Dubbo: A Climate Analogue Town for Bairnsdale for the Year 2090

Analogue based on the maximum consensus of models, based on <u>CMIP5</u>, for the year 2090 and a high emissions scenario, (RCP 8.5). Information developed using the CSIRO

Dubbo (NSW)













| Dubbo Bairnsdale | Av. Annual (1981-2010) Rainfall (mm) | Season | Mean Max. Temperature C ⁰ | | | Mean rainfall (mm) | | |
|-------------------|--|--------|--------------------------------------|------------------------------------|--------------------|-------------------------|------------------------------------|--------------------|
| | 3200 2400 1800 | | Bairnsdale (current) | Bairnsdale (projected 2090)* | Dubbo (current) | Bairnsdale (current) | Bairnsdale (projected 2090)* | Dubbo (current) |
| | 900 | Spring | 20 | 23.8 | 24.3 | 191.1 | 145.6 | 153.8 |
| | 600 | Summer | 25.4 | 29.2 | 32.2 | 165.9 | 150.1 | 161.4 |
| | 300 | Autumn | 20.9 | 24.5 | 24.6 | 159.7 | 161.5 | 146.7 |
| | 200 | Winter | 15.4 | 18.4 | 16.1 | 147.1 | 134 | 127.8 |
| | 50 | ANNUAL | 20.4 | 24.0 | 24.3 | 663.8 | 591.2 | 589.8 |

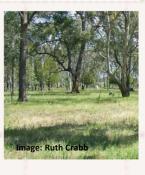
Bairnsdale (Eastern Victoria)











* This analogue has been further refined to include projected seasonal changes. It assumes an average rainfall decline across the Southern Slopes Region of 11% and average temp. increase of 3.5 C⁰, based on data from the <u>Climate Futures Tool</u>. For Dubbo, mean spring & autumn temp. is within +/-1°C and average annual rainfall is within +/-2% respectively of this future scenario for Bairnsdale.

Analogue Logic

Information above was developed using the CSIRO Climate Change in Australia Analogue Explorer Tool*

The above analogue is based on the average annual rainfall and temperature in the year 2090, maximum consensus of models (CMIP5) and a high emissions scenario (RCP 8.5). Global GHG emissions are currently tracking at the IPCC's RCP 8.5 scenario that leads to the most warming. To gain insight into other potential analogue towns for Bairnsdale, (which assumes we achieve the more ambitious target of limiting warming to between 1.1°C to 2.6°C degrees by 2100), run the Analogue Tool using the RCP 4.5 scenario. This scenario is considered as an achievable, intermediate mitigation scenario where GHG emissions peak earlier (around 2040) and the CO₂ concentration reaches 540 ppm by 2100.

Other analogue towns under a range of RCP's can be explored using the Analogue Tool

*NOTE: variables such as seasonality, frost days & other local climate influences, radiation & soil types were not included in developing this analogue.