

**Annastacia Palaszczuk** ✓ @AnnastaciaMP · Feb 18

I accept the science of climate change, so does everyone in my govt. I would hope that in the forthcoming federal election campaign, media will ask all candidates whether they accept climate change. @QldMediaClub #qldpol

**In Canberra we have had  
policy paralysis for years.**

**Ideology has unseated  
science, evidence and  
facts are simply ignored.**

Queensland Media Club Address  
19 February 2019

**Labor**

266

278

704





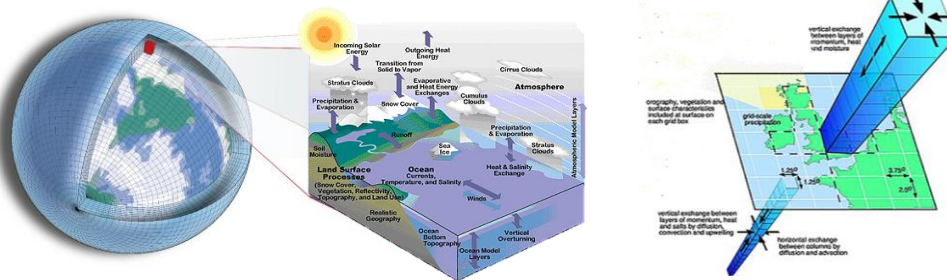
# Queensland Future Climate Dashboard

*a new web-platform to support regional climate adaptation  
with cutting-edge modelling across Queensland*

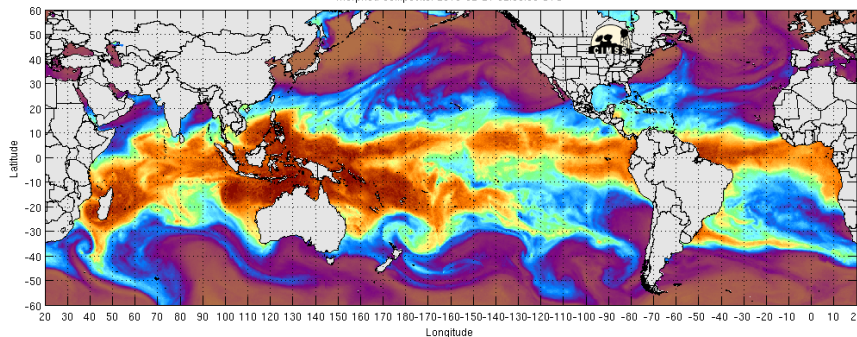
Ralph Trancoso  
Jozef Syktus



## Climate Models

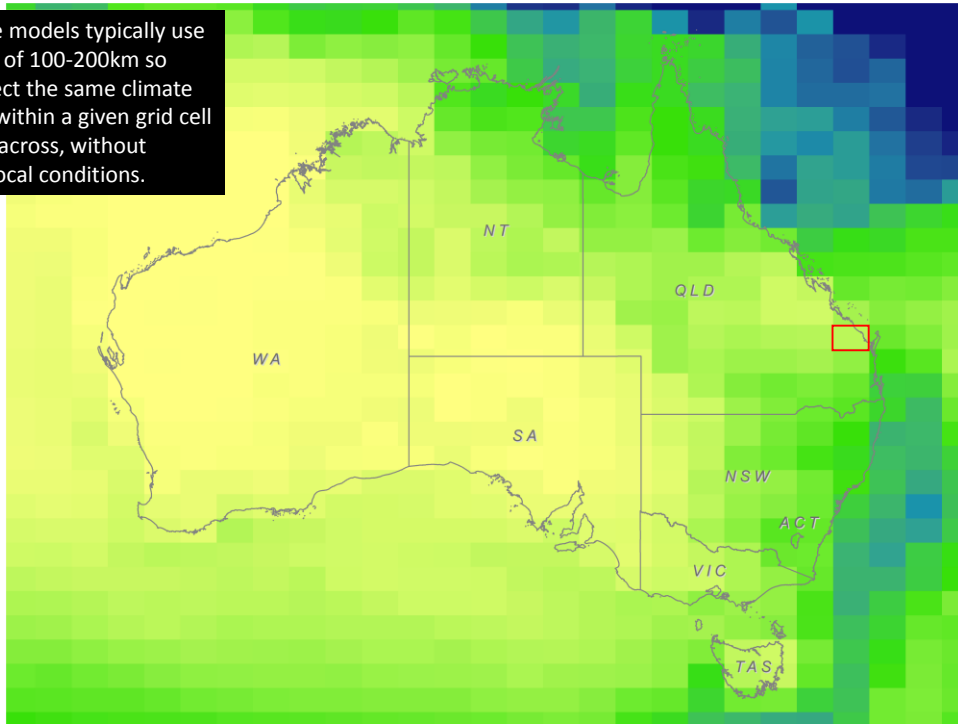


Morphed composite: 2013-02-21 02:00:00 UTC

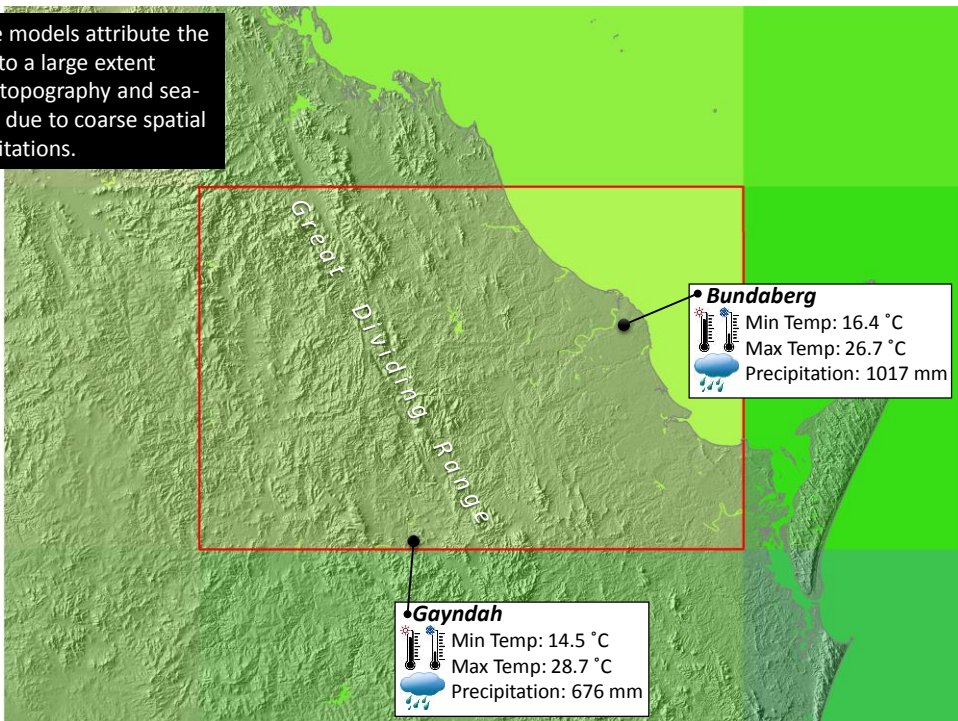




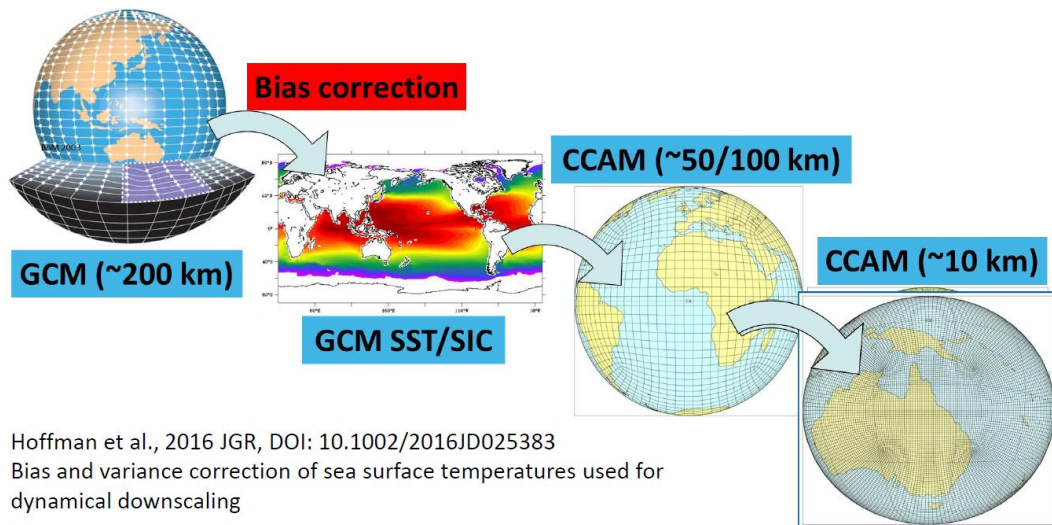
Global climate models typically use a grid cell size of 100-200km so they will project the same climate for any place within a given grid cell up to 200 km across, without reference to local conditions.



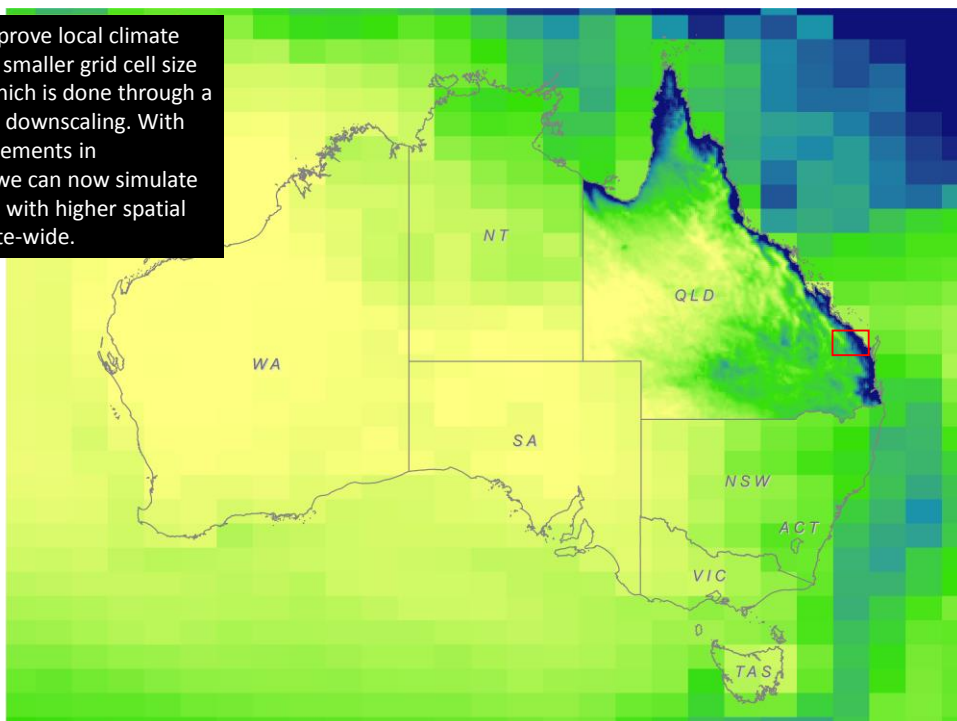
Global climate models attribute the same climate to a large extent ignoring local topography and sea-land contrasts due to coarse spatial resolution limitations.



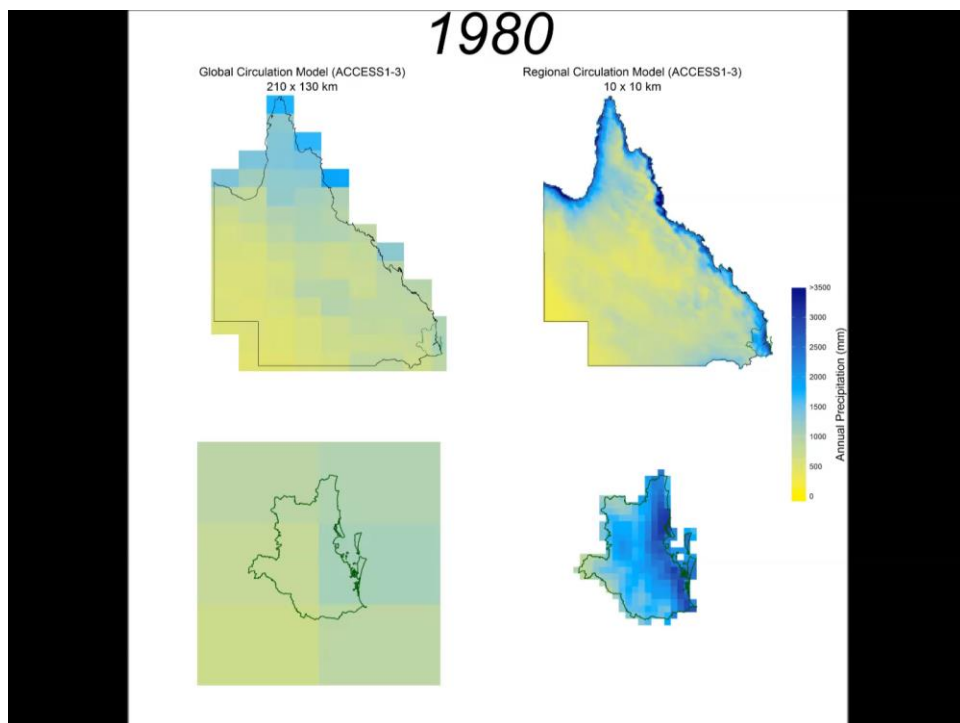
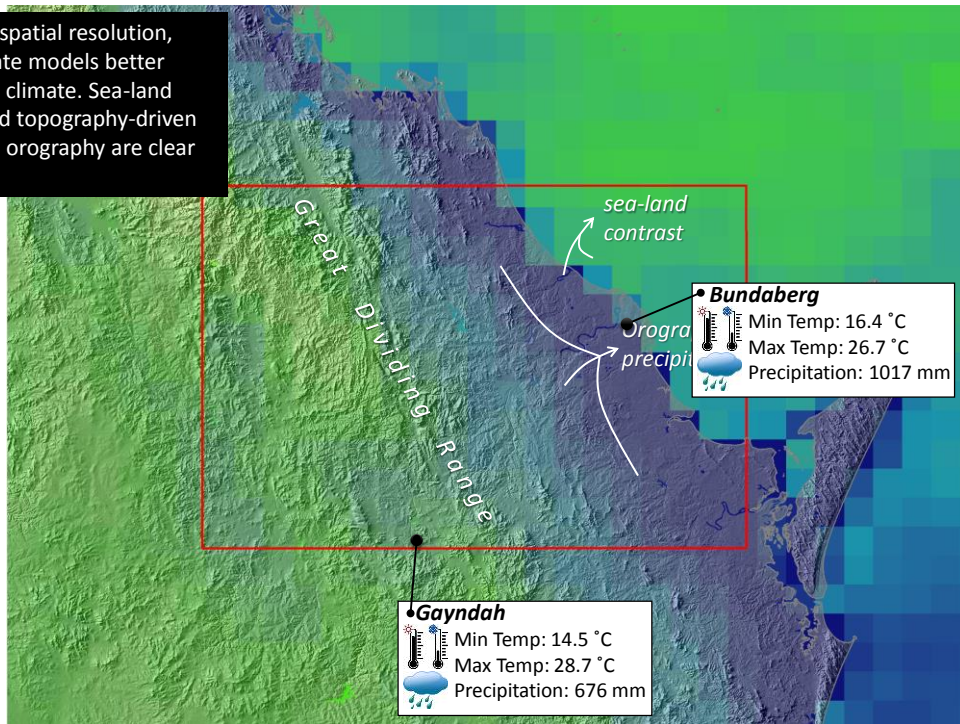
## Downscaling GCMs to provide climate change projections at regional scale



In order to improve local climate simulations, a smaller grid cell size is required, which is done through a process called downscaling. With recent advancements in computation we can now simulate future climate with higher spatial resolution state-wide.

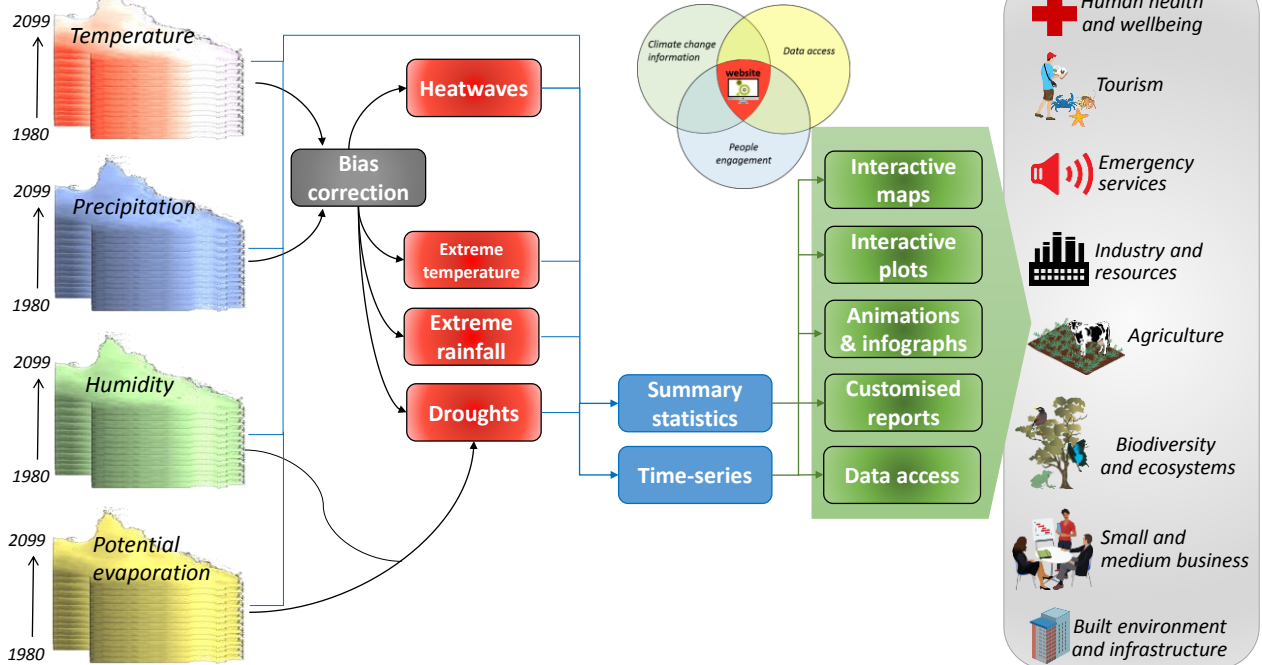


By improving spatial resolution, regional climate models better simulate local climate. Sea-land distinction and topography-driven processes like orography are clear advantages.

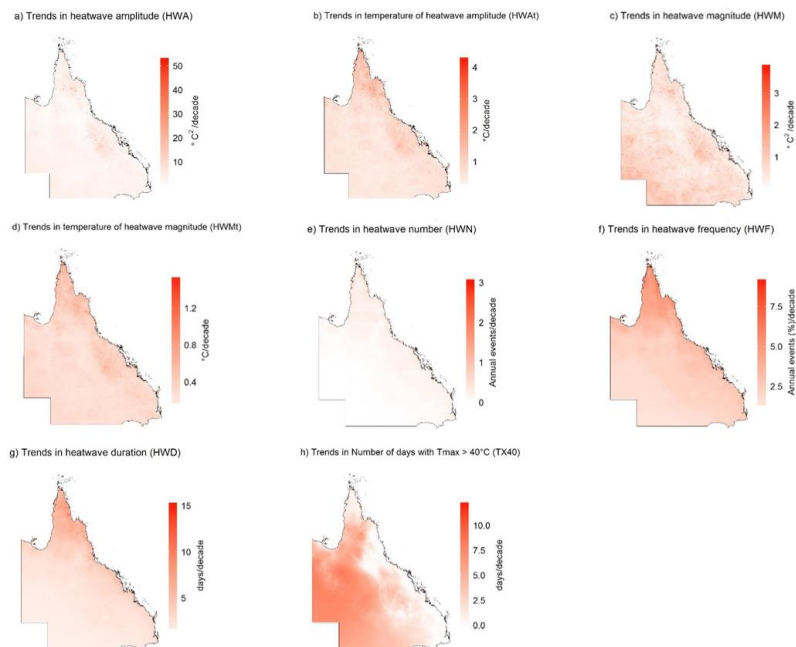




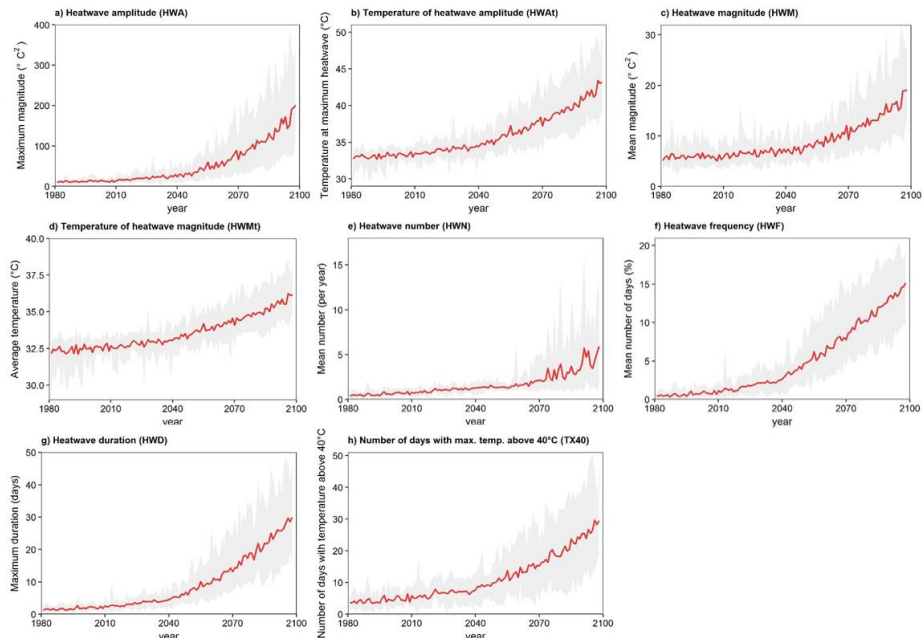
## Bridging the gap between regional projections and policy needs



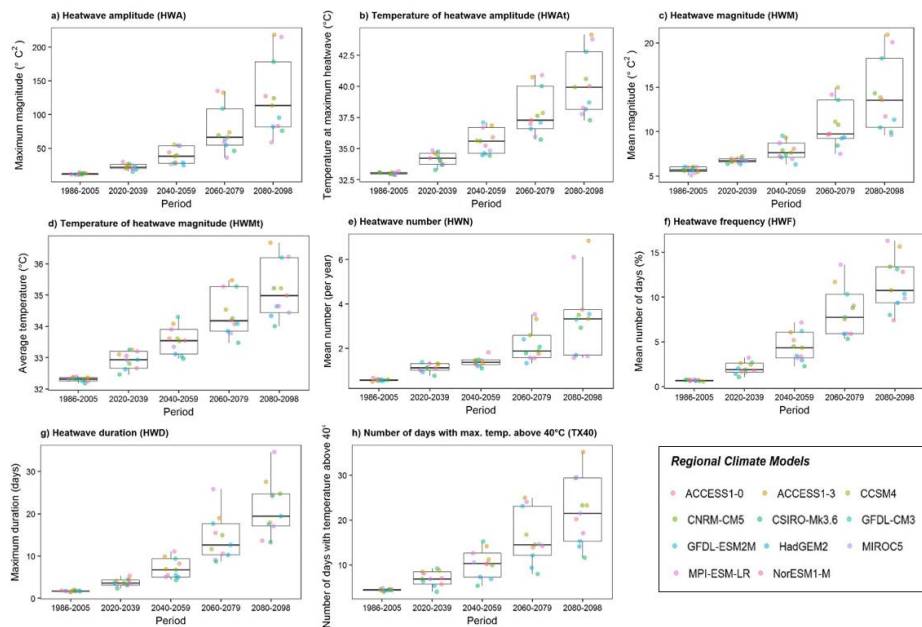
## Trends in heatwave characteristics within Queensland from climate simulations (1981-2098)



## Continuous projections for heatwaves within Queensland State (1981-2098)

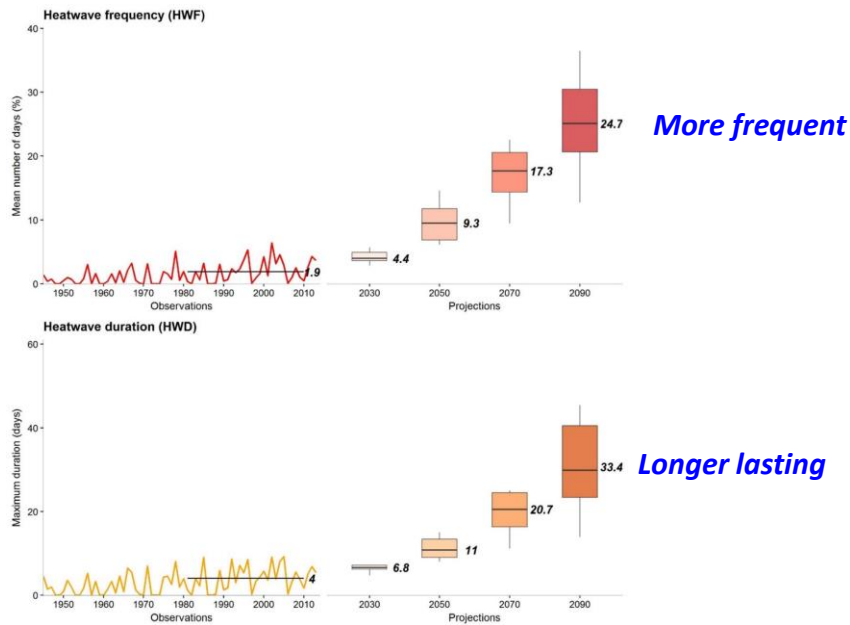


## Long-term steady state shifts in heatwave characteristics within Queensland (1986-2098)



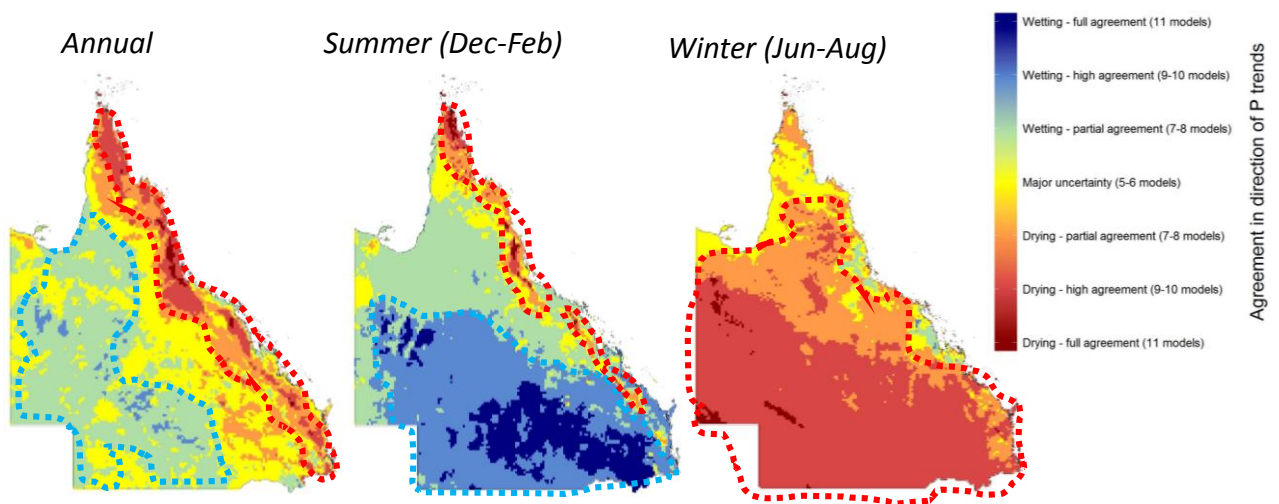
## Providing quality data for decision making

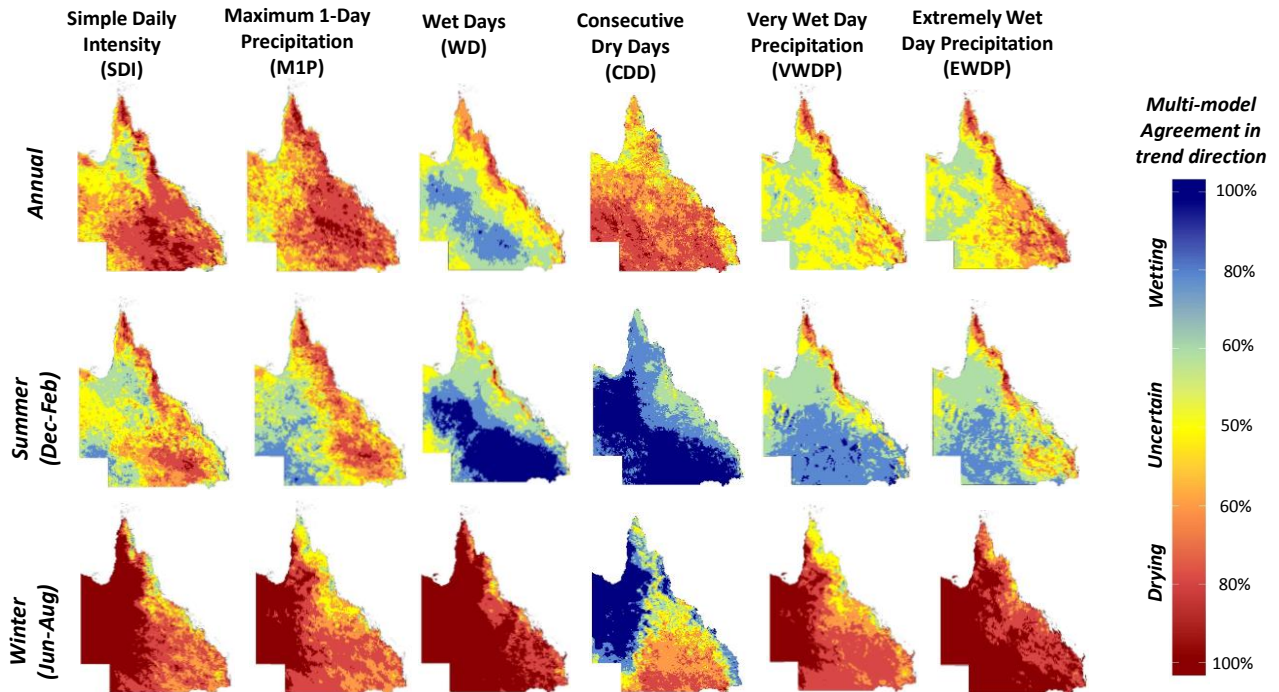
Heatwaves: a summary of observations and projections for SEQ



## Uncertainty in projected precipitation trends (1980-2099): integrating 11 downscaled climate models

Major uncertainties at annual time-step, but higher agreement of wetter summer and drier winter over most of Queensland



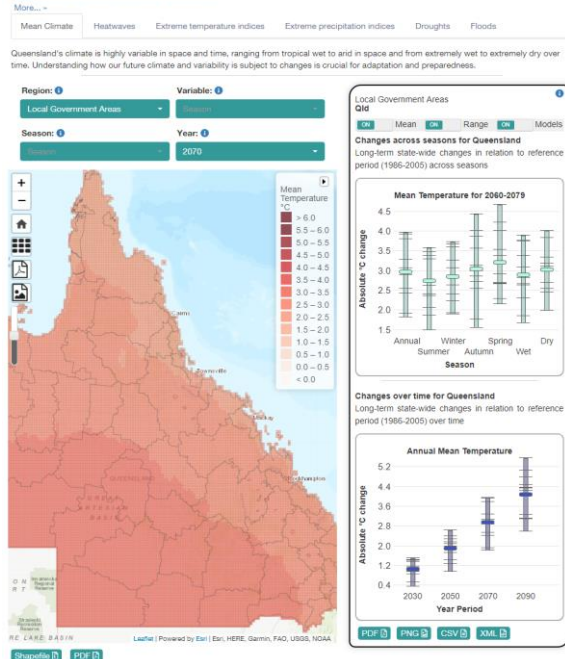


## Queensland Future Climate Dashboard

- Fully interactive online platform to provide climate change simulations at regional scale
- 6 climate themes
- 30 variables
- Calendar seasons, wet and dry periods and
- 5 regional divisions with spatially aggregated data
- Support to local and regional planning, biodiversity and water management and emergency services

### High Resolution Climate Change Projections

#### Queensland Future Climate Dashboard







# Queensland Future Climate: Understanding the data

▼



# Queensland Future Climate: Heatwaves

▼

# PROJECTED CHANGES ON AVERAGE TEMPERATURE ANOMALIES FOR THE STATE OF QUEENSLAND

A satellite image of Australia, showing the continent's landmass in brown and green, surrounded by the blue oceans. The image is taken from a high angle, showing the curvature of the Earth.

Thank you

Ralph.Trancoso@des.qld.gov.au  
r.trancoso@uq.edu.au