Climate COP30

City-Basin Dialogue – 11 November 2025

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Climate Overview in Gauteng

- Long-term climate projections for Gauteng suggest a hotter climate with higher temperatures and longer dry spells with an increase in extreme climate events.
- Intense rainfall events, higher occurrence of flash floods, more erosion and pressure on infrastructure and affecting agricultural production will also impact water security .
- Gauteng, as South Africa's economic powerhouse, is highly urbanised and industrialised, placing significant pressure on natural resources and water systems. This intensifies the need for integrated climate resilience strategies such as sustainable drainage, catchment restoration, and inclusive urban planning, to safeguard communities and infrastructure from escalating climate risks.
- Gauteng's response is guided by the Gauteng City Region Over-arching Climate Change Response Strategy and Action Plan: The Strategy.
- The Strategy provides a roadmap for coordinated climate action across the province, emphasizing water security, nature-based solutions, and integrated urban planning as foundational pillars of resilience.
- Through its focus on Integrated Water Resources Management (IWRM), Sustainable Urban Drainage Systems (SuDS), and catchment-scale interventions, the Strategy enables inclusive, data-driven approaches that strengthen municipal collaboration and empower vulnerable communities.
- The Private and Public sectors are intertwined in these segments requiring collaboration and joint implementation of these response programmes.
- **Key Strategic Partnerships** required for **Successful Implementation** and **Maximum Impact**

Climate Change Implementation Plan

- The Climate Change Strategy: Implementation Plan has been developed to indicate project progress report and progress evidence where available.
- The purpose of a province wide implementation plan is to ensure horizontal alignment on climate action in Gauteng in both public and private sector.
- This is a “live” dataset that represent state of Climate Change implementation as reported by the government organizations in the province.
- To date, over 800 verified climate change projects have been recorded in the Implementation Plan. **In the 2024/2025 Financial Year, 133 projects have been recorded in the Implementation Plan.**
- These are projects implemented by both public and private sectors. Majority of the projects recorded are implemented by the public sector. More engagements with the private sector is required to update implementation by this sector.

Gauteng's IWRM & Monitoring Initiatives

- Gauteng's Climate Change Strategy includes a strong "Water Security" programme.
- The province's urban planning framework is closely aligned with water resilience objectives, incorporating sustainable urban drainage systems (SUDS), flood risk mitigation strategies, and ecosystem restoration within key catchment areas.
- The development of a Climate Resilient Catchment Management Plan for the Kaalspruit Catchment (serving the Cities of Johannesburg, Tshwane, Ekurhuleni) which includes a hydrological model, risk hazard mapping and adaptation interventions contributes to the water resilience objectives.
- There is also emphasis on improved data-gathering and monitoring for water supply systems and wastewater, plus efforts to reduce non-revenue water and improve demand-side management.

Sustainable Drainage Systems Overview

- The Gauteng Department Environment introduces Sustainable Drainage Systems (SuDS) to address urban water management challenges in the province.
- This multi-year initiative has yielded a robust suite of deliverables, including best practice manuals, implementation guidelines, and pilot project evaluations.
- Developed in partnership with the Future Water Institute, this manual supports municipalities in incorporating SuDS into planning, design, and maintenance of urban infrastructure
- SuDS aim to restore natural water flows and enhance biodiversity.
- SuDS are essential for managing stormwater quantity and quality in urban areas.
- Key focus areas include the installation of retention ponds and bio-swales in flood-prone regions; deployment of permeable pavements and green roofs in high-density urban zones; community education on the benefits and upkeep of SuDS; and integration with Integrated Water Resources Management (IWRM) and broader climate adaptation strategies.
- 45 existing SuDS locations have been identified, mostly implemented by developers for amenity rather than stormwater management.
- Gauteng partnered with Fourth Element, Eco-Pulse, AquaLinks, and Greenvision Consulting to facilitate workshops, stakeholder engagement, and technical support for SuDS rollout.

Climate Resilience Within The Catchment Systems

- Over 80% of the river systems are threatened. Catchments are highly urbanized and includes extensive encroachment into the river's riparian zone, which is particularly evident in areas such as **Tembisa, Ivory Park, Alexandra and Soweto**. These communities are critically exposed to flood risks and are particularly vulnerable to climate change impacts.
- Other issues include:

- Illegal Land Occupation
- Illegal Dumping
- Damaged Infrastructure
- Erosion

- Work has commenced to improve climate resilience in the Kaalspruit Catchment (Tembisa, Ivory Park, Centurion) as well as other catchments.

Climate Resilience Within The Catchment Systems

Kaalspruit Catchment

- In September 2021 City of Tshwane (COT) received final approval to start with the desiltation programme, and to date 200 000 cubic meters of river sand have been removed. The Centurion lake has now 90% river sand and 10% silt.
- Desilitation is being managed, but there is the issue of litter, which affects the property value due to the state of the water in the lake. COT has designed a litter trap which has been inserted upstream of the Irene Golf Course
- The City of Ekurhuleni has been working with Department of Human Settlements to look at potential solutions, such as **upgrading of some of the sanitation solutions and general clean-up campaigns.**

Litter Traps

Centurion Lake Sediment Removal

River Cleanups

Conclusion

- Gauteng's climate response reflects a bold, systems-level approach to resilience, integrating catchment-scale planning, urban infrastructure reform, and community-driven innovation.
- Strategic interventions such as the desiltation of Kaalspruit and the rollout of Sustainable Urban Drainage Systems (SuDS) are restoring ecological function, reducing flood risk, and empowering vulnerable communities.
- The path forward demands more than technical solutions, it requires:

➢ Strengthened institutional capacity at local and district levels

➢ Sustained climate finance across all spheres of government

➢ Embedding adaptation and mitigation into core development planning

- By aligning climate goals with everyday governance, Gauteng is:

➢ Reducing vulnerability across urban and peri-urban areas

➢ Unlocking co-benefits for health, biodiversity, and economic inclusion

Thank you