

Seasonal Crop Outlook

Wheat - September 2008

Summary

At the end of August, current crop conditions and the seasonal rainfall outlook indicate a high chance of a median-yielding wheat crop for the 2008 season across most of Queensland. There is however some variation within the state's cropping regions. Almost the entire SEQ cropping region shows a forecast yield close to the long-term expectation, while most areas in SWQ have forecast yield below the long-term expectation. In contrast, most areas in CQ are showing yield expectations above the long-term average wheat yield for that region. Rainfall during the next few weeks, will assist in the flowering (specifically for late planted crops) and grain filling stages for most of the southern QLD cropping region, while most early planted crops in CQ have reached maturity and any further rain will thus have little impact on the final yield outcome for that region. Above average rainfall is needed during the next few weeks to improve the current below average crop yield outlook in most of southern QLD. Preliminary predicted crop area planted is ~ 800,000 ha, which is close to the average area planted for QLD.

General conditions

Most of the state's cropping area recorded below average rainfall during August. This slightly reduced the likely crop yield expectation, especially for late planted crops in most parts of the state's south-western cropping region. This was however insufficient to decrease the current crop outlook across the entire cropping region, except for some areas in the South West and Far South West of QLD's cropping region, which was negatively impacted by the drier conditions during August. Preliminary predicted planted crop area is ~ 800,000 ha, which is close to the long-term average area for QLD. Area planted in both CQ and SWQ was slightly below their long-term averages, while the area planted to winter crop in SEQ was well above average (derived by contrasting remote sensing image area estimates (June to August) against the 10-year average area planted for total winter crop in those regions).

The current pattern of the July/August SOI phase (i.e. "rapidly rising") indicates average chances (40-60%; i.e. climatology) of exceeding median rainfall for the next 3-months in most of the state's cropping region (www.longpaddock.qld.gov.au).

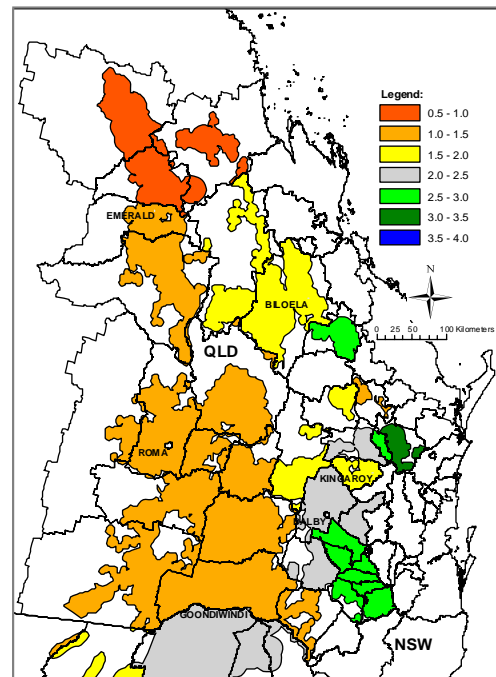
Wide spread average to above rainfall is needed during September to improve the current average shire wheat outlook across most of the state's southern cropping areas and to ensure the above average crop expectation in most areas of CQ.

Outlook

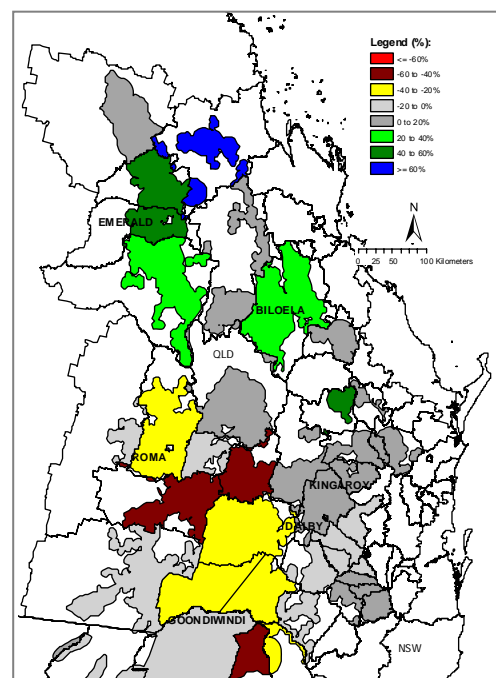
This regional wheat crop outlook is based on the assumption of cropping after summer fallow. The benchmark for this outlook is the simulated long-term median shire wheat yield within the broad cropping region of Queensland (Map 1). The median yield is based on predicted performance over the past 107 years using an agro-climatic model for wheat with long-term rainfall records (see descriptive note for more details).

The percentage departure of the forecast median for this season from the long-term median shire wheat yield is given in Map 2. **continued back page...**

Map 2 & 3 are derived by considering conditions up to the end of August this year and projecting forward based on rainfall conditions in years from the historical record with SOI phase similar to this year - "rapidly rising" in July/August. The calculation of benchmark yields and outlook chances do not take into account effects of poor crop nutrition or damage due to pests, diseases, frosts or extreme events.



Map 1: Simulated median shire yield



Map 2: Percentage departure of the forecast shire median yield for the 2008 season from the long-term shire median wheat yield, given a "rapidly rising" SOI phase during July-August period

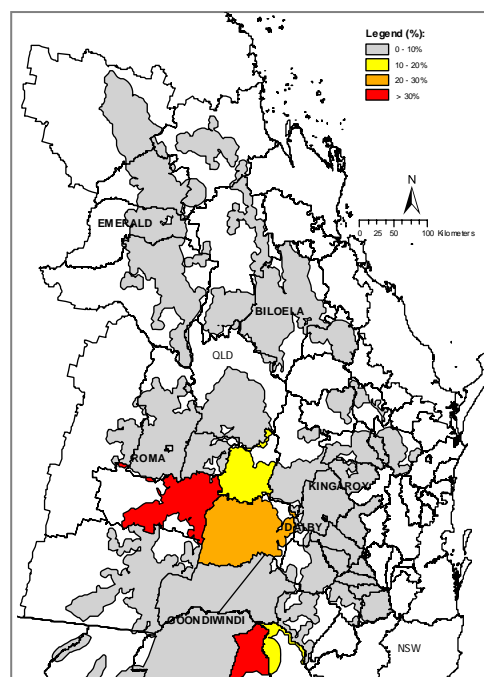
Outlook (continued)

Any areas coloured in light grey, yellow and red are expected to have crops below to very much below the long-term median yield expectation, whereas areas coloured dark grey, green and blue are expected to be above to very much above the long-term shire wheat yield median expectation.

Yield outcomes vary across the state's cropping region. Most areas are showing likely yield outcomes similar the long-term median yield. More specifically, most areas in SEQ show a forecast median close to the long-term median (-20% to 20%), while some areas in southern SWQ show a forecast median of very much below the long-term median. Areas in this SWQ region (e.g. South West and West) have been severely impacted by the lack of good widespread winter fallow and in-crop rainfall, and are showing forecast medians of up to 60% below the long-term median. The exception is most areas in CQ, which are showing above average yield outcome expectations. In those regions, most areas in the Central Highlands of CQ are showing forecast medians of 40% to 60% above the long-term median yield expectation.

Poor crop chance

At present, at this late stage of the growing season, most areas in QLD are showing chances similar to the long-term expectation (i.e. <10%) of shire yield falling in the worst 10% of all years. However, some areas in southern SWQ (e.g. Western region; Warroo shires) are showing a very much increased chance (i.e. > 30%) of falling in the worst 10% of all years.



Map 3: Probability of falling in the worst 10% of all years, for the 2008 season.

It should be noted that these values are calculated as broad indicators for shire scale. They do not apply to farm level.

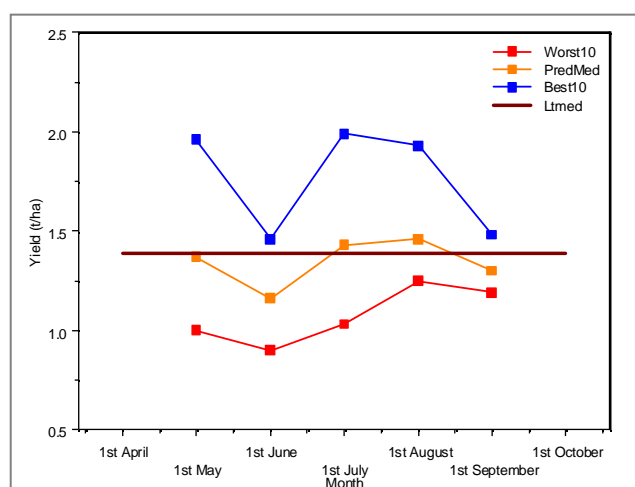


Figure A: State level yield forecast trajectories (10th, 50th & 90th percentiles).

Descriptive Note:

The seasonal wheat outlook is based on the integration of (i) a simple agro-climatic wheat stress index model (OzWheat) (i.e. Bare fallow routine - Ritchie, 1972; Wheat 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 OzWheat model is run from 1 October the year before sowing in order to account for the influence of the winter fallow on starting soil moisture conditions. The model input parameters for each shire (i.e. plant available water content, planting rain & stress index period) have been selected based on the best fit when calibrated against actual shire wheat yields from the Australian Bureau of Statistics (ABS) for the period 1975 - 1999. Spatial correlation when predicting the shire wheat yields for the 2000 season, which was independent of the training period, was 0.8 across all main wheat producing shires in Australia (245 in total). (Potgieter et al., 2006)

State outlook

At the end of August the current state wheat outlook shows a forecast median yield of 1.30 t/ha, which is similar to the long-term median of 1.39 t/ha. There is however, a 10% chance that the state yield could be as low as 1.19 t/ha or as high as 1.48 t/ha. At present, the forecast indicates a high chance of a median-yielding crop for the state.

At regional level, Southwest Qld (SWQ), Southeast Qld (SEQ) and Central Qld (CQ) (see Map 1), the forecast yield (t/ha) ranges are as follows:

Region	Worst 10%	Median (50%)	Best 10%	Long Term median
SWQ	0.78	0.90	1.19	1.28
SEQ	2.10	2.30	2.41	2.20
CQ	1.56	1.58	1.63	1.24

The forecast median for SWQ is 0.90 (t/ha), which is a decrease from the previous month and is below the long-term expectation for that regions. The forecast medians for CQ and SEQ of 1.58 (t/ha) and 2.30 (t/ha), respectively did not change much from the previous month. This outcome is close to the long-term expectation for SEQ and above the long-term expectation for CQ. Widespread above average rainfall is required during the next month to assist in the flowering and grain filling stages across southern QLD's cropping region. In CQ, most crops (apart from late planted crops) will be approaching maturity and rainfall during this stage will have little further effect on the likely crop yield outcome.