



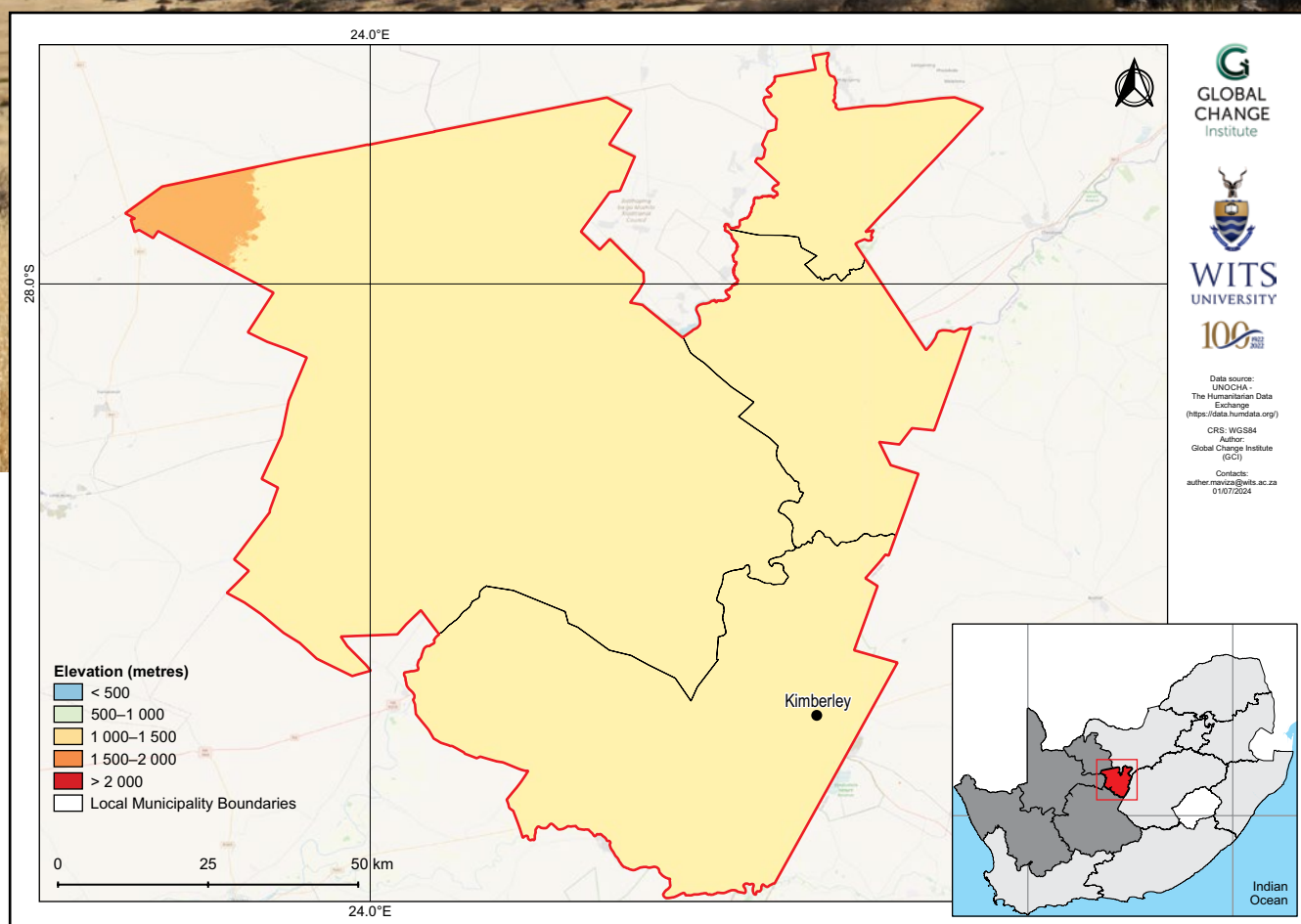
Frances Baard District Municipality climate fact sheet

Northern Cape, South Africa

MUNICIPAL

Introduction

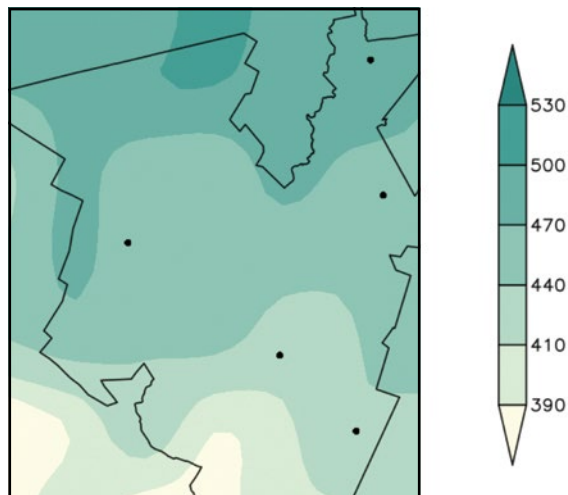
- This fact sheet is part of a series of district municipality fact sheets developed by the Wits GCI and SANBI. The fact sheets present a summary of observed and projected changes in climate over district municipalities in South Africa. They should be used together with the guidelines presented in the cover page.
- Frances Baard is the smallest district in the Northern Cape covering an area of approximately 12 384 km², with a very flat topography ranging from 1 000 to 1 500 m above sea level over the interior plateau regions.
- The district experiences a semi-arid climate, characterised by hot summers and mild winters. The district is a summer-rainfall region, with sporadic and generally low rainfall occurring.



Observed climate: rainfall (1981–2000)

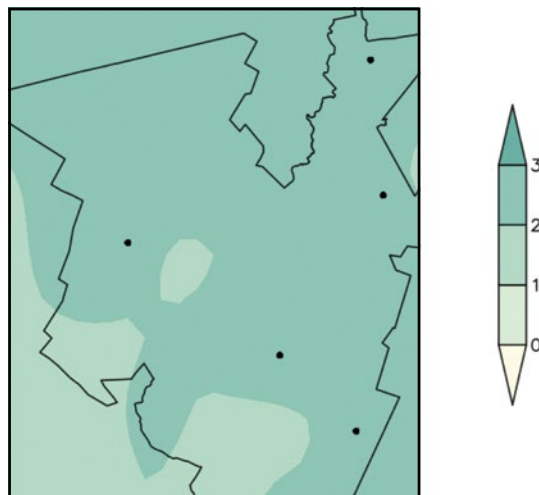
Mean annual rainfall

Mean annual rainfall ranges from 390 mm over the southern parts to over 500 mm over the northern parts.



Extreme rainfall days

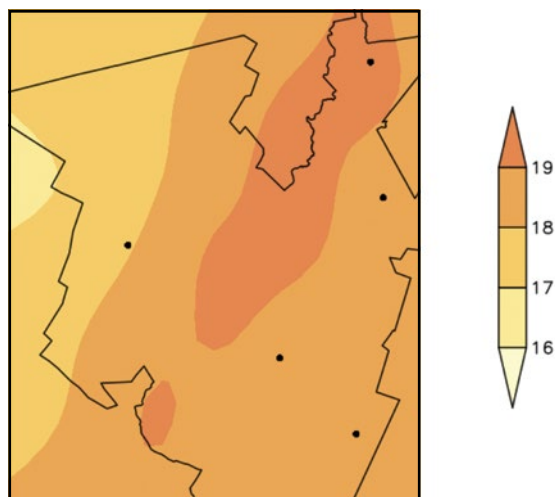
Observed average annual number of extreme rainfall days range from 1 day to 3 days over the greater part of the district.



Observed climate: temperature (1981–2000)

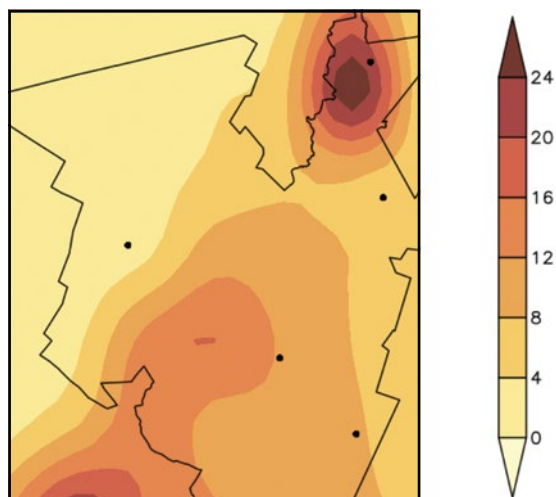
Mean annual temperature

Mean annual temperature ranges from 17 °C over the northwestern parts to 19 °C over the central and eastern parts.



Very hot days

Mean annual number of very hot days range from less than 4 days in the northwestern parts to 24 days over the northern parts.

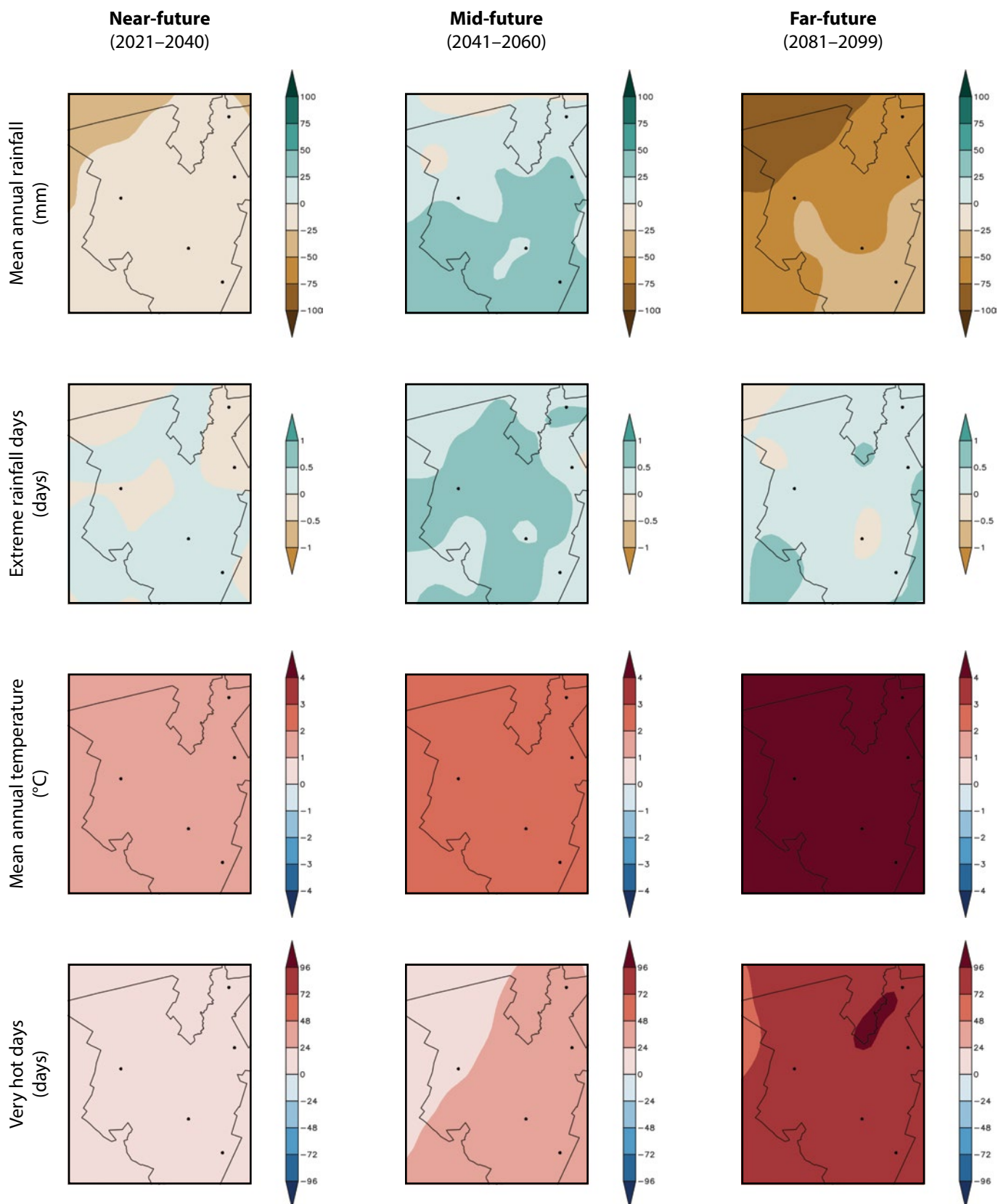


Observed climate trends (overview)

- 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 in the near- and mid-future (*low confidence*), and in the far-future (*high 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 (*high confidence*).



Projected future climate change (*detailed*)

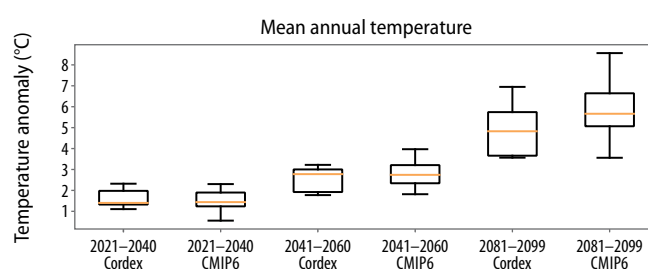
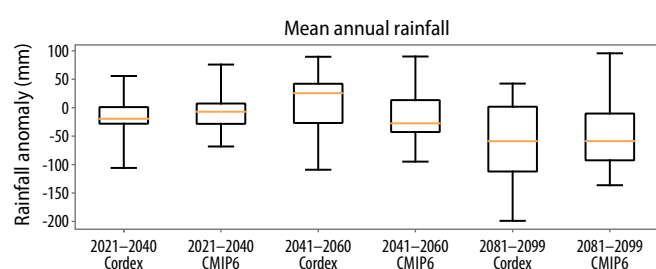
Near- and mid-future

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

Far-future

- Projected decrease in rainfall (*very likely*), larger decreases over northern parts.
- Projected increase in extreme rainfall events (*likely*).
- Projected increase in temperature and warm extremes (*virtually certain*).
- Projected increase in agricultural and meteorological drought (*very likely*).

Climate model projections: model agreement and uncertainties



Mean annual rainfall

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

Mean annual temperature

- Temperature increases averaged across the district in the near-future are *virtually certain* 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*).

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