*Information sheet*

# Prevent - step 1
## RE-ASSESS AND MONITOR YOUR CLIMATE RISKS

**The first step to implementing the PPRR approach in your horticultural business is to review and update your climate risk assessment. There are three important parts to this:**

- **Identify extreme weather and climatic hazards you may be exposed to**
- **Consider whether new risks are emerging in the future**
- **Make use of seasonal outlook information and on-line forecasting tools**

### Assess your exposure

Horticulture businesses are highly exposed to a range of climatic hazards. The first step to being disaster prepared is to think through the kinds of extreme weather or other climate hazards that could affect your farm business. This might include:

- Cyclone
- Severe storm (rain, wind, hail)
- Intense rain / flood
- Storm surge
- Heat wave
- Bushfire
- Drought

There may be other climate-related risks, as well. Keep the hazards you are most likely to be exposed to in mind as you develop your disaster preparation and response strategies.

While past experience guides much of our climate risk assessment, it is important to next take into account shifts that are occurring in our climate.

### Be informed about the ways climate risks are changing

Past climatic patterns may not be a good indicator of future climate risks. It is a good idea to tune in to climate projections that are published regularly by CSIRO and the Bureau of Meteorology (BoM) to help assess how your climate risks may be changing into the future.

CSIRO / BoM climate projections indicate that Queensland growers should plan for

- Overall warming with more extreme heat days and fewer extreme cold events.
- Increased spring/summer monsoonal rainfall in northern Australia. Records show that this trend is already established.
- Increasingly variable rainfall with more dry days and longer dry spells but also more intense rainfall events. So total annual rainfall may reduce but rain is expected to fall in heavier events.
- Increasing cyclone intensity. The overall number of cyclones per year is likely to stay the same (or there may be fewer), however, there may be an increase in the number of severe, category 4 and 5 cyclones.

For further information go to

*http://www.csiro.au/Outcomes/Climate/Understanding/State-of-the-Climate-2014.aspx*

Some industry organisations have invested in research investigating changing climate risks for specific crops or production regions. Reports are available for the apple and pear, avocado, and vegetable industries.

Some regional natural resource management organisations may also have analyses regarding regional climate projections that could also be useful for growers.

Other climate information sources include:

- Bureau of Met *http://www.bom.gov.au/climate/*
- Australian Government *http://www.climatechangeinaustralia.gov.au/en/*
- International Panel on Climate Change *http://www.ipcc.ch/*

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# Re-assess your climate risks and monitor seasonal outlooks

**WHATEVER THE WEATHER**

## Monitor seasonal outlooks and forecasts

Improved atmospheric modelling systems are helping to improve the accuracy of the seasonal outlooks prepared by the BoM. Seasonal outlooks are prepared for temperature, rainfall and cyclones.

For more information go to

*http://www.bom.gov.au/climate/outlooks/#/overview/summary*

Here is a wrap up of some of the websites that may provide useful weather forecasting or monitoring information.

***Weekly Tropical Climate Note***

Issued each Tuesday by the BoM, this website provides an easy to read summary of key climate drivers for the tropics. Typically it includes an update of the Madden-Julian Oscillation (MJO), ENSO and, depending on the time of the year, the onset of the wet season and the state of the monsoon.

It is available from *http://www.bom.gov.au/climate/tropnote/tropnote.shtml*.

***ENSO Wrap-up***

This webpage provides detail on the state of ENSO. It covers the sea surface temperature in the NINO regions, sea sub-surface temperature, SOI, Trade Winds, cloudiness, the consensus of international climate models and the state of the Indian Ocean Dipole.

See *http://www.bom.gov.au/climate/enso/*.

***The Climate Kelpie***

Provided by the Managing Climate Variability R&D Program, this web site provides access to a suite of tools that can help in understanding Australia's climate and with a focus on agricultural producers. The pages on drivers for climate weather (*http://www.climatekelpie.com.au/understand-climate/weather-and-climate-drivers*) and projected changes in climate and variability (*http://www.climatekelpie.com.au/see-forecasts/climate-change-projections*) are of greatest interest to horticultural producers in the context of temperature forecasting.

***POAMA (Predictive Ocean Atmosphere Model for Australia)***

The POAMA is the new statistical system that the BoM is using to generate seasonal forecasts for Australia. It uses linked models of ocean and atmosphere physics at a global scale and can provide a variety of outputs such as temperature, rainfall and sea surface temperature.

Growers can register as users on the POAMA website and learn how to generate their own seasonal forecasts. Some training would be required - contact your local DAFF as a starting point. Growers can access useful information and generate their own analysis for temperature, rainfall, onset of wet season in Northern Australia, the MJO (Madden Julian Oscillation), blocking forecasts, the Southern Annular Mode.

POAMA provides a zero lead time forecasts for up to 2 months ahead with a 'better than chance' result.

See *http://www.bom.gov.au/climate/poama2.4/poama.shtml*

## A revised risk assessment

Reviewing historical exposure to climate hazards, future climate projections and seasonal forecasts enable growers to build a more complete picture of the climate risks to plan for in their farm business.

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