

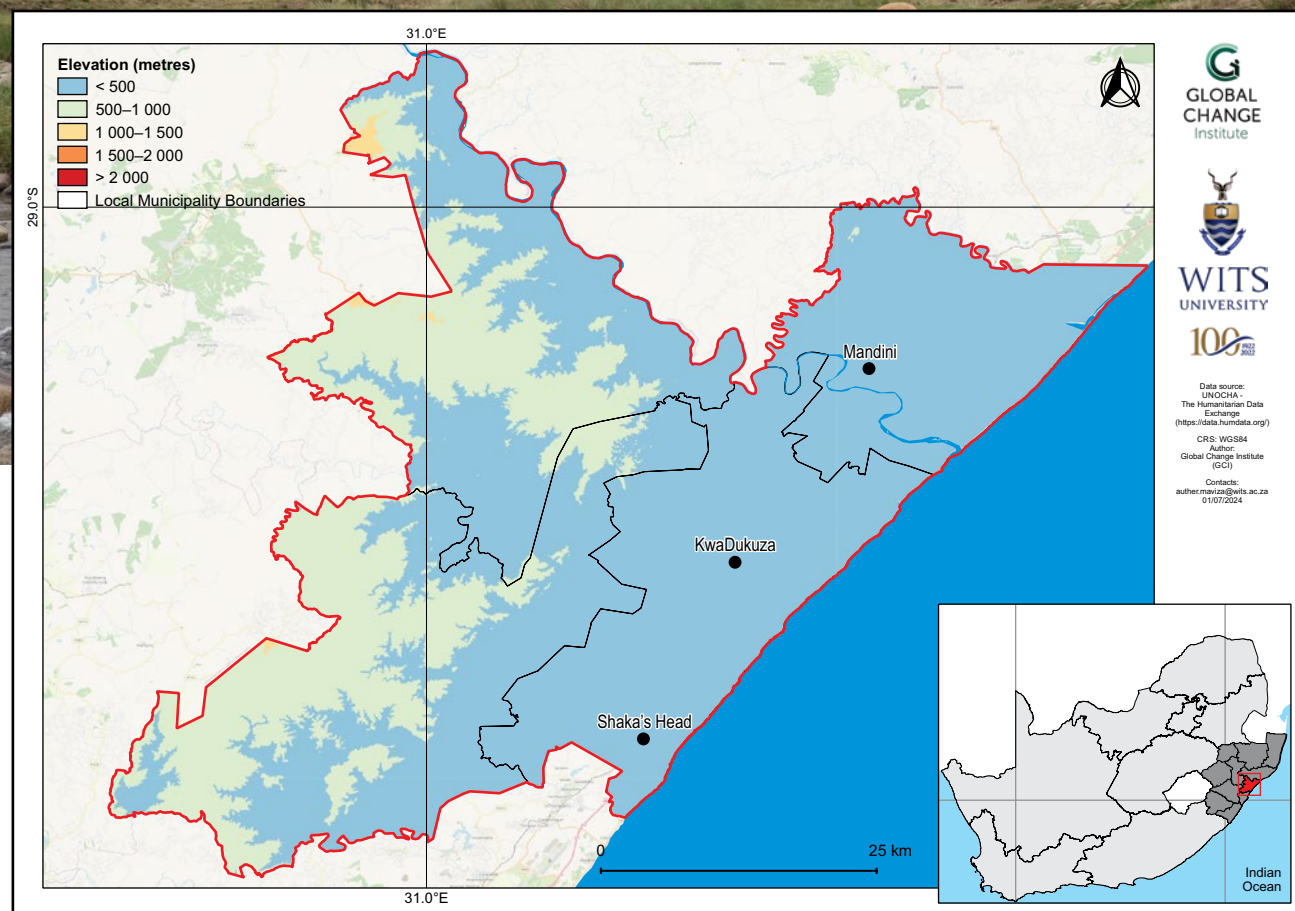
# iLembe District Municipality climate change fact sheet

## KwaZulu-Natal, South Africa

## MUNICIPAL

### Introduction

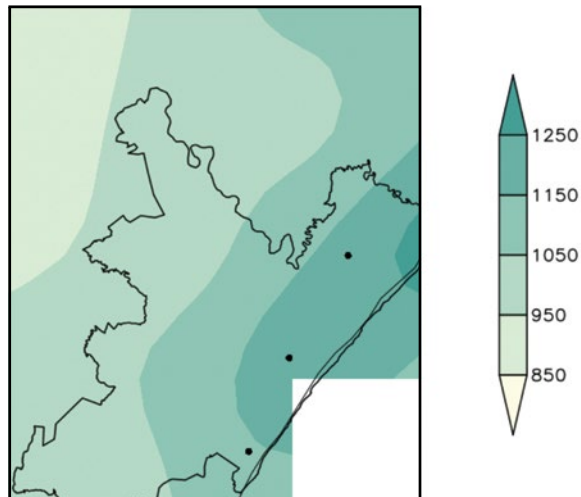
- This fact sheet is part of a series of district municipality fact sheets developed by the Wits GCI and SANBI. The fact sheets present a summary of observed and projected changes in climate over district municipalities in South Africa. They should be used together with the guidelines presented in the cover page.
- iLembe District Municipality covers an area of 3 260 km<sup>2</sup>, with elevation ranging from sea level in the eastern coastal plains along the Indian Ocean, rising inland to 1 400 m above sea level in the hilly and mountainous areas to the west.
- The district experiences a subtropical climate, characterised by hot, humid summers, while winters are generally dry and mild. Rainfall is moderate to high occurring mostly in summer.



## Observed climate: rainfall (1981–2000)

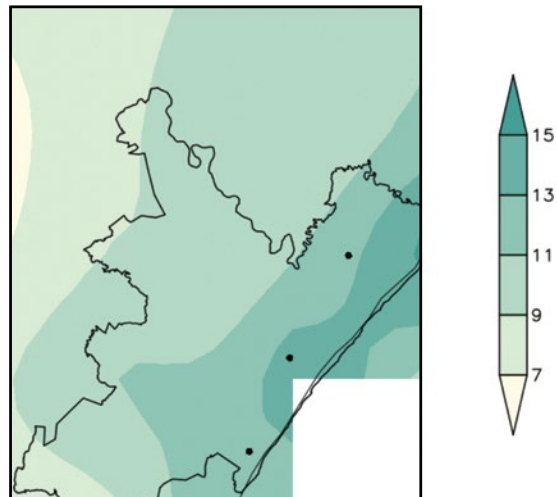
### Mean annual rainfall

Mean annual rainfall ranges from 950 mm over the western extent to 1 250 mm over the northeastern coastal parts.



### Extreme rainfall days

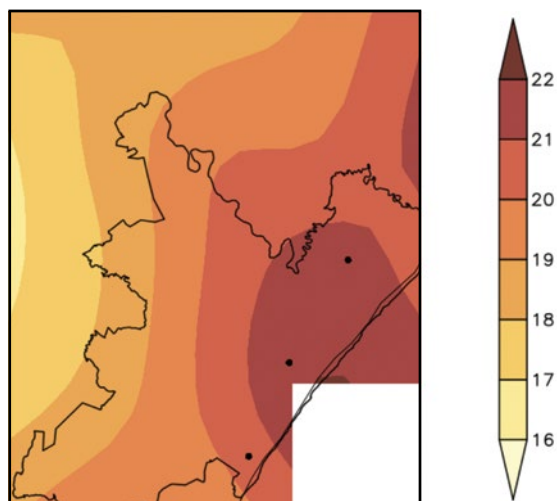
Observed mean annual number of extreme rainfall days range from 9 days over the western parts to 15 days over the northeastern coastal parts.



## Observed climate: temperature (1981–2000)

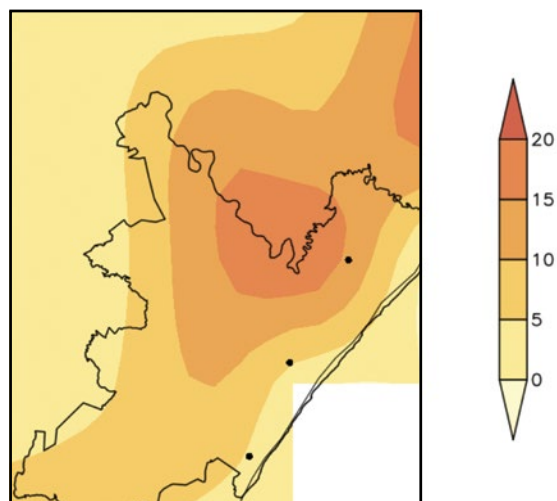
### Mean annual temperature

Mean annual temperature ranges from 18 °C along the western border to 22 °C over the eastern interior areas.



### Very hot days

Less than 5 very hot days occur per year over most of the district, with as many as 20 days occurring in the northern region.

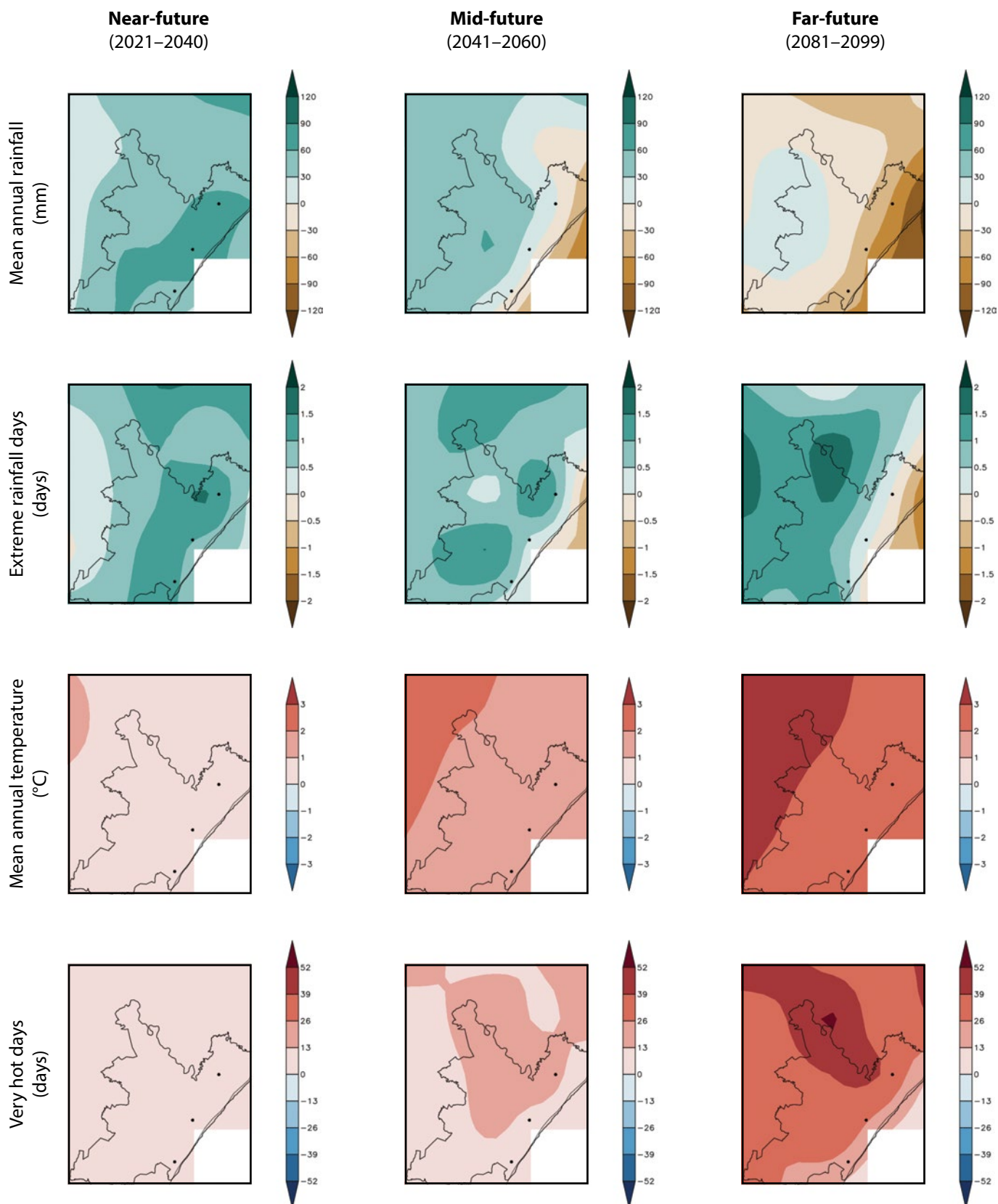


## Observed climate trends (overview)

- 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 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*)

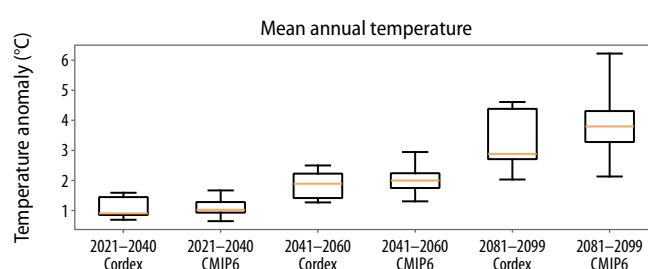
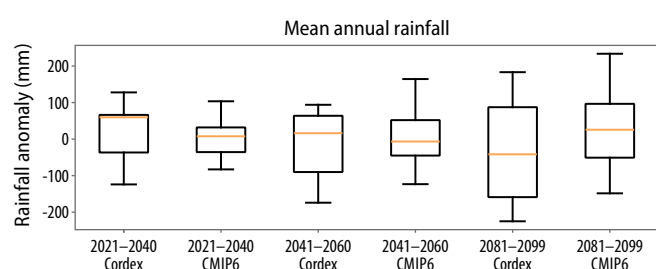
### Near- and mid-future

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

### Far-future

- Projected decrease in rainfall (*more likely than not*).
- Projected increase in extreme rainfall events (*very likely*).
- Projected increase in temperature and warm extremes (*virtually certain*), particularly over the northern areas.
- 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*).
- Rainfall is projected to decrease 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*).

#### Citation:

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