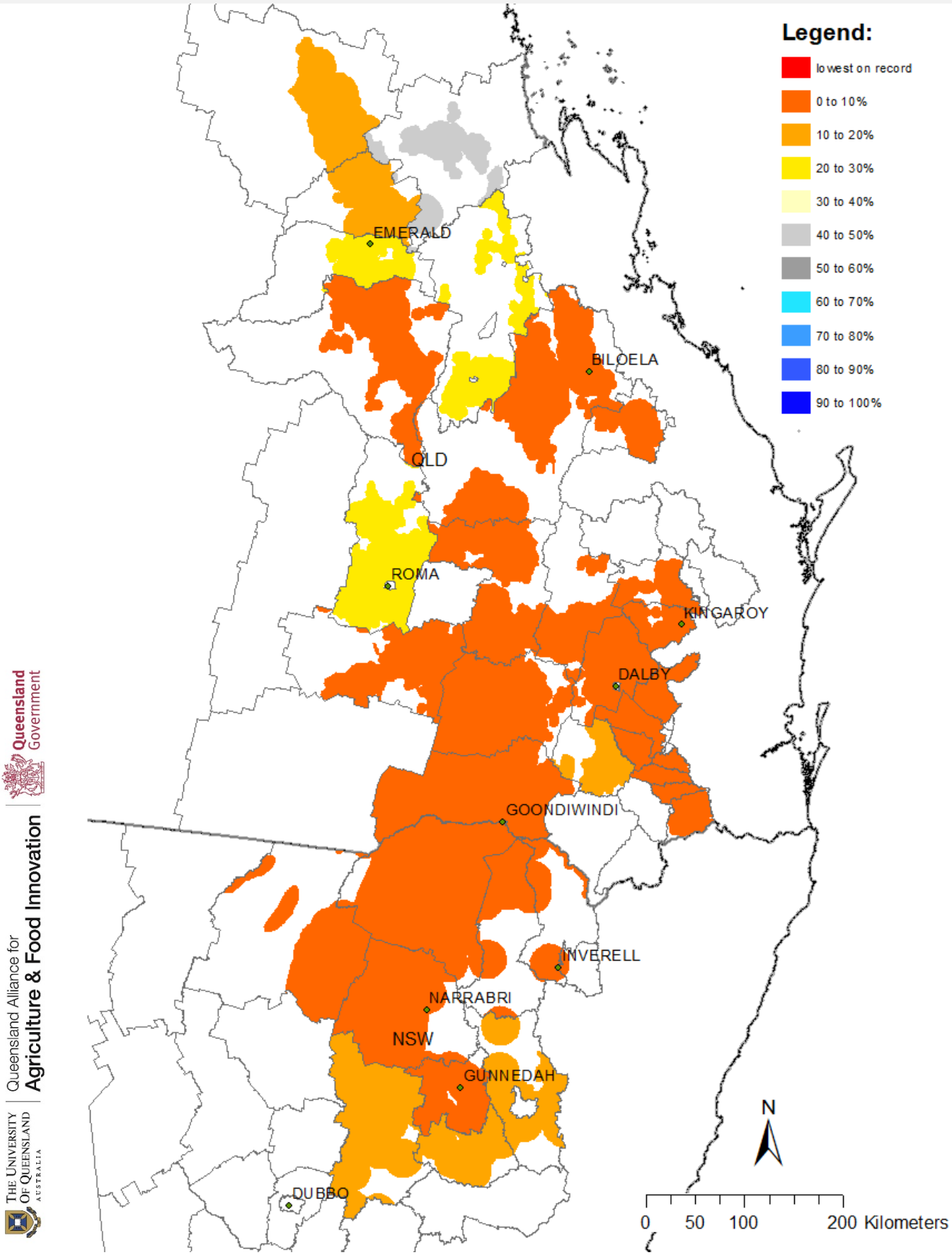
Forecast median shire yield ranked relative to all years (%), given SOI phase was "consistently negative" at the end of March



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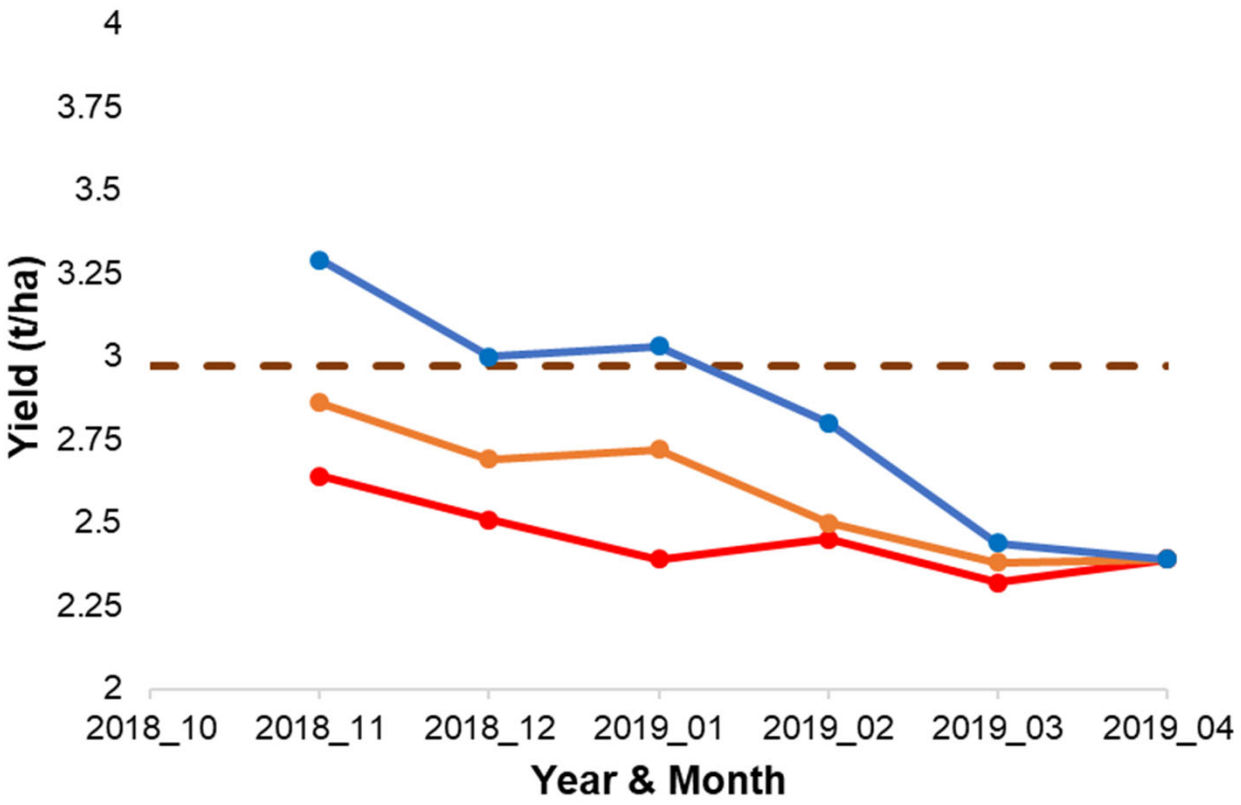
Forecast as at 1st April 2019, given SOI phase was "consistently negative" at the end of March



Region	Worst10	PredMed	Best10	Ltmed	Pred%	DFY%
AUS	2.39	2.39	2.39	2.97	1	-20
NSW	2.73	2.73	2.73	3.12	5	-13
QLD	1.81	1.82	1.82	2.69	1	-32
SEQ	2.3	2.3	2.3	3.63	1	-37
CQ	1.54	1.57	1.58	2.39	6	-34
SWQ	1.64	1.65	1.65	2.30	1	-28
NNSW	3.01	3.01	3.01	3.51	4	-14
SNSW	2.03	2.03	2.03	2.21	18	-8

*Pred%, is the current forecast median yield as a percentile ranked relative to all 118 years in history; Forecast distribution: Worst10, PredMed & Best10 represents the 10th, 50th and 90th percentiles of the forecast distribution; Ltmed is the long–term median yield & DFY% is the deviation of the predicted median from the Ltmed simulated yield.

Descriptive note:

The seasonal sorghum outlook is based on the integration of (i) a simple agro-climatic sorghum stress index model (i.e. Bare fallow routine - Ritchie, 1972; Sorghum stress index model adapted from - Fitzpatrick and Nix, 1969; Nix and Fitzpatrick, 1969), which is sensitive to water deficit or excess during the growing season, (ii) actual climate data up to the forecasting date and (iii) projected climate data after that date. These projected data are drawn from historical analogue years based on similarity to the prevailing phase of the Southern Oscillation Index (SOI) (Stone et al., 1996). The sorghum model is run from 1 April the year before harvest in order to account for the influence of the winter fallow on starting soil moisture conditions. The model shire input parameters (i.e. plant available water content, planting rain & stress index period) have been selected based on the best fit when calibrated against actual shire sorghum yields from the Australian Bureau of Statistics (ABS) census years for the period 1983 to 2000, 2006, 2011 & 2016. Oz-Sorghum MII showed cross-validated correlations (r) ranging from 0.62 to 0.93 within the main sorghum producing shires (35) of NE Australia. These shires contributes to 96% of total average production of all sorghum producing shires.