## Wangaratta: A Climate Analogue Town for Colac for the Year 2090

Analogue based on the maximum consensus of models, based on CMIP5, for the year 2090 and a high emissions scenario, (RCP 8.5). Information developed using the CSIRO Climate Change in Australia Analogue Explorer Tool



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## Wangaratta

(North east Victoria)





Centimetres 20 30 40 50 60 80 100 120 160 200 8 12 16 20 24 32 40 48 64 80 Inches	Season	Mean Max. Temperature C <sup>o</sup>			Mean rainfall (mm)		
		Colac (current)	Colac (projected 2090)*	Wangaratta (current)	Colac (current)	Colac (projected 2090)*	Wangaratta (current)
Wangaratta Colac	Spring	18.3	22.1	21.2	203.2	154.8	168.7
	Summer	25	28.8	30.3	116.6	106	128.3
	Autumn	19.5	23.1	22.5	166.8	168.6	131.3
	Winter	13.1	16.1	13.8	237.3	216.2	190.9
	ANNUAL	19.0	22.5	22.0	723.9	645.6	619.2



\*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 C<sup>0</sup>, based on data from the Climate Futures Tool. For Wangaratta, mean spring & autumn temp. is within +/-1°C and rainfall across all seasons is within +/-11% respectively of this future scenario for Colac.

## **Analogue Logic**

Information above was developed using the <u>CSIRO Climate Change in Australia Analogue Explorer Tool</u>\*

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 potential analogue towns for Colac, (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 CO<sub>2</sub> 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.

\*RCP (Representative Concentration Pathways) are among those scenarios used in the IPCC Fifth Assessment Report (2013). The Maximum Consensus scenario was chosen. This is a scenario defined using the Climate Futures approach .