



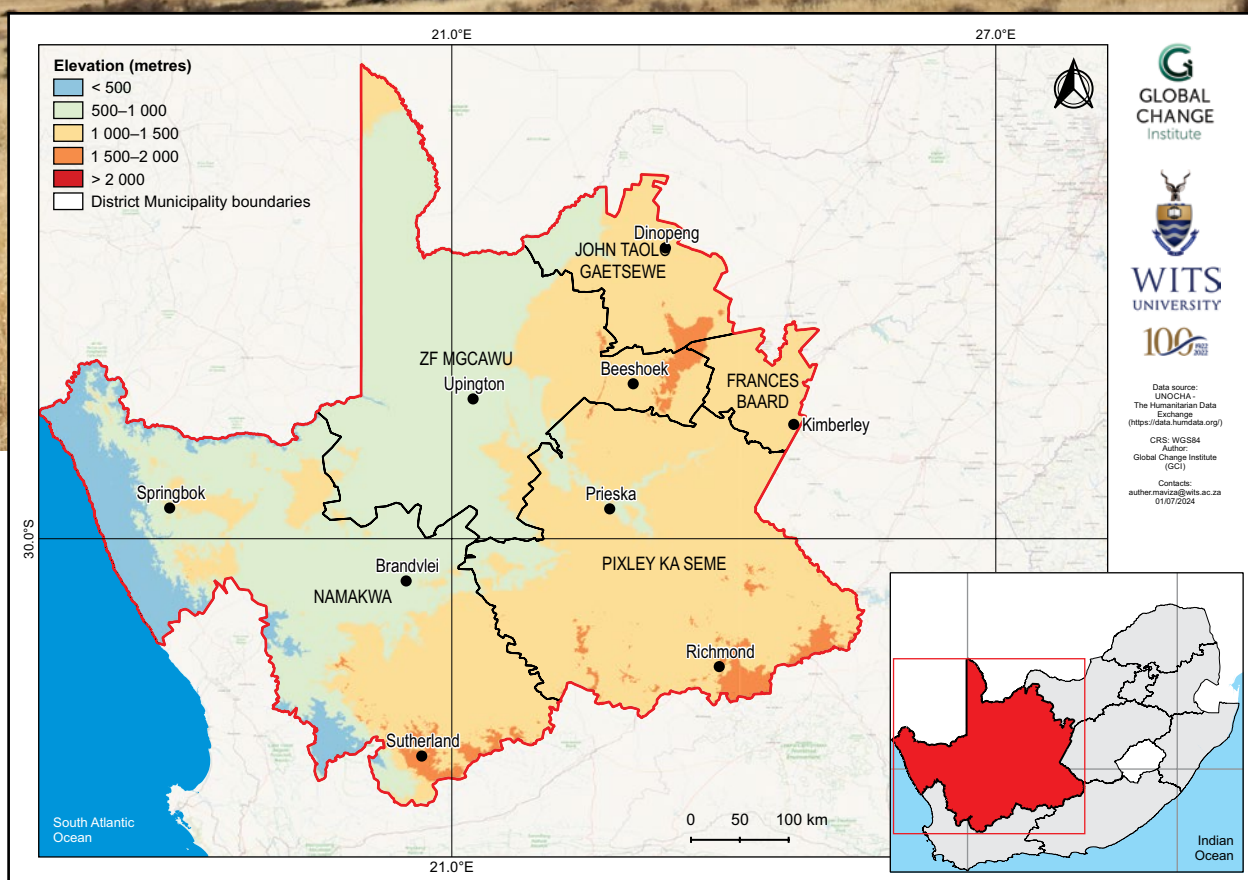
Northern Cape climate change fact sheet

South Africa

PROVINCIAL

Introduction

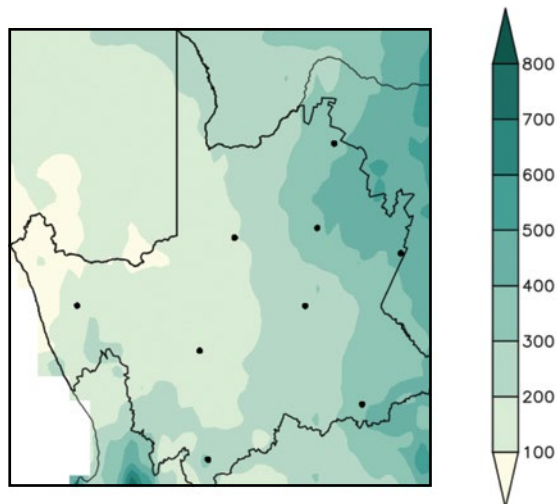
- This fact sheet is part of a series of provincial fact sheets developed by the Wits GCI and SANBI. The fact sheets present a summary of observed and projected changes in climate over the provinces of South Africa. They should be used together with the guidelines presented in the cover page.
- The Northern Cape covers an area of approximately 372 889 km², with elevation ranging from sea level along the Atlantic Ocean coastline to approximately 2 200 m above sea level in the Roggeveld and Nuweveld mountain ranges.
- The province has a semi-arid to arid climate, with annual rainfall totals less than 200 mm in the west. The Northern Cape is a summer-rainfall region in the east with winter rainfall extending from the Western Cape into the western parts of the province.



Observed climate: rainfall (1981–2000)

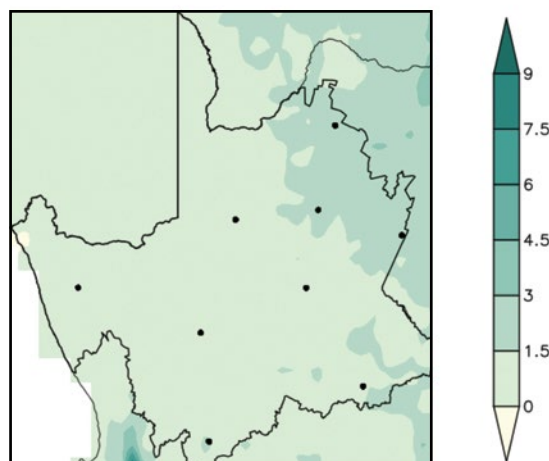
Mean annual rainfall

Mean annual rainfall ranges from less than 100 mm over the far northwestern parts to almost 500 mm in the eastern border parts.



Extreme rainfall days

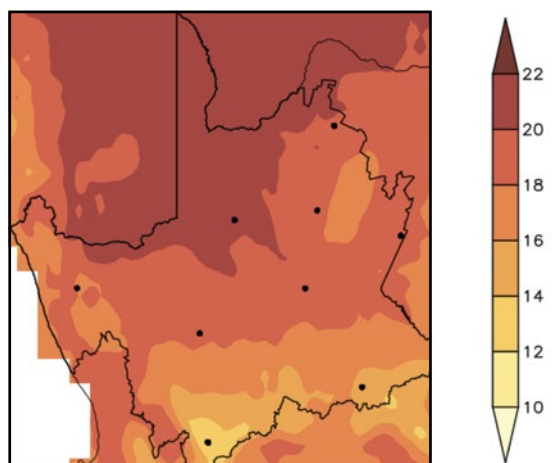
The average annual number of extreme rainfall days range from about 1 day in the west and central parts to 2 days in the far east.



Observed climate: temperature (1981–2000)

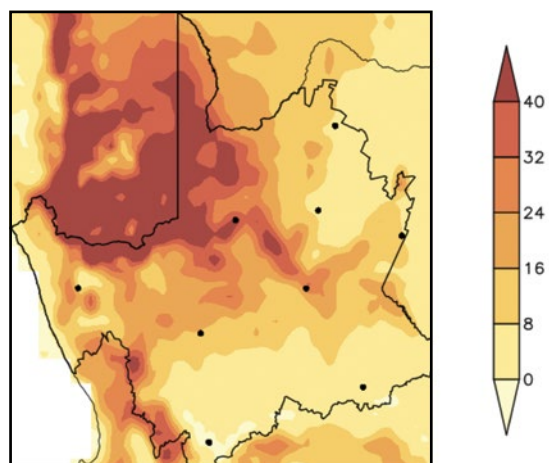
Mean annual temperature

Mean annual temperature ranges from 10 °C in the far southern parts to 22 °C over the northwestern parts.



Very hot days

On average, more than 40 very hot days occur per year in the Orange River valley in the north, with less than 8 very hot days in the southern parts.

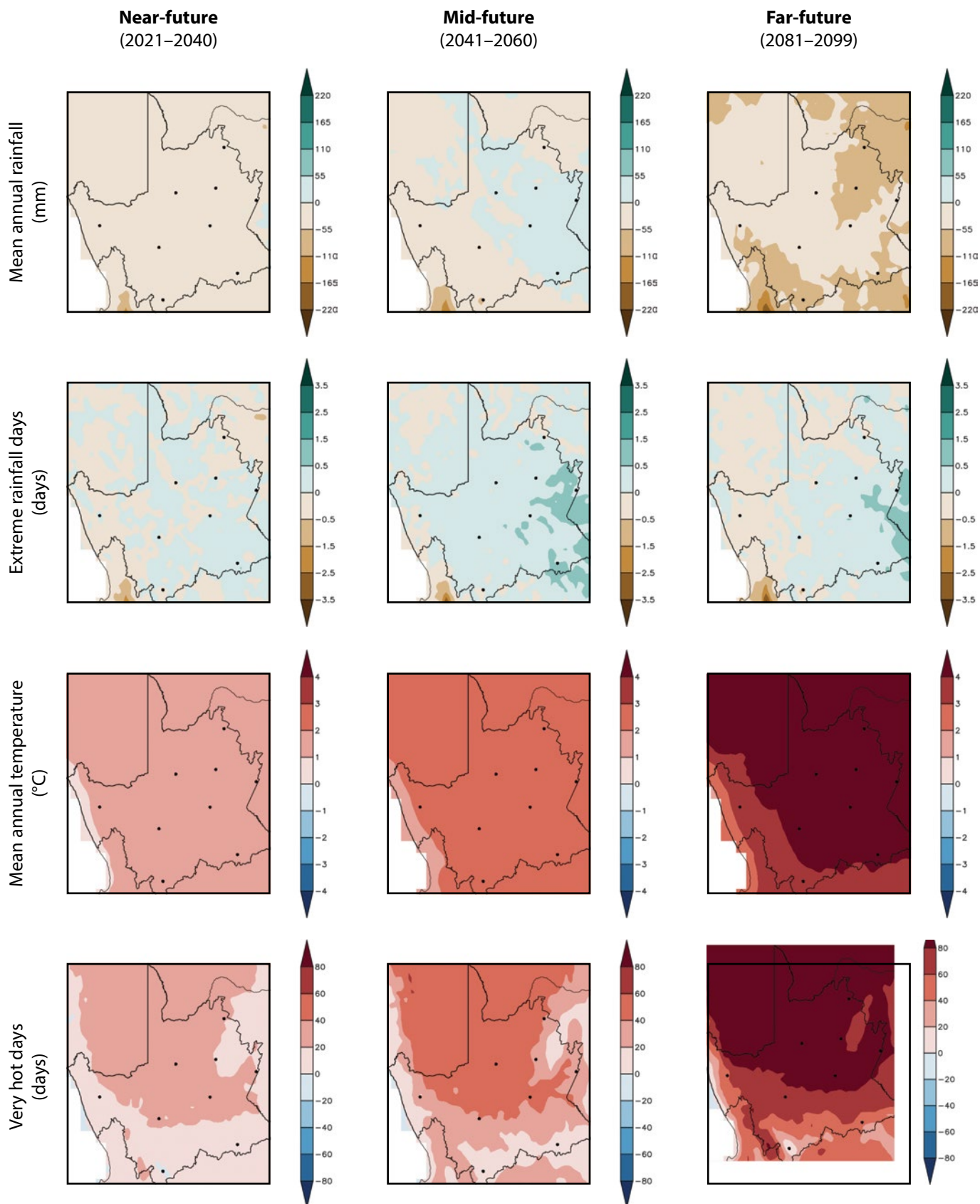


Observed climate trends (overview)

- Observed decrease in mean annual rainfall (*low confidence*).
- Observed increase in the frequency of extreme rainfall events in the east (*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 in the near-future (*medium confidence*) and mid- to far-future (*high confidence*).
- Projected general increase in the frequency of extreme rainfall events in the east (*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*)

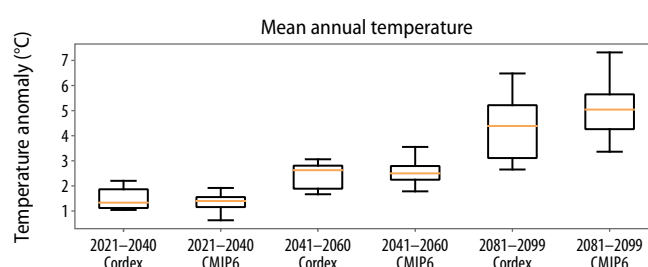
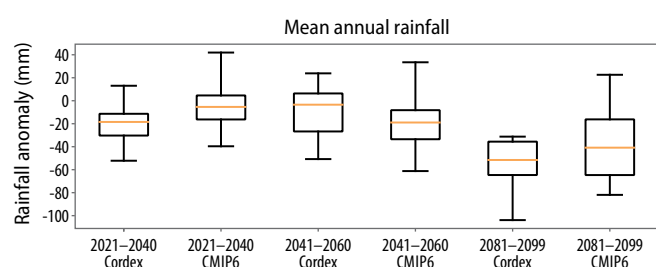
Near- and mid-future

- Projected decrease in rainfall in the near-future (*medium confidence*) and in the mid-future (*likely*).
- Projected increase in extreme rainfall events over the province (*likely*).
- Projected increase in temperature and warm extremes (*virtually certain*).
- Projected increase in agricultural and meteorological drought in the near-future (*likely*) and mid-future (*very likely*).

Far-future

- Projected decrease in rainfall (*very likely*).
- Projected general increase in extreme rainfall events (*likely*).
- Projected increase in temperature and warm extremes (*virtually certain*) with drastic increases over the northern interior.
- Projected increase in agricultural and meteorological drought (*very likely*).

Climate model projections: model agreement and uncertainties



Mean annual rainfall

- Averaged across the province, rainfall is projected to decrease already in the near-future (*medium confidence*), with further decreases projected for the mid-future (*likely*) and far-future (*very likely*).
- Partially in response to *virtually certain* temperature increases, agricultural drought is to occur more frequently in the near-future (*likely*), mid-future (*very 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 2.0 °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:

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Contact

- Global Change Institute (GCI), University of the Witwatersrand, Johannesburg, South Africa. Website: www.wits.ac.za/gci
- South African National Biodiversity Institute (SANBI). Website: www.sanbi.org