

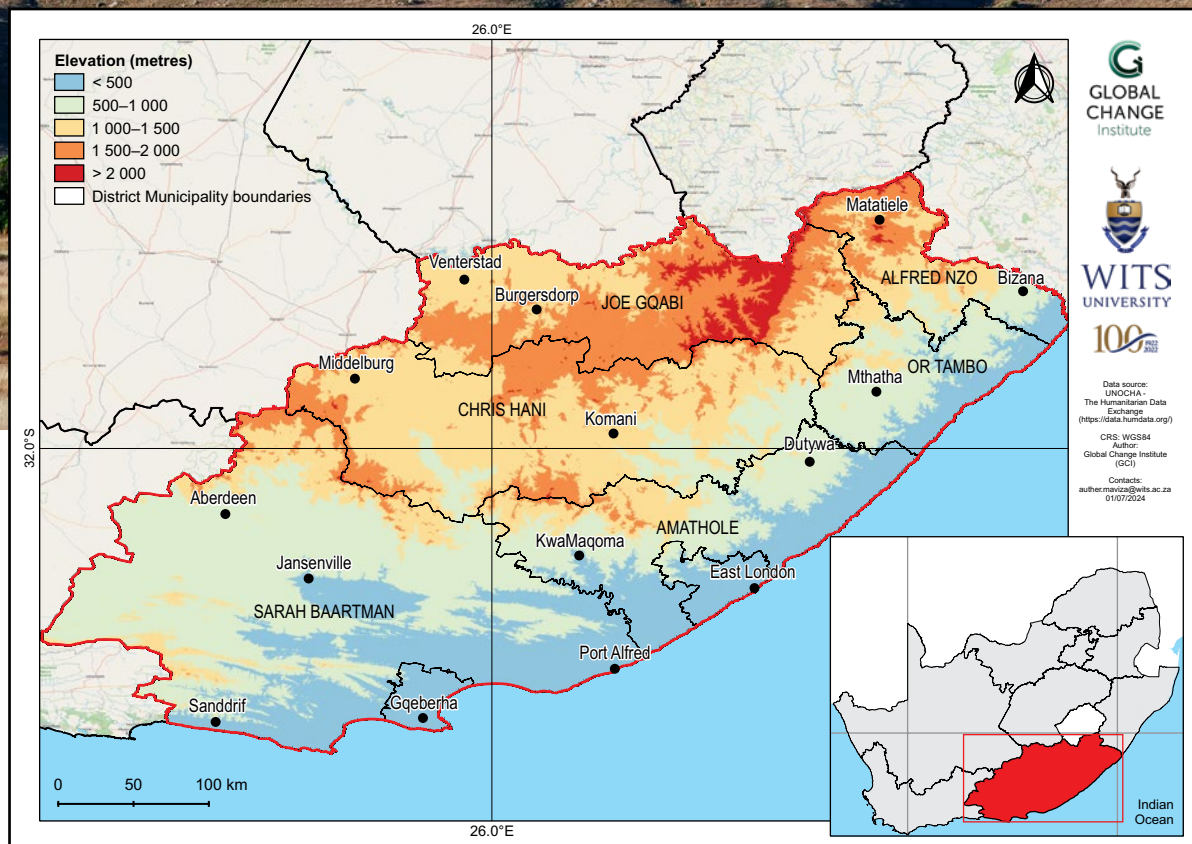
Eastern Cape climate change fact sheet

South Africa

PROVINCIAL

Introduction

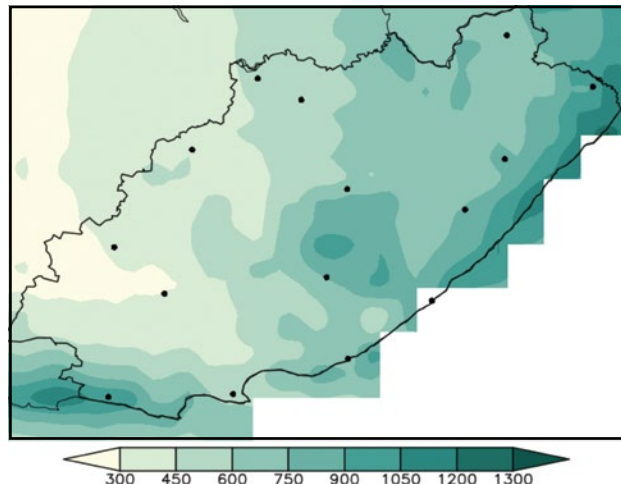
- This fact sheet is part of a series of provincial municipality fact sheets developed by the Wits GCI and SANBI. The fact sheets present a summary of observed and projected changes in climate over the provinces of South Africa. They should be used together with the guidelines presented in the cover page.
- The Eastern Cape covers an area of approximately 168 966 km² with generally east–west-aligned mountain ranges and valleys. Elevation ranges from sea level along the Indian Ocean coastline to 3 000 m above sea level in the north at Ben Macdhui Mountain (part of the Drakensberg).
- The coastal strip as far east as Port Alfred and adjacent interior regions are part of the all-year-rainfall region of South Africa. The northern interior and the coast east of Port Alfred are part of the summer-rainfall region. Rainfall varies greatly across the province, with annual totals averaging less than 400 mm in the semi-arid Karoo in the west, to higher than 1 000 mm over parts of the coastal strip.



Observed climate: rainfall (1981–2000)

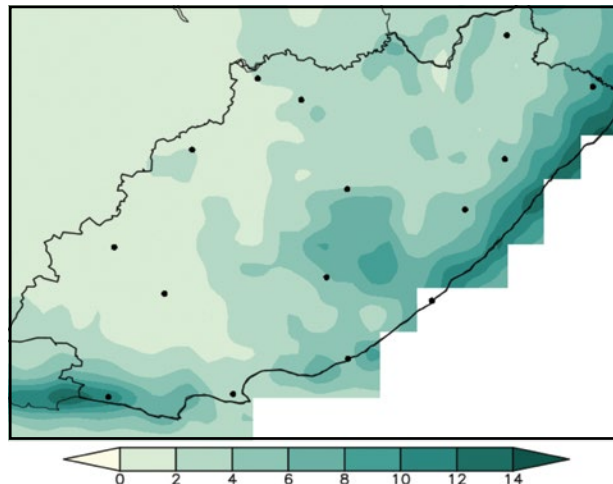
Mean annual rainfall

Mean annual rainfall ranges from less than 300 mm over the Karoo in the west, to more than 1 000 mm over parts of the coastal strip.



Extreme rainfall days

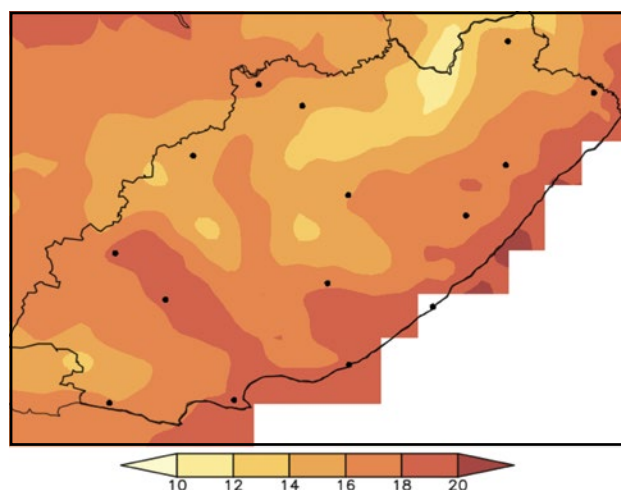
Mean annual number of extreme rainfall days range from less than 2 days over the western Karoo regions, to more than 10 days over parts of the coastal strip.



Observed climate: temperature (1981–2000)

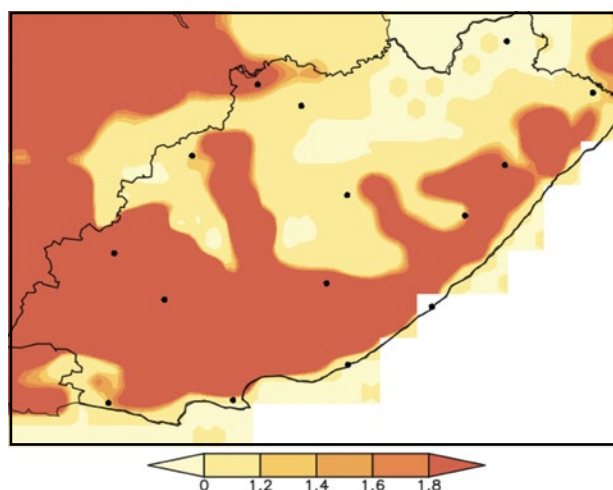
Mean annual temperature

Mean annual temperature ranges from about 10 °C in the northern parts to 20 °C along the southern and eastern coastal areas.



Very hot days

Mean annual number of very hot days range from 1 day over the northern parts to about 2 days over the western and southern coastal regions.

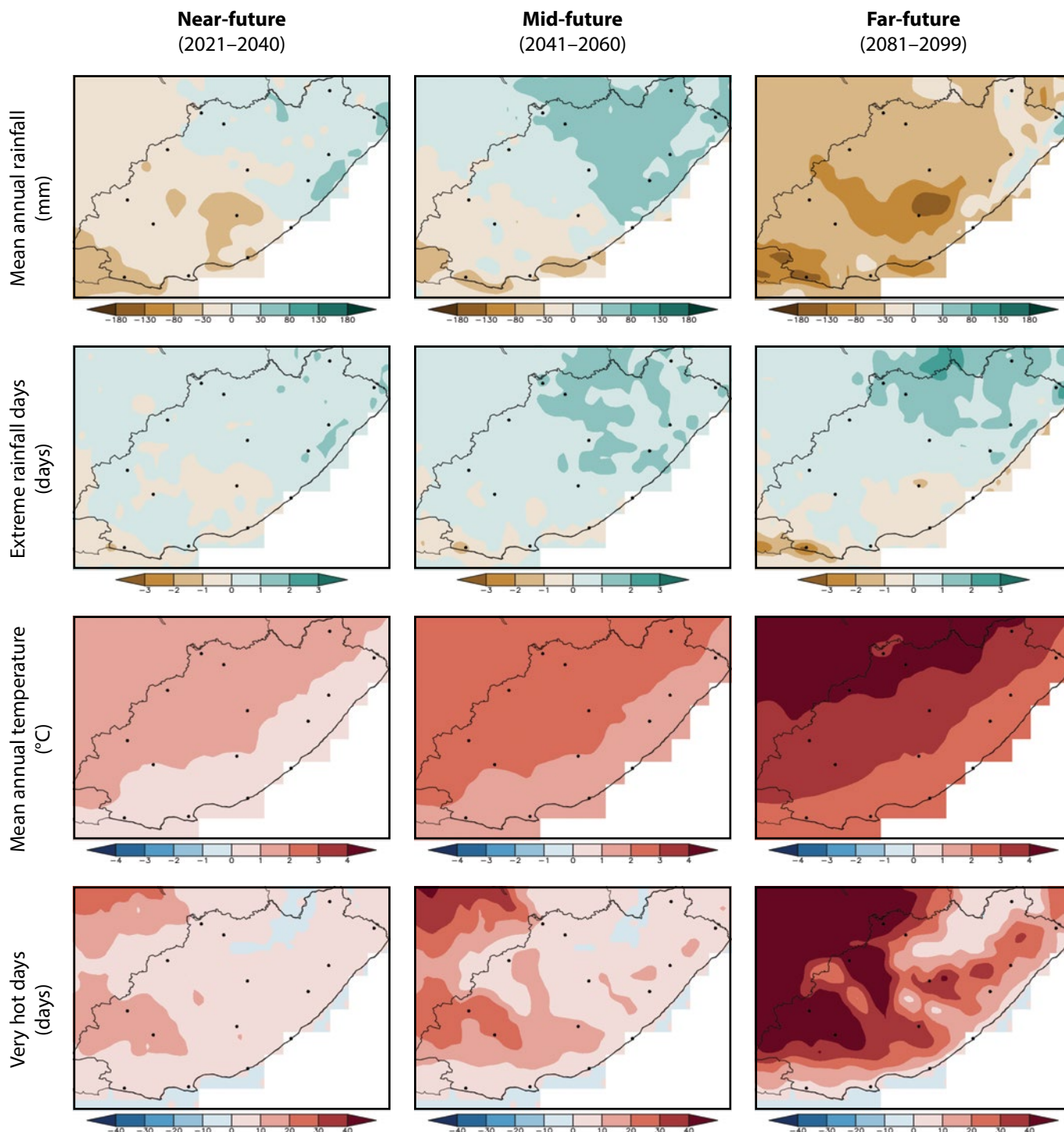


Observed climate trends (overview)

- Observed decrease in rainfall along the coastal strip, but with increases over the Drakensberg close to the Lesotho border (*low confidence*).
- Observed increase in the frequency of extreme rainfall events across the interior (*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 decreases in rainfall in the west (*high confidence*), but with increases in the east (*low confidence*). Substantial rainfall reductions are likely in the far-future.
- Projected increase in the frequency of extreme rainfall events over the northern mountainous regions (*high confidence*).
- Projected increase in mean annual temperature and warm extremes (*virtually certain*); decrease in cold extremes (*high confidence*).
- Projected increase in meteorological and agricultural drought in the far-future (*high confidence*).



Projected future climate change (*detailed*)

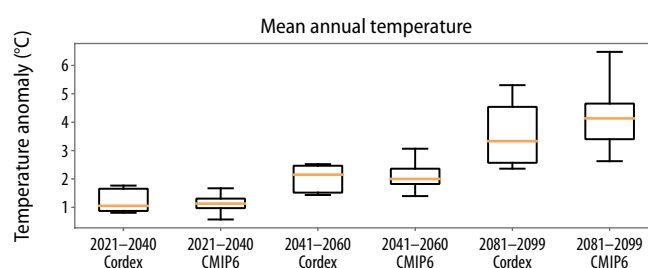
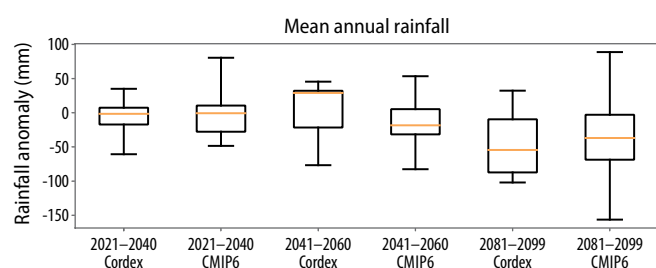
Near- and mid-future

- Projected decrease in rainfall over the western parts (*likely*), but with increases in the east (*more likely than not*).
- Projected increases in extreme rainfall events over the northern mountainous regions (*likely*).
- Projected increase in temperature and warm extremes (*virtually certain*); decreases in cold extremes (*very likely*).
- Projected increase in agricultural and meteorological drought (*likely*).

Far-future

- Projected general decrease in rainfall (*likely*).
- Projected increase in extreme rainfall events over the northern mountainous regions (*very likely*).
- Projected increase in temperature and warm extremes (*virtually certain*), with decreases in cold extremes (*very likely*).
- Projected increase in meteorological and agricultural drought (*very likely*).

Climate model projections: model agreement and uncertainties



Mean annual rainfall

- Averaged across the province, projected changes in rainfall for the near- and mid-future are *uncertain*.
- General rainfall decreases are *likely* in the far-future under low mitigation scenarios.
- Partially in response to *virtually certain* temperature increases, agricultural drought is 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 in the near-future are *virtually certain* and may be as high as 1.5 °C.
- Under low mitigation, further temperature increases are *virtually certain* and may approach 2.5 °C in the mid-future and 4.5 °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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