

Seasonal Crop Outlook

Wheat - August 2008

Summary

At the end of July, current soil water conditions and the seasonal rainfall outlook indicate that there is a reasonable chance of an above median wheat yield during the 2008 season for most of Queensland. This favourable crop yield expectation results from the average to above average rainfall recorded for most of the cropping region during the June to July period. There is however some variation within the state's cropping region with most areas of SEQ and CQ showing average to above average chances of exceeding the long-term median wheat yield while conversely, some areas in SWQ e.g. (Western Downs) are showing reduced chances. Wide spread above average rainfall is needed during the next couple of months (especially around flowering) to improve the current shire wheat outlook in that area.

The likely range of yield outcomes is still very wide. This range will narrow considerably over the next few months as the outlook is updated through the season.

General conditions

There was a continuation of wet conditions during July across most of the state's cropping area. Most areas in CQ, and SEQ recorded above average rainfall while most areas in SWQ recorded average rainfall during that period. This created favourable growing conditions in the lead up to flowering and grain filling for most areas of the QLD cropping region. With the planting window for wheat now closed, above average rainfall is needed around flowering, especially for late planted crops. This will also maintain the current average to above average crop yield expectation in most parts of the cropping region.

The recent pattern of the SOI ("consistently near zero" for the June-July period) indicates chances similar to climatology (i.e. 50:50) of receiving above average rainfall for most of the wheat-growing regions over the next 3-months (www.longpaddock.qld.gov.au).

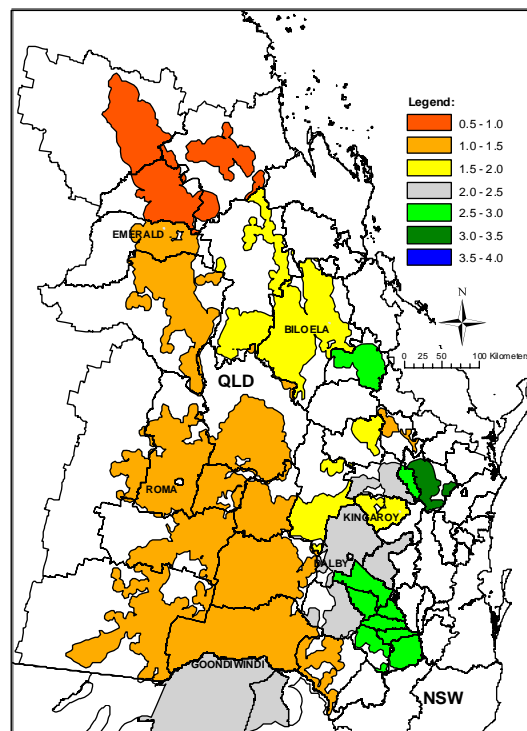
Crops sown into profiles with low soil water are more dependent on in-crop rainfall, and in such situations forecasts based on SOI phases can be most useful.

Outlook

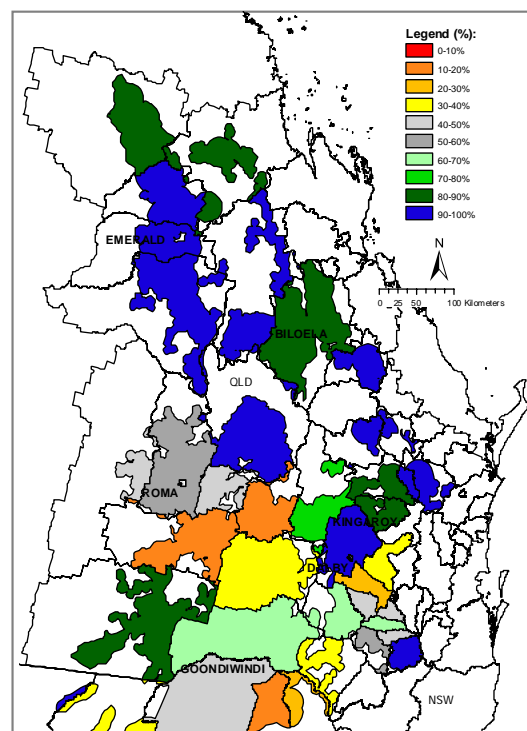
This regional wheat crop outlook is based on the assumption of cropping after summer fallow. The benchmark for this outlook is the simulated long-term median shire wheat yield within the broad cropping region of Queensland (Map 1). The median yield is based on predicted performance over the past 107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

The probability of exceeding the long-term median shire wheat yield for the coming season is shown in Map 2. **continued back page...**

Map 2 & 3 are derived by considering conditions up to the end of July and projecting forward based on rainfall conditions in years from the historical record with SOI phase similar to this year - "consistently near zero" in June/July. 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: Probability of exceeding the long-term median simulated shire yield.

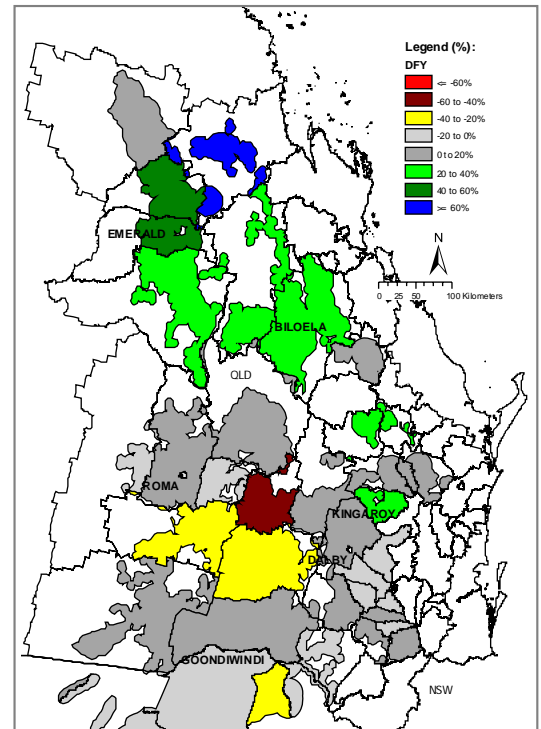
Outlook (continued)

An average to above average crop yield is likely across most of the state's cropping region. However, there is some variation among regions. Map 2 shows most areas of Central Highlands, Dawson Callide, Central Burnett, the northern Downs, South West, Far South West and South West have an above average chance (>70%) of exceeding the long-term median wheat yield. Conversely, some areas in the Western Downs are showing a reduced chance (<40%) of exceeding the long-term median yield, while the remainder of the state shows chances similar to the long-term average (i.e. ~50%). Note that the traditional planting window has closed and widespread above average rainfall during the next couple of months is needed to maintain the above average crop yield outlook across most of the cropping region and to improve the outlook in parts of the Western Downs.

It should be noted that at this stage, there remains a wide range of likely yield outcomes for the 2008 season (see State Outlook section) as much of the growing season remains in the projected forecast. Updating with actual climate and thus shortening of the forecast period will cause the range of yield outcomes to narrow towards the final realised yield at the end of the season.

Poor crop chance

At present, at this stage in the growing season, most areas in QLD are showing chances similar to the long-term expectation (i.e. <10%) of the shire yield falling in the worst 10% of all years. The exception is some areas in the Western Downs, which show a slightly increased (i.e. 10% to 20%) chance of shire yield falling in the worst 10% of all years (Map 3).



Map 3:

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

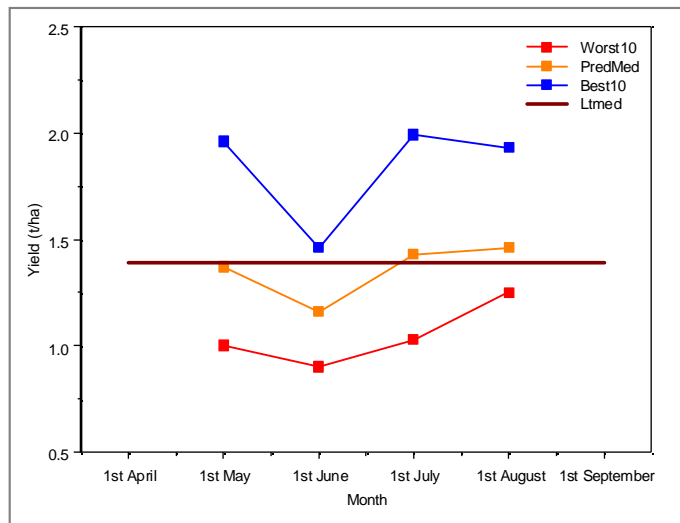


Figure A: State level yield forecast trajectories (10th, 50th & 90th percentiles).

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 Oz-Wheat 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

The current state wheat outlook shows a forecast median yield at the end of July this year as 1.46 t/ha, which is close 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 1.25 t/ha or as high as 1.93 t/ha. At present – in this early part of the season - the forecast indicates an average 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%	Lt - median
SWQ	0.93	1.14	1.82	1.29
SEQ	2.09	2.29	2.59	2.20
CQ	1.47	1.60	1.84	1.24

SEQ region shows a forecast median 2.29 t/ha similar to the long-term media of 2.20 t/ha. The improvement in the forecast median to 1.60 t/ha for CQ from the previous month was mainly a result of the above average rainfall recorded during July in that region. Conversely, the crop yield expectation of 1.14 t/ha in SWQ was slightly below the long-term expectation for that region. There remains, however, quite a wide range of possible outcomes that will depend on conditions in the remainder of the growing season. The current SOI phase ("consistently near zero" in June/July) indicates chances similar to climatology (i.e. 50:50) of above average rainfall during the next 3-months for most of the state's wheat-growing regions.