

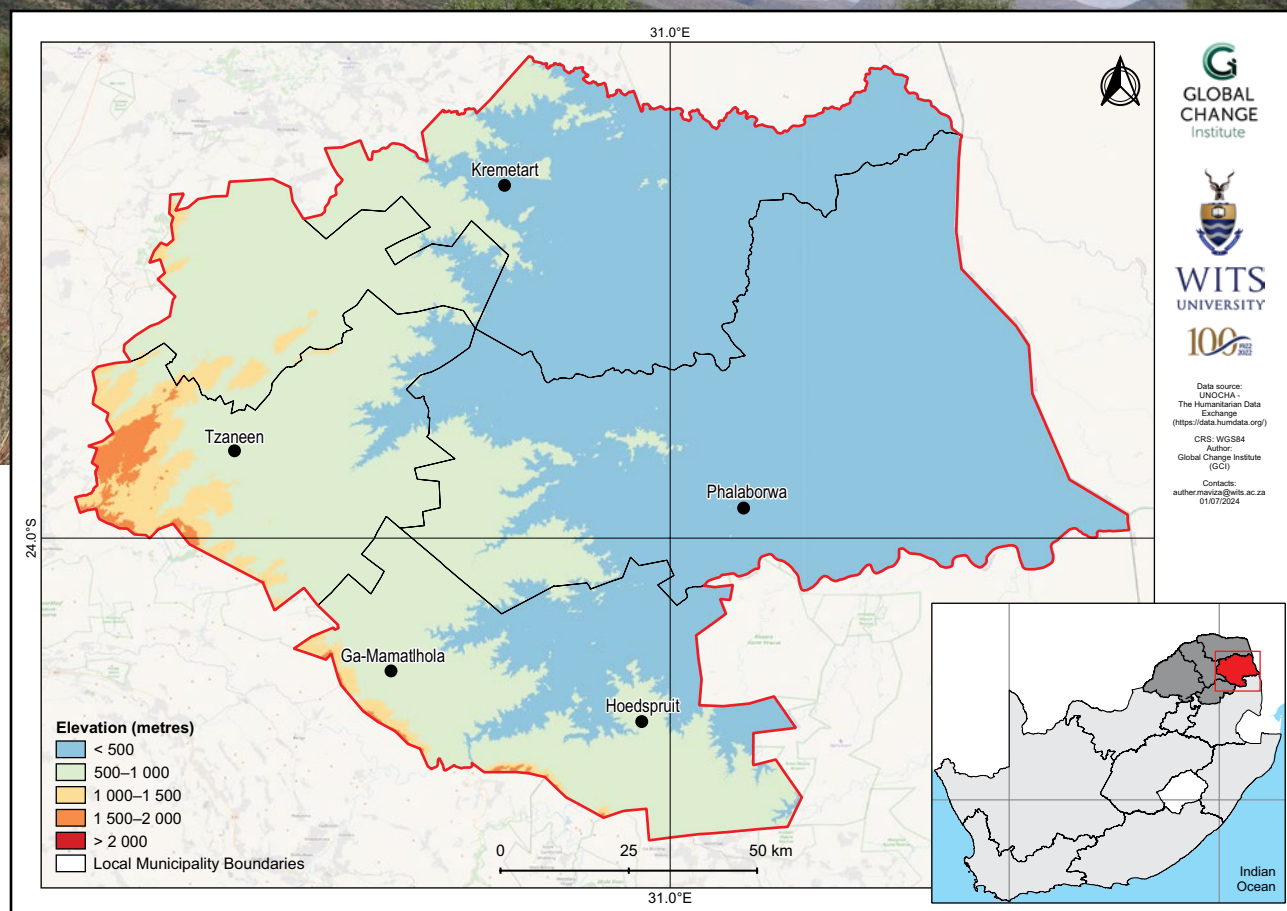
# Mopani District Municipality climate change fact sheet

## Limpopo, South Africa

## MUNICIPAL

### Introduction

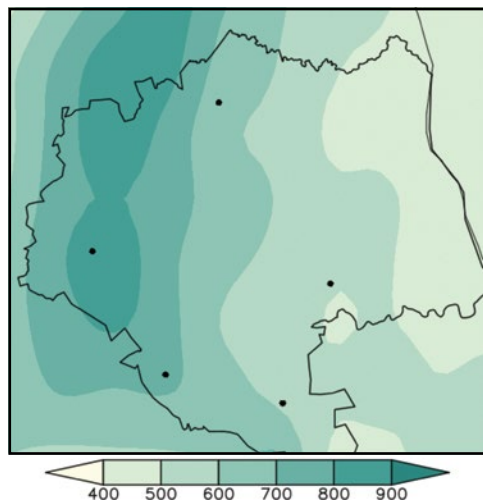
- This fact sheet is part of a series of district municipality fact sheets developed by the Wits GCI and SANBI. The fact sheets present a summary of observed and projected changes in climate over district municipalities in South Africa. They should be used together with the guidelines presented in the cover page.
- Mopani District Municipality covers an area of approximately 20 011 km<sup>2</sup>, with elevation ranging from less than 500 m above sea level in the eastern and southern lowlands of the Olifants River valley, to over 1 600 m above sea level in the western escarpment areas.
- The district experiences a semi-arid to subtropical climate, characterised by warm to hot and wet summers, while winters are mild and dry. The eastern lowveld area is relatively dry compared to the western area.



## Observed climate: rainfall (1981–2000)

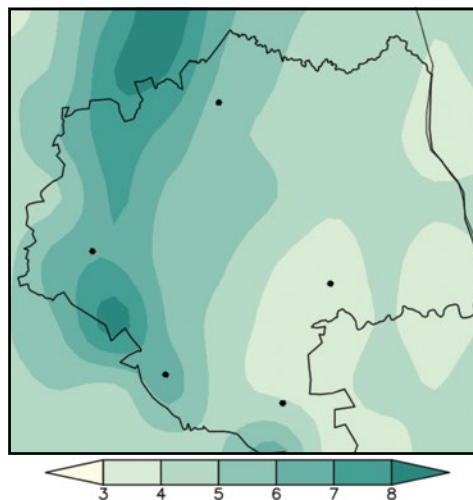
### Mean annual rainfall

Mean annual rainfall increases from 400 mm in the eastern lowlands to over 800 mm over the western escarpment areas.



### Extreme rainfall days

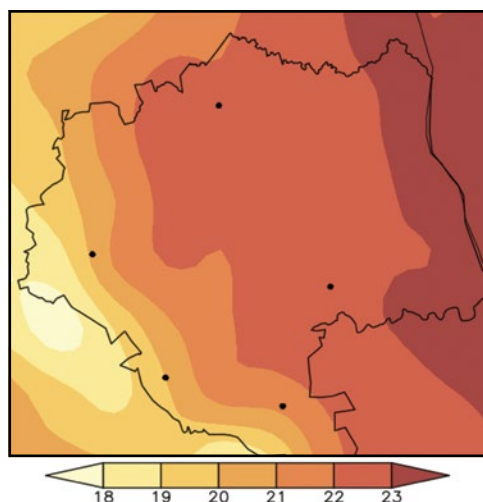
Observed mean annual number of extreme rainfall days range from 3 days in the eastern lowlands to 8 days over the mountainous western region.



## Observed climate: temperature (1981–2000)

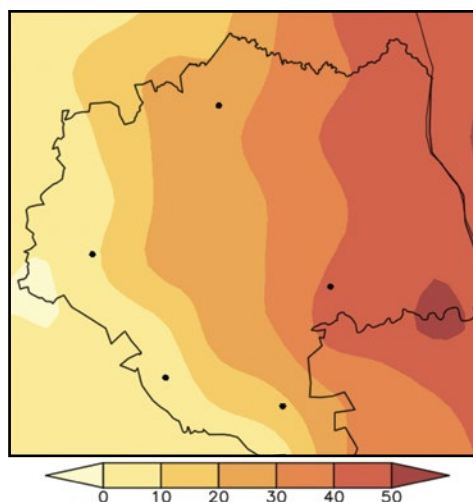
### Mean annual temperature

Mean annual temperature ranges from 18 °C over the western escarpment areas to 23 °C over the eastern lowland areas.



### Very hot days

Mean annual number of very hot days range from less than 10 days over the western highlands to 50 days over the eastern lowland areas.

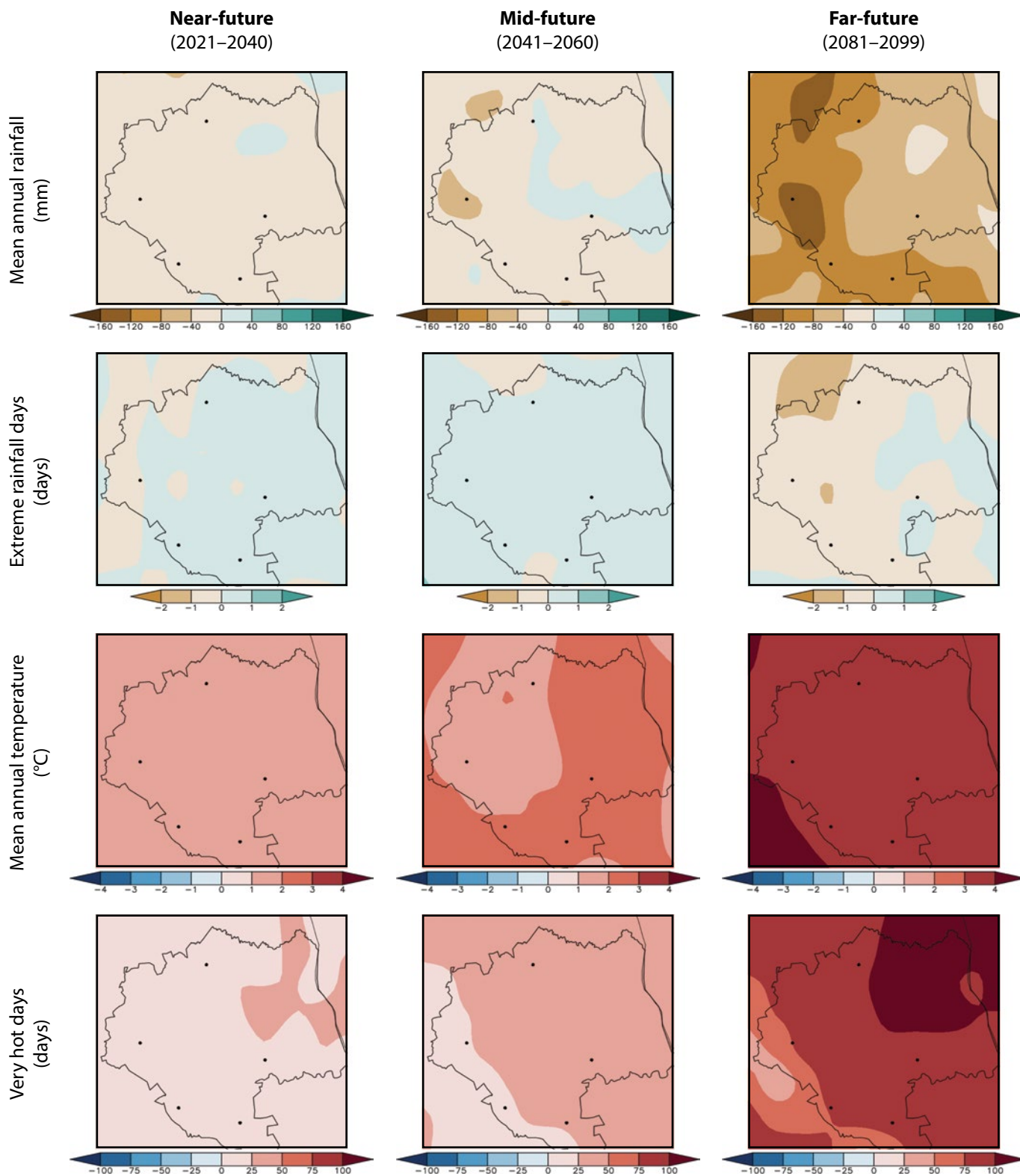


## Observed climate trends (overview)

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

## Projected future climate change (overview)

- Projected decrease in mean annual rainfall into the 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 (*high confidence*).



## Projected future climate change (detailed)

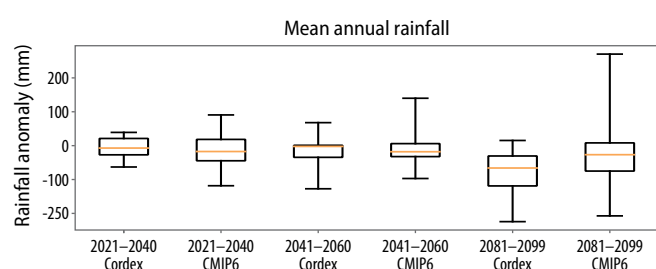
### Near- and mid-future

- Projected decrease in mean annual rainfall (*likely*).
- 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

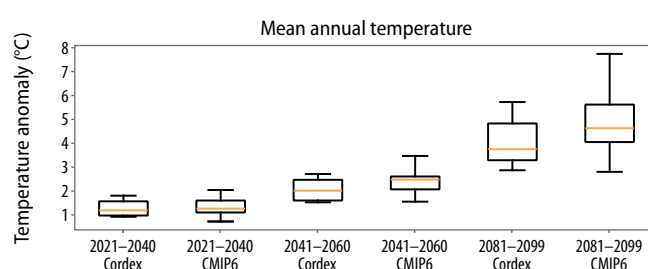
- Projected decrease in mean annual rainfall (*very likely*).
- Projected general increase in extreme rainfall events (*likely*).
- Projected increase in temperature and warm extremes (*virtually certain*), with drastic increases over the north-eastern parts.
- Projected increase in agricultural and 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 (*likely*).
- Further rainfall decreases are projected 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- and 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 1.5 °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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