



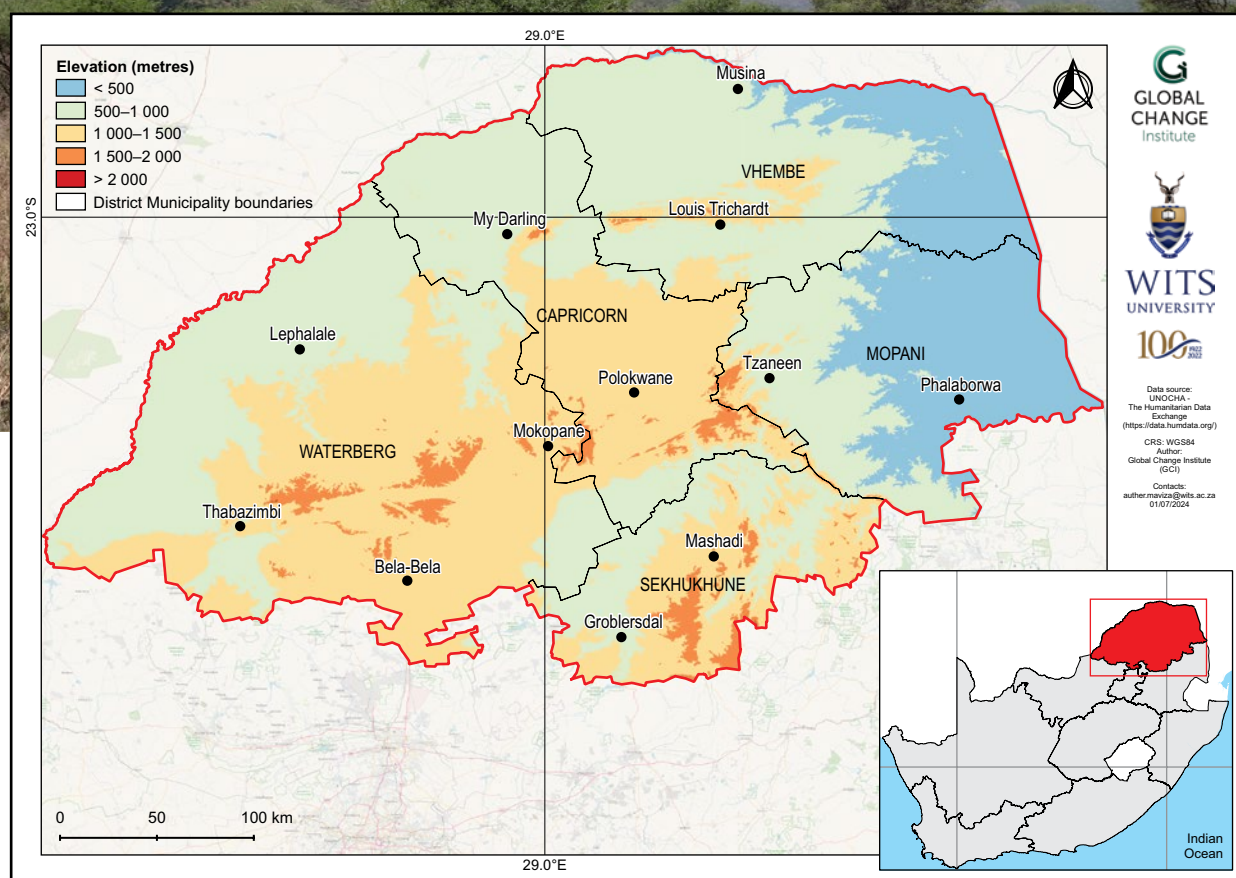
# Limpopo climate change fact sheet

## South Africa

## PROVINCIAL

### Introduction

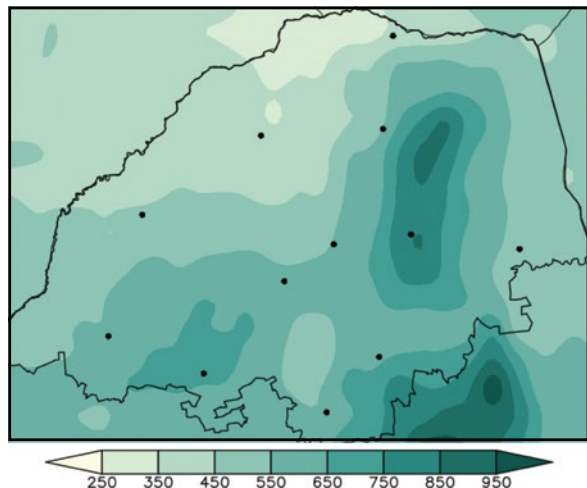
- This fact sheet is part of a series of provincial fact sheets developed by the Wits GCI and SANBI. The fact sheets present a summary of observed and projected changes in climate over the provinces of South Africa. They should be used together with the guidelines presented in the cover page.
- Limpopo covers an area of approximately 125 754 km<sup>2</sup>, with elevation ranging from 200 to 600 m above sea level in the lowlands of the Limpopo River valley, increasing to 2 100 m above sea level in the Soutpansberg and northern Drakensberg ranges.
- The climate exhibits pronounced wet-dry seasonality with the bulk of rainfall occurring in summer. The climate is semi-arid in the north, but with higher rainfall totals over the southern plateau, reaching more than 800 mm annually over the eastern escarpment. Rainfall decreases east of the escarpment over the Lowveld.



## Observed climate: rainfall (1981–2000)

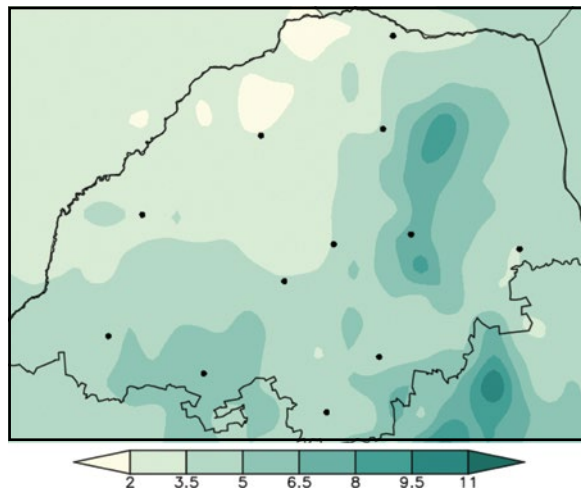
### Mean annual rainfall

Mean annual rainfall ranges from 250 mm in parts of the Limpopo valley to about 800 mm over the eastern escarpment.



### Extreme rainfall days

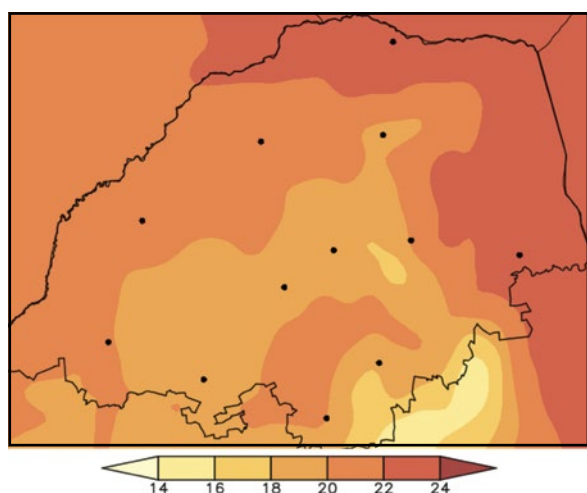
Observed mean annual number of extreme rainfall days range from about 1 in the semi-arid northern parts to more than 6 days over the eastern escarpment.



## Observed climate: temperature (1981–2000)

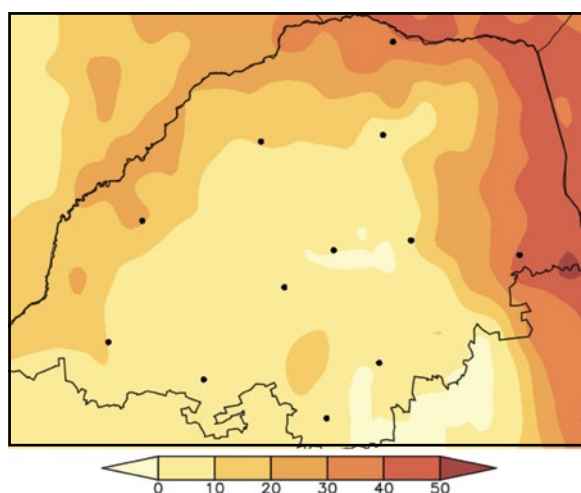
### Mean annual temperature

Mean annual temperature ranges from 14 °C in the southern highlands to 24 °C over the Lowveld and the Limpopo River valley.



### Very hot days

On average less than 10 very hot days occur annually over the southern plateau, increasing to the north and east, reaching values of more than 40 days per year in the Lowveld.

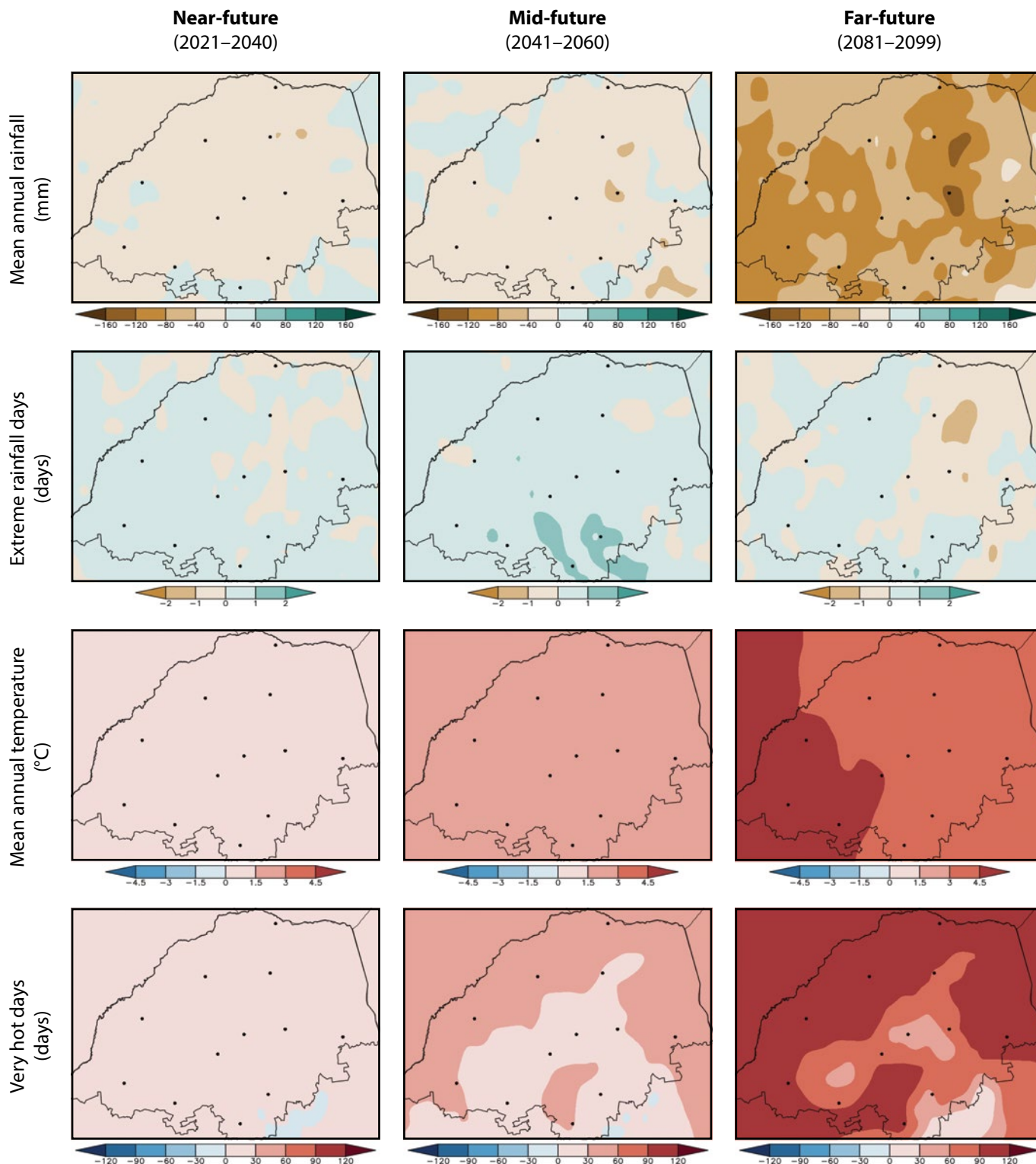


## Observed climate trends (overview)

- Observed decrease in mean annual rainfall (*low confidence*).
- Observed increase in the frequency of extreme rainfall events (*high confidence*).
- Observed increase in mean annual temperature and warm extremes (*virtually certain*).
- Observed increases in meteorological and agricultural drought (*low confidence*).

## Projected future climate change (overview)

- Projected decrease in mean annual rainfall into the future (*high confidence*).
- Projected general increase in the frequency of extreme rainfall events (*high confidence*).
- Projected increase in mean annual temperature and warm extremes (*virtually certain*).
- Projected increase in agricultural and meteorological drought (*high confidence*).





## Projected future climate change (detailed)

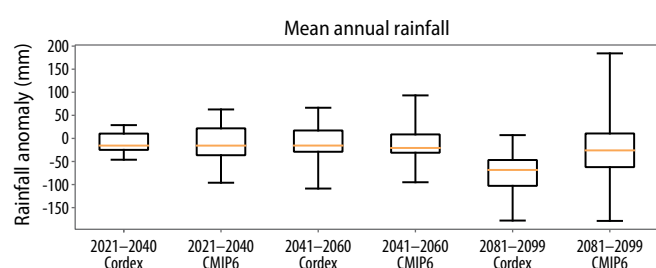
### Near- and mid-future

- Projected decrease in rainfall (*likely*).
- Projected increase in extreme rainfall events (*likely*).
- Projected increase in temperature and warm extremes over entire province (*virtually certain*).
- Projected increase in meteorological and agricultural drought (*likely*).

### Far-future

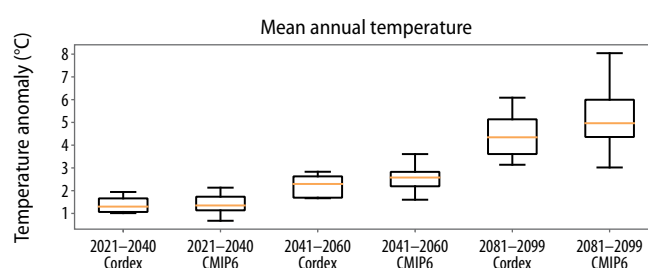
- Projected decrease in rainfall (*very likely*), with corresponding increases in meteorological and agricultural drought (*very likely*).
- Projected increase in extreme rainfall events (*likely*).
- Projected increase in temperature and warm extremes over entire province (*virtually certain*), with drastic increases over the Limpopo River valley and the Lowveld.

## Climate model projections: model agreement and uncertainties



### Mean annual rainfall

- Averaged across the province, rainfall is projected to decrease in the near- and mid-future (*likely*).
- Rainfall decreases are *very likely* in the far-future under low mitigation scenarios.
- Partially in response to *virtually certain* temperature increases, agricultural and meteorological droughts are to occur more frequently in the near- and mid-future (*likely*) and far-future (*very likely*).



### Mean annual temperature

- Temperature increases averaged across the province are *virtually certain* in the near-future and may be as high as 2 °C.
- Under low mitigation, further temperature increases are *virtually certain* and may approach 3.0 °C in the mid-future and 6.0 °C in the far-future.
- Increases in average temperature will be accompanied by increases in warm temperature extremes such as heatwaves and high fire danger days (*virtually certain*).

#### Citation:

Engelbrecht, F.A., Maviza, A., Steinkopf, J., Vogel, C., Von Maltitz, G., Yose, P. & Barnett, M. 2025. *Sub-national climate change fact sheets for South Africa*. © South African National Biodiversity Institute (SANBI) and University of the Witwatersrand – Global Change Institute (WITS-GCI). DOI: <https://doi.org/10.5281/zenodo.16962181>.

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