



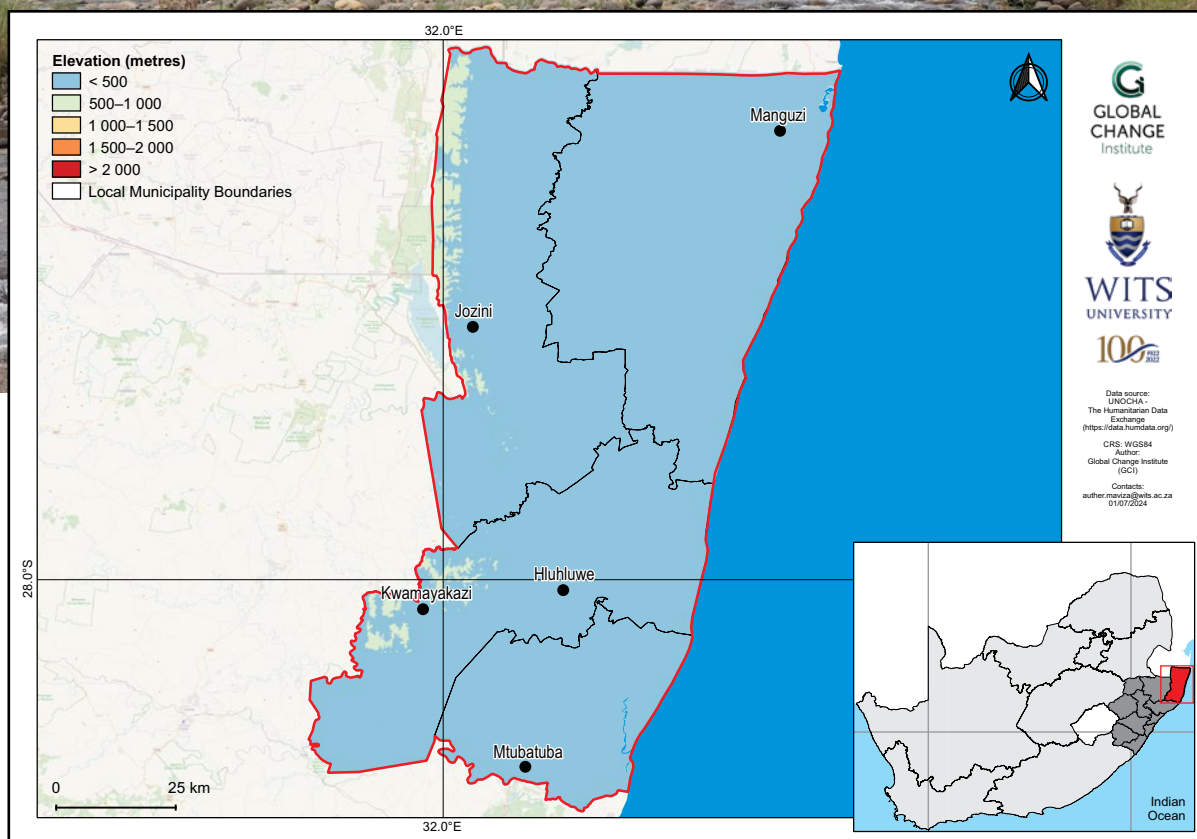
Umkhanyakude District Municipality climate change fact sheet

KwaZulu-Natal, South Africa

MUNICIPAL

Introduction

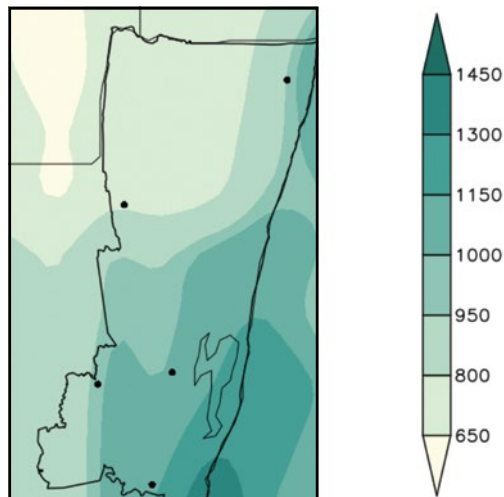
- This fact sheet is part of a series of district municipality fact sheets developed by the Wits GCI and SANBI. The fact sheets present a summary of observed and projected changes in climate over district municipalities in South Africa. They should be used together with the guidelines presented in the cover page.
- Umkhanyakude District Municipality covers an area of 12 818 km², with elevation ranging from sea level along the Indian Ocean coastal region to 1 000 m above sea level inland towards the Lebombo Mountain Range to the northwest.
- The district experiences a subtropical climate, characterised by hot, humid summers and mild winters. Rainfall is seasonal, predominantly occurring during the summer months.



Observed climate: rainfall (1981–2000)

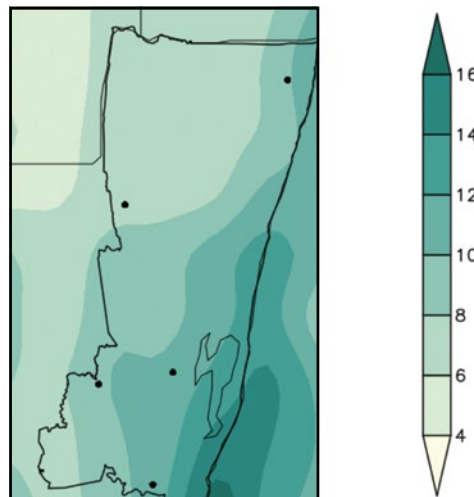
Mean annual rainfall

Mean annual rainfall ranges from 650 mm over the north-western parts to 1 150 mm over southeastern coastal parts.



Extreme rainfall days

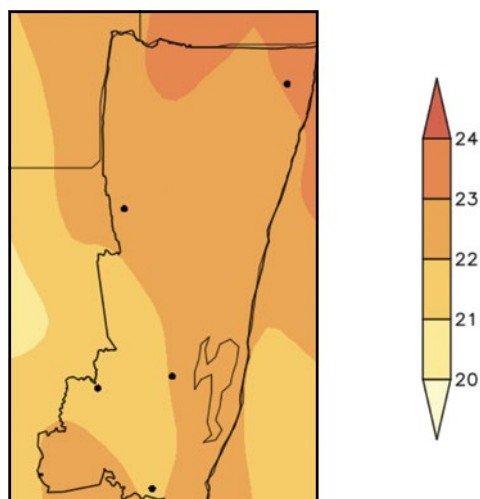
Observed mean annual number of extreme rainfall days range from 6 days over the northwestern parts to 14 days over the southeastern coastal parts.



Observed climate: temperature (1981–2000)

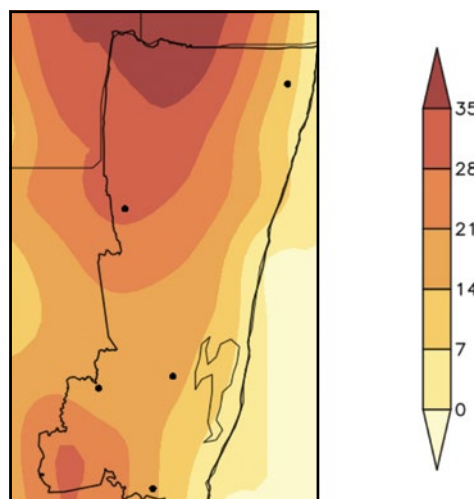
Mean annual temperature

Mean annual temperature ranges from 21 °C over south-western interior parts to 24 °C over the northern border region.



Very hot days

Observed mean annual number of very hot days range from less than 7 days along the coastline to more than 35 days over the northeastern region.

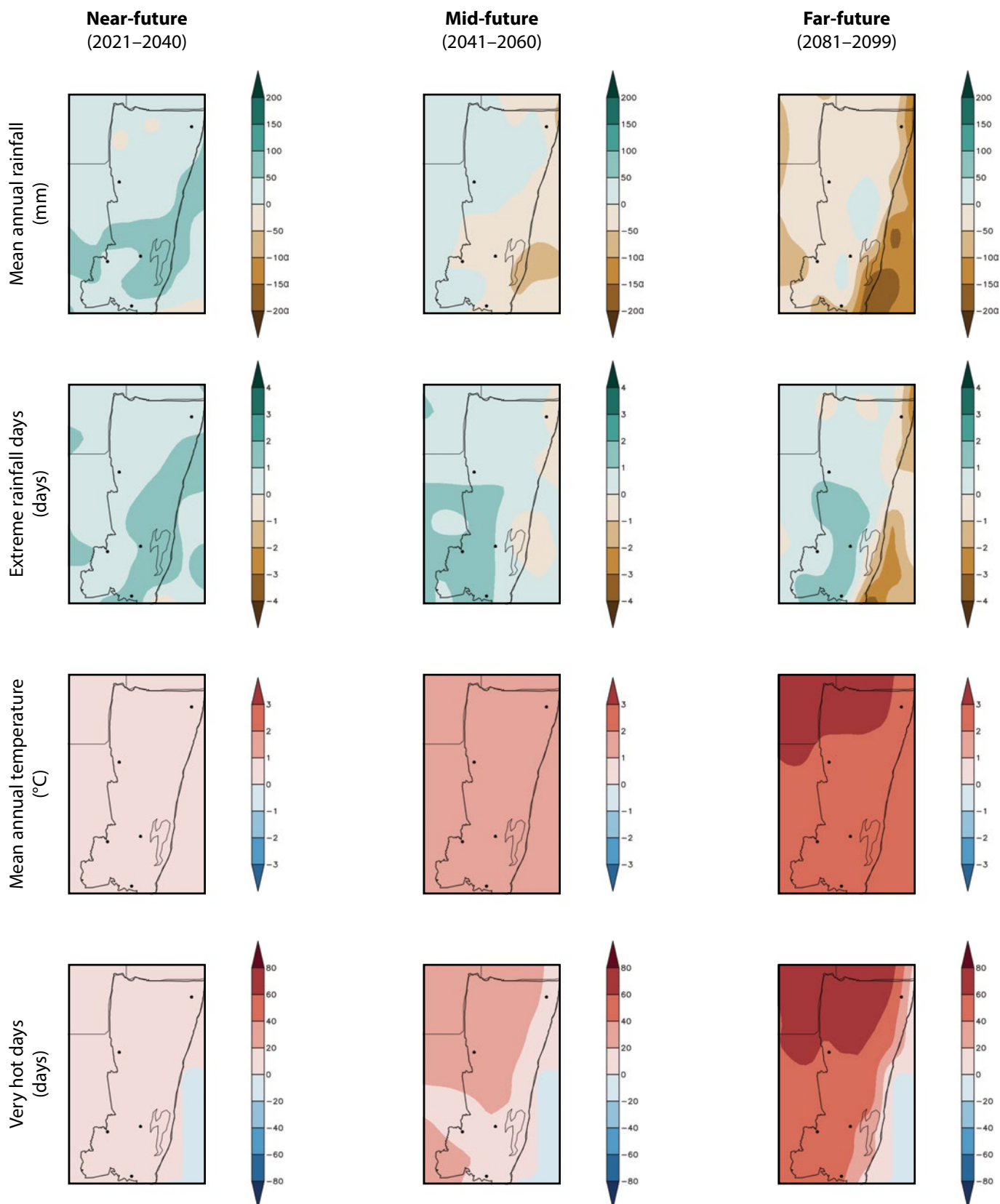


Observed climate trends (overview)

- Observed decrease in mean annual rainfall (*low confidence*).
- Observed increase in the frequency of extreme rainfall events (*medium 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 increase in mean annual rainfall in the near- and mid-future (*low confidence*), but with decreases in the far-future (*low confidence*).
- Projected 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 in the near- and mid-future (*low confidence*) and far-future (*medium confidence*).



Projected future climate change (detailed)

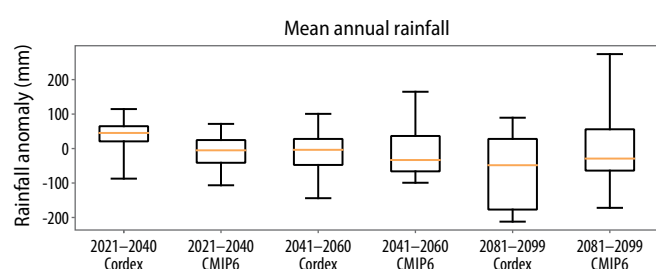
Near- and mid-future

- Projected increase in rainfall (*more likely than not*).
- Projected increase in extreme rainfall events (*likely*).
- Projected increase in temperature and warm extremes over the entire district (*virtually certain*).
- Projected increase in agricultural and meteorological drought (*low confidence*).

Far-future

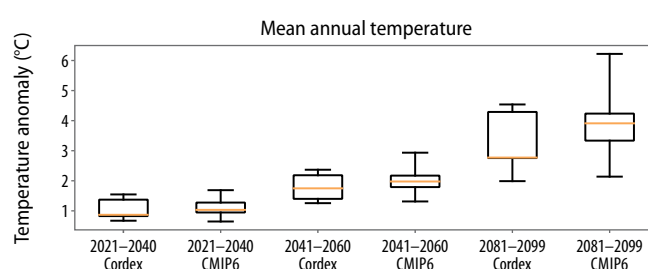
- Projected general decrease in rainfall (*more likely than not*).
- Projected increase in extreme rainfall events (*likely*).
- Projected increase in temperature and warm extremes (*virtually certain*), drastic increases over the northern parts.
- Projected increase in agricultural and meteorological drought (*medium confidence*).

Climate model projections: model agreement and uncertainties



Mean annual rainfall

- Averaged across the district, rainfall is projected to increase in the near- and mid-future (*low confidence*).
- General rainfall decreases are projected in the district in the far-future under low mitigation scenarios (*low confidence*).
- Partially in response to *virtually certain* temperature increases, agricultural drought is to occur more frequently in the near- and mid-future (*low confidence*) and far-future (*medium confidence*).



Mean annual temperature

- Temperature increases averaged across the district 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*).

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