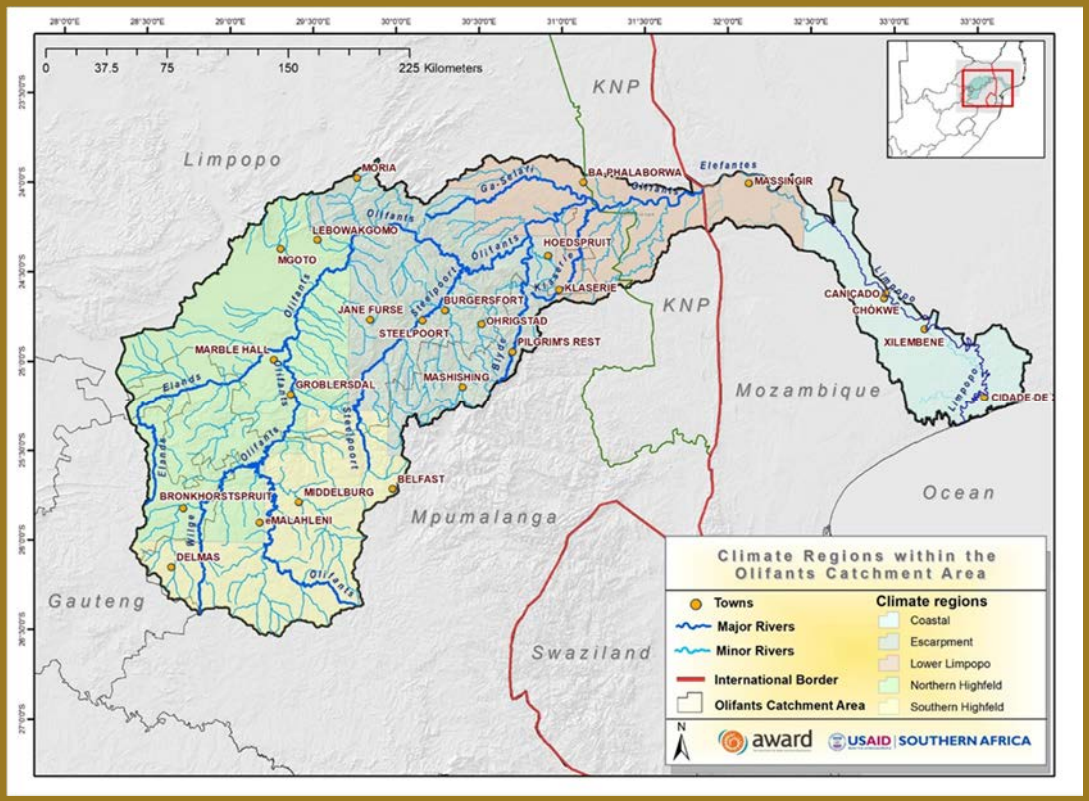
How is the Climate Changing in the Olifants River Catchment?

The Olifants River Catchment is a heterogenous landscape, with nuanced differences resulting in five distinct climate regions within the catchment. An analysis of current, historical and projected climate for the Olifants River Catchment determined that temperatures and rainfall vary across these regions, but there is strong evidence that temperatures have increased and are increasing, while trends and projections for rainfall remain uncertain.

This flyer shares the results of a localised and nuanced analysis of historical trends and climate projections for the Olifants River Catchment summarised in the technical brief *Historical trends and climate projections for climate regions in the Olifants River Catchment* (by Dr Sharon Pollard and Dr Taryn Kong, 2018) based on the interpretation of the climate analysis *An analysis of historical and projected climate for the Olifants River catchment based on delineation of homogeneous climate regions* (December 2017) provided by the Climate System Analysis Group (CSAG) from the University of Cape Town (UCT).



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The five climate regions were delineated based on historical rainfall and temperature data. Each climate region represents an area with similar seasonality, inter-annual variability and combination of both that is distinct from another climate region. Therefore, to determine a more accurate and contextualised record and vision of the climate of the catchment to inform decision-making, the historical climate trends (1979 to 2013) and projected climate changes (1960-2099) for each of the climate regions were analysed separately and then compared with each other.

Northern Highveld Climate Region	Current characteristics	Historical trends	Climate projections
Temperature (temp)	Mean annual 19°C	↑Mean daily max temp ↑Number of day with max temp > 36°C	↑Mean daily max temp ↑Number of days with max temp > 36°C
Rainfall	Mean annual 604mm	No change	Mostly no change

Escarpment Climate Region	Current characteristics	Historical trends	Climate projections
Temperature (temp)	Mean annual 18°C	↑Mean daily max temp	↑Mean daily max temp ↑Number of days with max temp > 36°C
Rainfall	Mean annual 818mm	No change	Mostly no change

Lower Limpopo Climate Region	Current characteristics	Historical trends	Climate projections
Temperature (temp)	Mean annual 23°C	↑Mean daily max temp ↑Mean daily minimum temp	↑Mean daily max temp ↑Number of days with max temp > 36°C
Rainfall	Mean annual 558mm	No change	Mostly no change

Coastal Climate Region	Current characteristics	Historical trends	Climate projections
Temperature (temp)	Mean annual 24°C	↑Mean daily minimum temp	↑Daily maximum temp ↑Number of days with temp >36 °C
Rainfall	Mean annual 848mm	↑Total annual rainfall ↑Number of days with rain >20 mm/day	Mostly no change

Southern Highveld Climate Region	Current characteristics	Historical trends	Climate projections
Temperature (temp)	Mean annual 16°C	↑Mean daily max temp	↑Mean daily max temp ↑Number of day with max temp > 36°C
Rainfall	Mean annual 718mm	No change	Mostly no change

This analysis was conducted as part of the Resilience in the Limpopo Basin Program – Olifants Catchment (RESILIM-O) project, which is funded by the United States Agency for International Development (USAID) under USAID/Southern Africa Resilience in the Limpopo Basin Program (RESILIM). The project is implemented by the Association for Water and Rural Development (AWARD) in collaboration with partners. AWARD contracted CSAG to perform the analysis.

AWARD is a non-profit organisation specializing in participatory, research-based project implementation. Their work addresses issues of sustainability, inequity and poverty by building natural-resource management competence and supporting sustainable livelihoods. One of their current projects, supported by USAID, focuses on the Olifants River and the way in which people living in South Africa and Mozambique depend on the Olifants and its contributing waterways. It aims to improve water security and resource management in support of the healthy ecosystems to sustain livelihoods and resilient economic development in the catchment.

About USAID: RESIIM-O

USAID: RESILIM-O focuses on the Olifants River Basin and the way in which people living in South Africa and Mozambique depend on the Olifants and its contributing waterways. It aims to improve water security and resource management in support of the healthy ecosystems that support livelihoods and resilient economic development in the catchment. The 5-year program, involving the South African and Mozambican portions of the Olifants catchment, is being implemented by the Association for Water and Rural Development (AWARD) and is funded by USAID Southern Africa.

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Non-profit org. Reg. No. 006 - 821

Acknowledgements: Project Funding & Support

The USAID: RESILIM-O project is funded by the U.S. Agency for International Development under USAID/Southern Africa RESILIENCE IN THE LIMPOPO BASIN PROGRAM (RESILIM). The RESILIM-O project is implemented by the Association for Water and Rural Development (AWARD), in collaboration with partners. Cooperative Agreement nr AID-674-A-13-00008