

NSW Primary Industries  
**Climate Change  
Research Strategy**

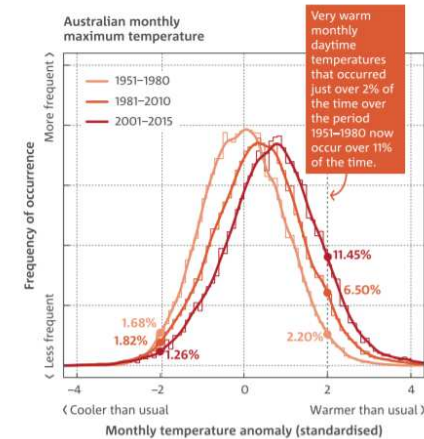


# Climate change and agriculture – risks and responses

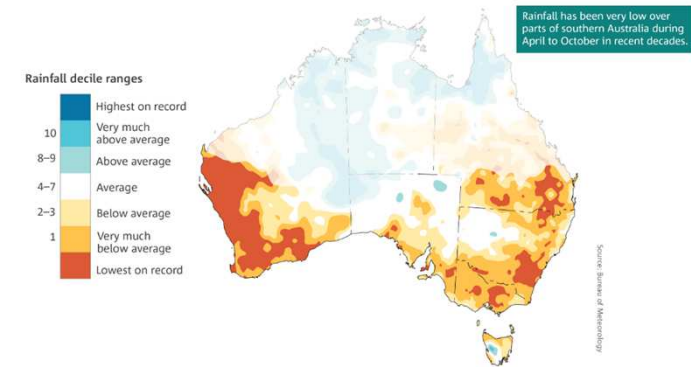
Adapt NSW Forum – November 2019  
Dr Jason Crean, Director Climate R&D

# Key climate risks

- Primary industries – production intrinsically linked to climate
- Increasing temps, more extremely hot days/less cool days.
- Lower winter and spring rainfall in southern Australia, more time in drought
- More intense heavy rainfall, particularly short-duration extreme rainfall events.
- Australian agriculture - strong productivity growth in a variable climate



Source: Bureau of Meteorology



April to October rainfall deciles for the last 20 years (1999–2018). A decile map shows where rainfall is above average, average or below average for the recent period, in comparison with the entire rainfall record from 1500. Areas across northern and central Australia that receive less than 40 per cent of their annual rainfall during April to October have been faded.

## Climate change challenges for agriculture

- **Dryland agriculture** - Rising temperatures, less rainfall, extreme events (heat waves, extended droughts).
- **Irrigated agriculture** - small changes in rainfall manifest into large changes in runoff and storage volumes.
- **Livestock** - increase heat stress can result in reductions in animal productivity.

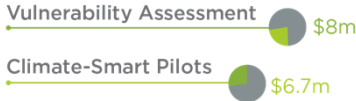


- **Horticulture** - higher min temperatures reduces winter chill for fruit and nut crops and can reduce yields.
- **Biosecurity** - possible new bioclimatic niches for weeds, pests and diseases.

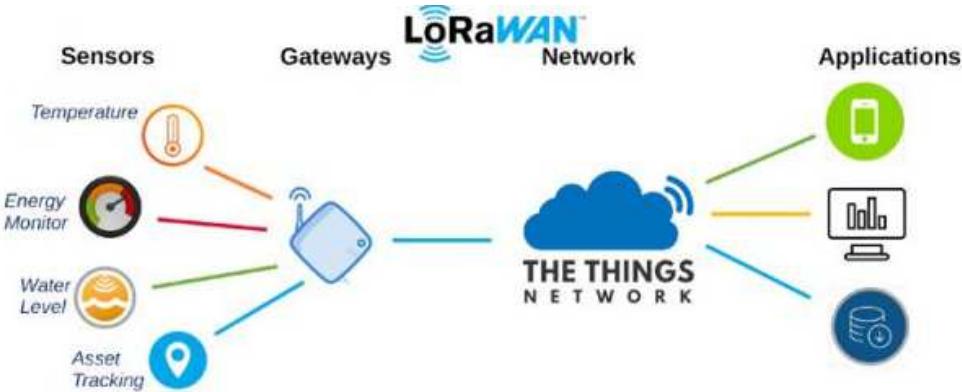




# CCRS – Climate Resilience Theme



## Climate-Smart Pilots



## Vulnerability Assessment

