

# Key impacts and risks in East and Southern Africa



based on the latest IPCC Report



Schweizerische Eidgenossenschaft  
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# Africa's climate is already changing

- African ecosystems and people are **already affected** by climate change
- The livelihood prospects of a majority of Africa's population is **dependent on climate-sensitive sectors** such as agriculture, forestry and fisheries
- Africa as a whole is one of the **most vulnerable continents** to climate change due to high exposure and limited adaptive capacity

# Observed changes in East and Southern Africa

## East Africa

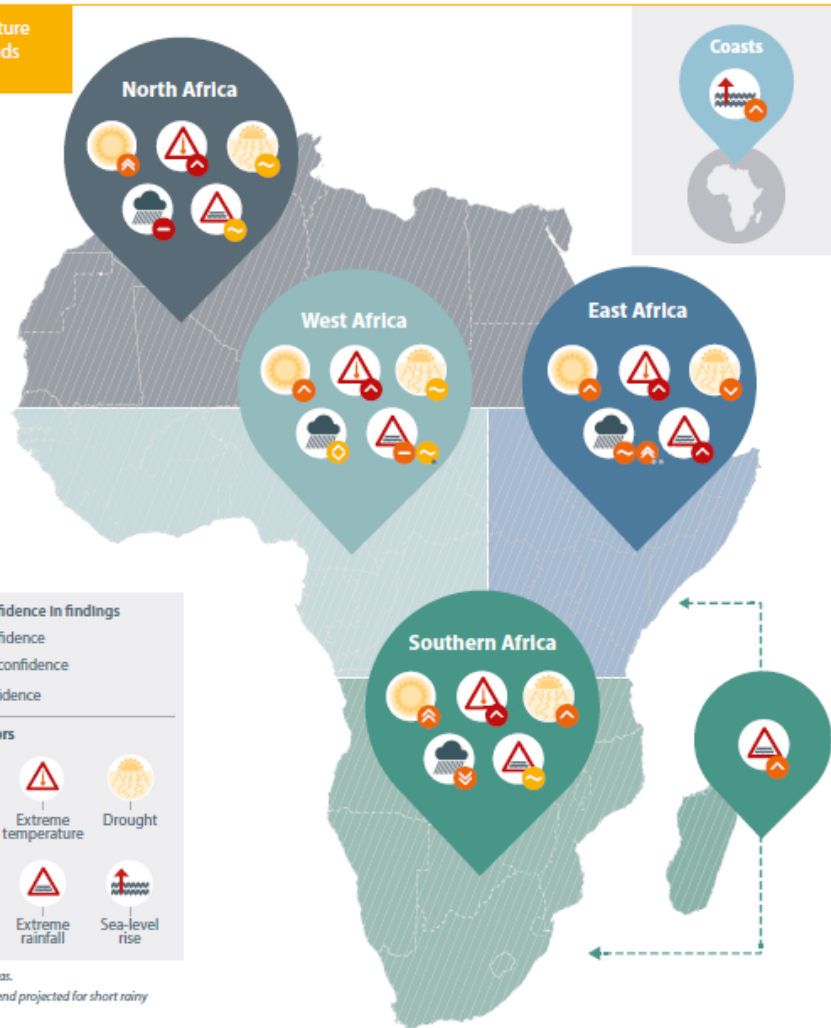
- **Significant increase in temperature** since 1980, more frequent **heatwaves**
- Very **variable rainfall patterns**, overall **decrease in rainfall** between March and June, **decline of summer monsoon rainfall** throughout **HoA**
- More frequent **droughts** and **heavy rainfall** events

## Southern Africa

- **Increase** in annual **average temperature**, esp. during last two decades
- **Reduction** in **summer precipitation**
- Changes in onset, frequency and duration of **dry spells**, more **intense rainfall events**
- **More hot** and **fewer cold days** and **nights** and more **frequent heat waves**











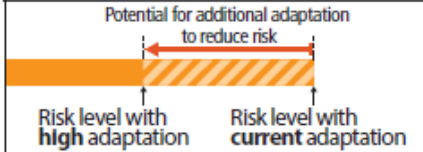
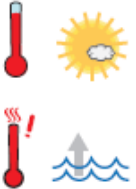
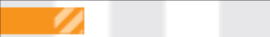


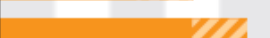









# Future climate trends for Africa

Figure 4: Future climate trends for Africa



- **Temperatures** over the African continent are likely to **increase** disproportionately (**2°C by 2050** and over **4°C by 2100**)
- Likely **increase** in **average rainfall** over **central and eastern Africa** and very likely **decrease** in **precipitation** in **southern Africa**
- Increasing frequency in **heavy rainfall, droughts** and **heat waves**
- **Sea level rise** between 26 cm and 82cm by last two decades of century

# Key risks for Africa

Climate-related drivers of impacts										Level of risk & potential for adaptation		
 Warming trend	 Extreme temperature	 Drying trend	 Extreme precipitation	 Precipitation	 Snow cover	 Damaging cyclone	 Sea level	 Ocean acidification	 Carbon dioxide fertilization	 <p>Potential for additional adaptation to reduce risk</p> <p>Risk level with high adaptation      Risk level with current adaptation</p>		
Africa												
Key risk	Adaptation issues & prospects					Climatic drivers	Timeframe	Risk & potential for adaptation				
<p>Compounded stress on water resources facing significant strain from overexploitation and degradation at present and increased demand in the future, with drought stress exacerbated in drought-prone regions of Africa (<i>high confidence</i>)</p> <p>[22.3-4]</p>	<ul style="list-style-type: none"> <li>Reducing non-climate stressors on water resources</li> <li>Strengthening institutional capacities for demand management, groundwater assessment, integrated water-wastewater planning, and integrated land and water governance</li> <li>Sustainable urban development</li> </ul>							Very low	Medium	Very high		
							Present					
							Near term (2030–2040)					
							Long term (2080–2100)	2°C				
			4°C									
<p>Reduced crop productivity associated with heat and drought stress, with strong adverse effects on regional, national, and household livelihood and food security, also given increased pest and disease damage and flood impacts on food system infrastructure (<i>high confidence</i>)</p> <p>[22.3-4]</p>	<ul style="list-style-type: none"> <li>Technological adaptation responses (e.g., stress-tolerant crop varieties, irrigation, enhanced observation systems)</li> <li>Enhancing smallholder access to credit and other critical production resources; Diversifying livelihoods</li> <li>Strengthening institutions at local, national, and regional levels to support agriculture (including early warning systems) and gender-oriented policy</li> <li>Agronomic adaptation responses (e.g., agroforestry, conservation agriculture)</li> </ul>							Very low	Medium	Very high		
							Present					
							Near term (2030–2040)					
							Long term (2080–2100)	2°C				
			4°C									
<p>Changes in the incidence and geographic range of vector- and water-borne diseases due to changes in the mean and variability of temperature and precipitation, particularly along the edges of their distribution (<i>medium confidence</i>)</p> <p>[22.3]</p>	<ul style="list-style-type: none"> <li>Achieving development goals, particularly improved access to safe water and improved sanitation, and enhancement of public health functions such as surveillance</li> <li>Vulnerability mapping and early warning systems</li> <li>Coordination across sectors</li> <li>Sustainable urban development</li> </ul>							Very low	Medium	Very high		
							Present					
							Near term (2030–2040)					
							Long term (2080–2100)	2°C				
			4°C	