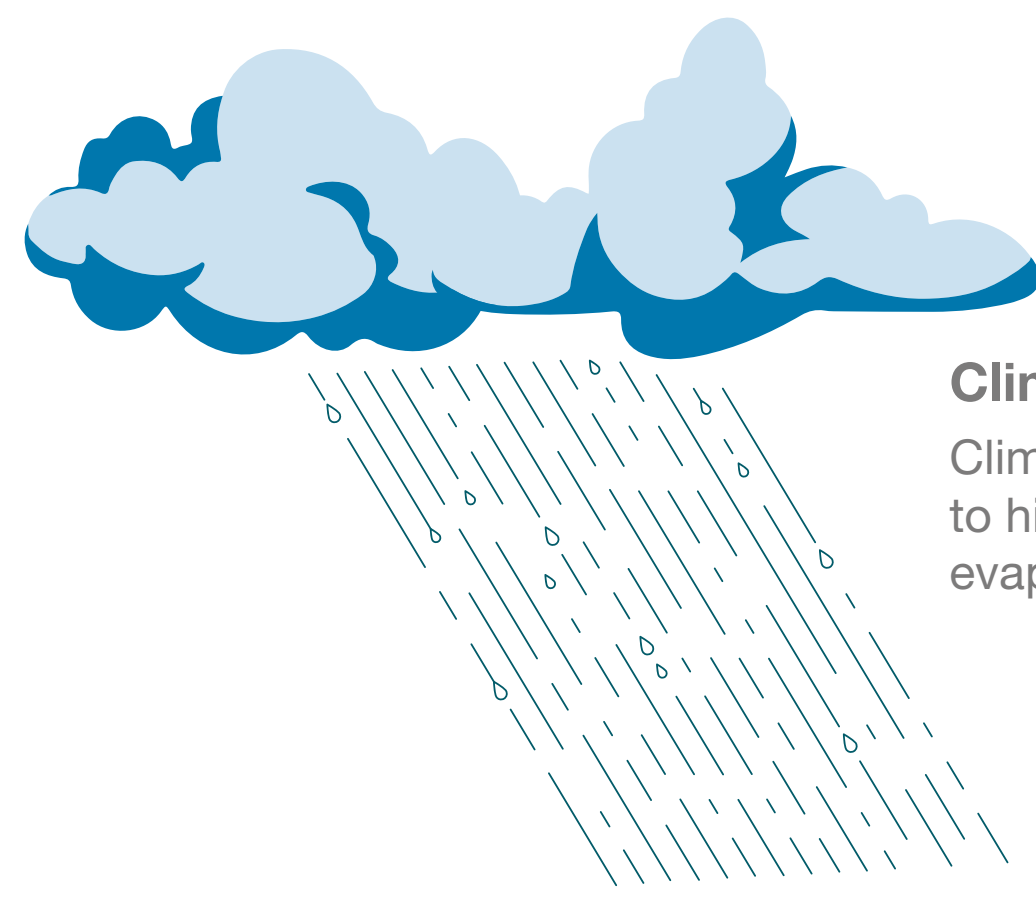


South African companies recognise that water is key for economic growth

NATURAL INFRASTRUCTURE

Functioning natural infrastructure is a key driver of future water security, for companies and their surrounding communities.

The decline of South Africa's natural system threatens our water availability. Key risk factors include changes in:



Climatic conditions
Climate change is leading to higher temperatures and evaporation rates

Vegetation cover

Overgrazing, bush encroachment and invasive alien plants are degrading vegetation cover



The greatest impact on surface water and groundwater recharge is invasive alien plants.

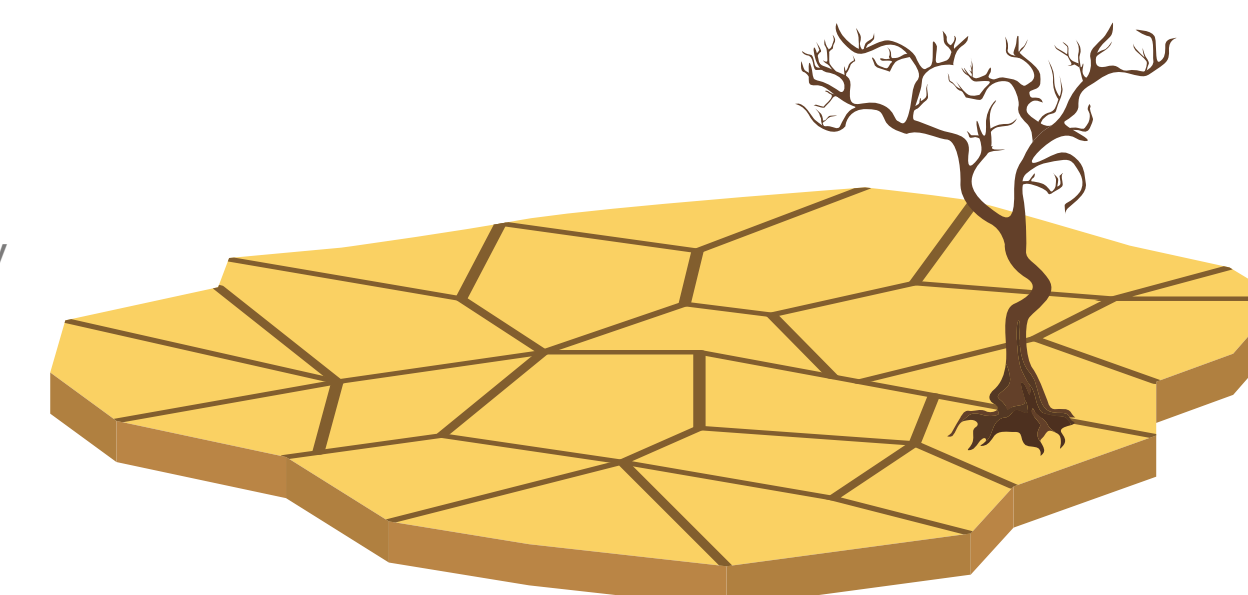
Invasive alien plants reduce the virgin total Mean Annual Runoff (MAR) by 2.6%. This equates to greater than the water requirement to support a population of over 4 million people*

These factors threaten water security and negatively impact ecosystem services

The degradation of natural infrastructure leads to the loss of ecosystem services and biodiversity, through:

- Increased erosion
- Increased floods
- Increased siltation
- Increased intensity of wildfires

- Declining water quality
- Reduced surface water run-off
- Lower groundwater recharge

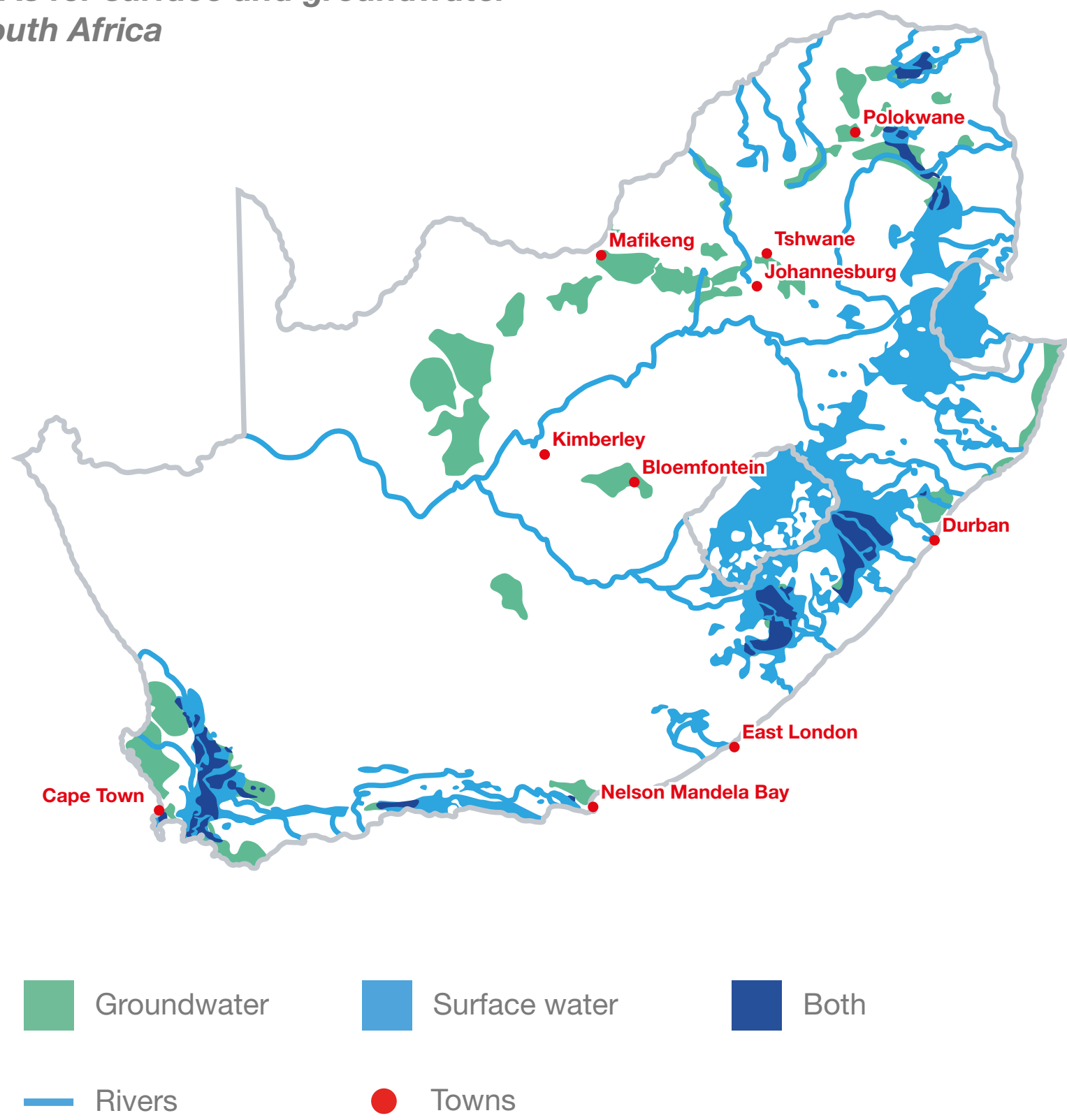


STRATEGIC WATER SOURCE AREAS

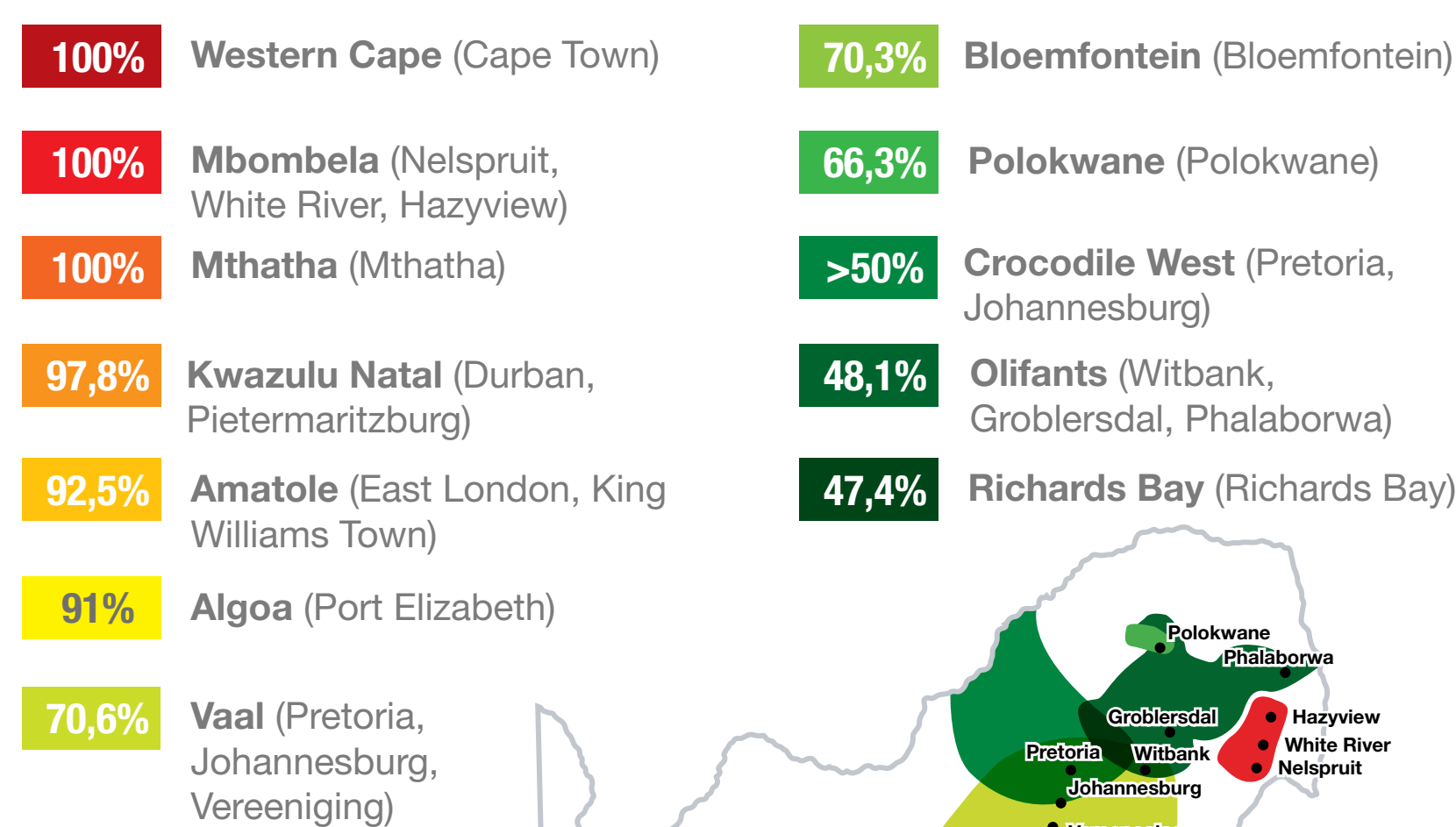
A key component of South Africa's natural infrastructure is our Strategic Water Source Areas. These water source areas produce disproportionately greater volumes of water than any other region of the country.

Strategic Water Source Areas (SWSAs) play a vital role in sustaining our people and economy. However, only 11% of all the SWSAs are within Protected Areas (PAs)*

SWSAs for surface and groundwater in South Africa

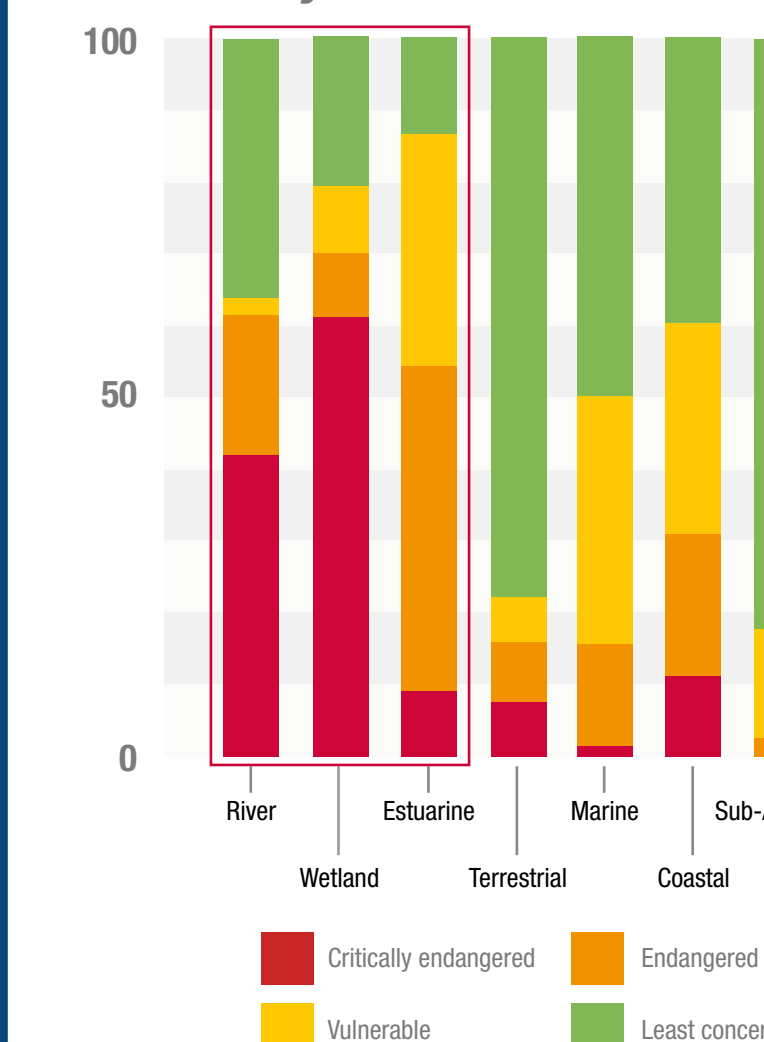


Many of South Africa's biggest urban areas are heavily reliant on water inflows linked to SWSAs

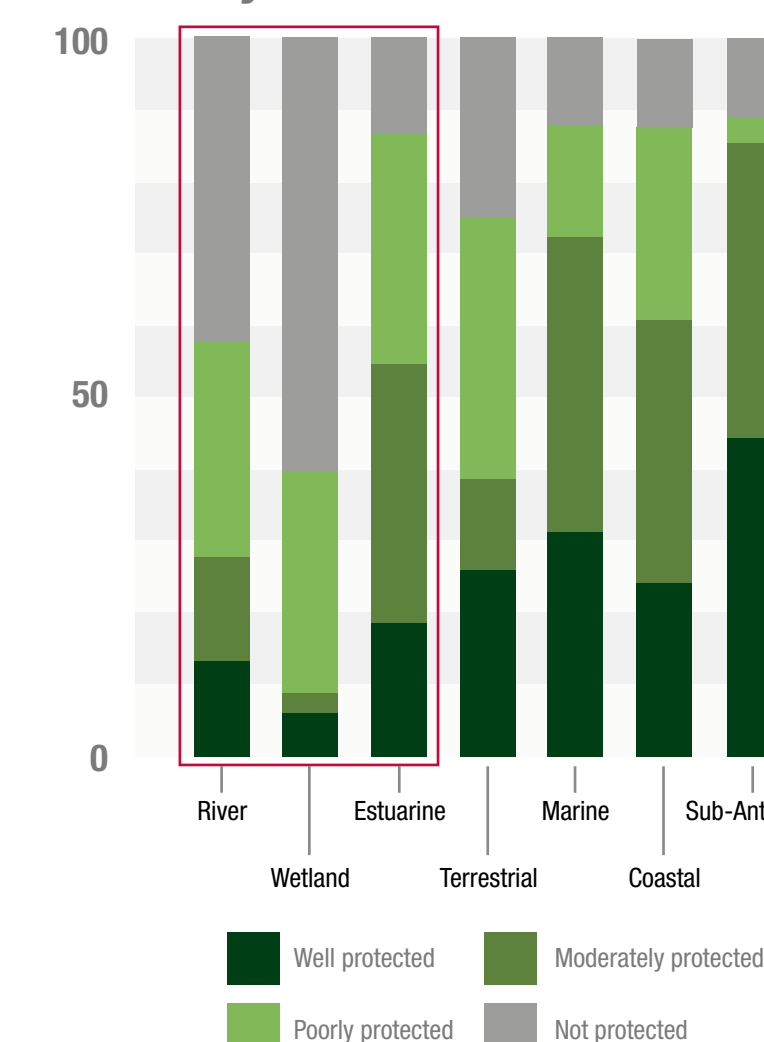


South Africa's rivers and wetlands, which are key for water availability and quality, are highly threatened and among the least protected ecosystem types**

Ecosystem Threat Status



Ecosystem Protection Level



1. 67% of South Africa's total river length is degraded. Of the 222 rivers assessed, 64% were found to be threatened, only 13% well protected and 42% not protected.
2. Inland wetland and estuary ecosystem types are most threatened and have low levels of protection.
3. Approximately 75% of inland wetlands are both threatened and under-protected.

RISK EXPOSURE

There is a need to move beyond business as usual and unlock investment in South Africa's critical catchments to reduce drought and water scarcity related risk.

Companies in the South African CDP water sample report that >90% of their water-related financial value at risk is located in South Africa

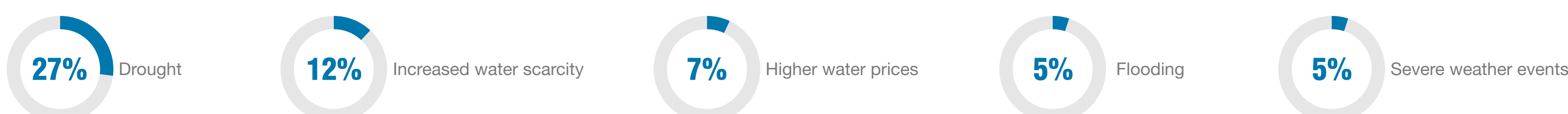
Total financial value at risk \$38 771 549 181

Total financial value at risk in SA \$36 097 645 315

0% 20% 40% 60% 80%

In 2019, the primary risk drivers reported were drought and increased water scarcity.

Top 5 primary risk drivers:

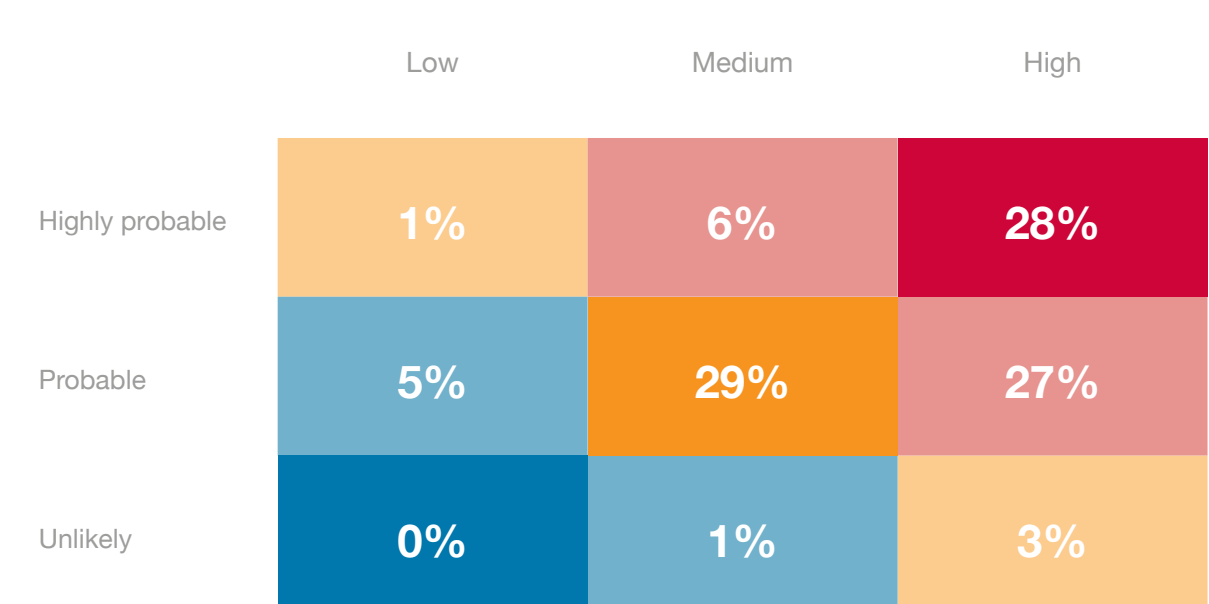


This context has resulted in primary risk impacts focused on disruptions in production and higher operating costs.

Top 8 primary risk impacts:



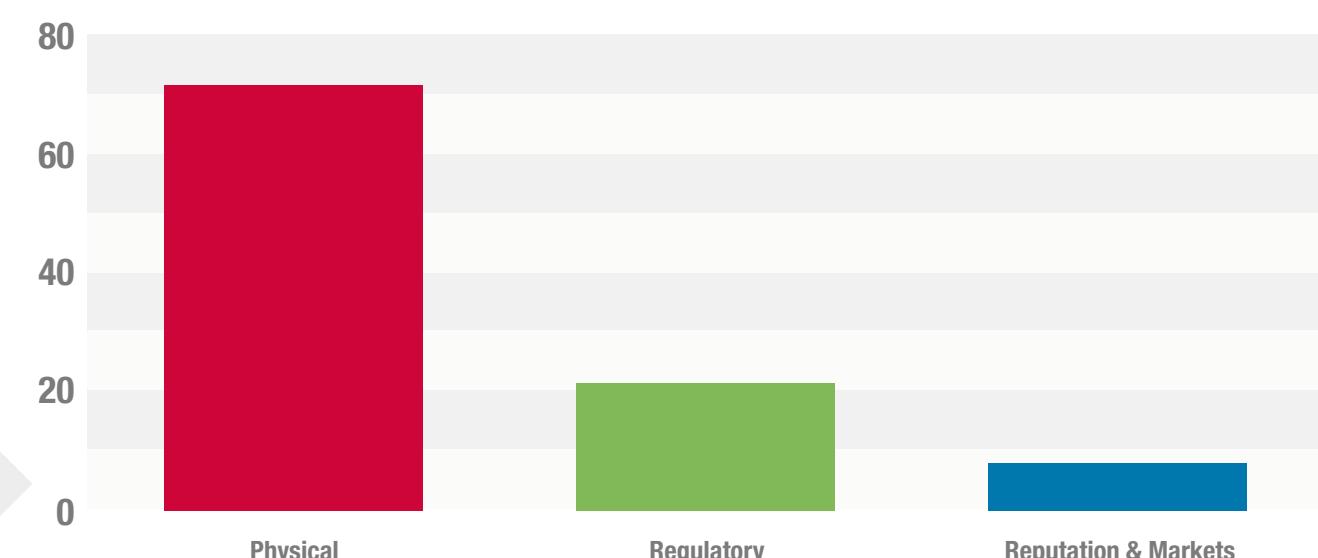
Water risks identified in direct operations of companies with high impact and high probability is significant



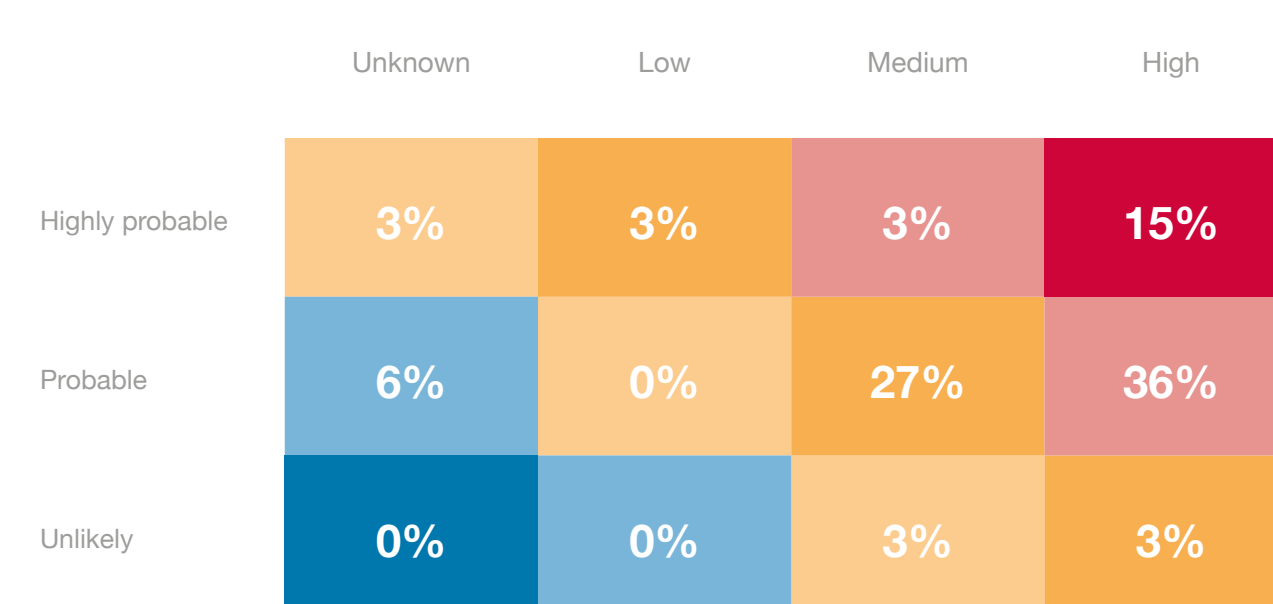
Out of 102 companies: 72 stated physical risks, 21 regulatory risks and 9 reputation and markets risks as the highest risks by type in their direct operations.

At a macro level, drought resulting in reduced surface water availability and lower groundwater recharge has impacted companies' direct operations. This is exacerbated by poor governance of water in some cases, which amplifies existing water vulnerabilities and declines in the natural system.

Number of risks by type in direct operations



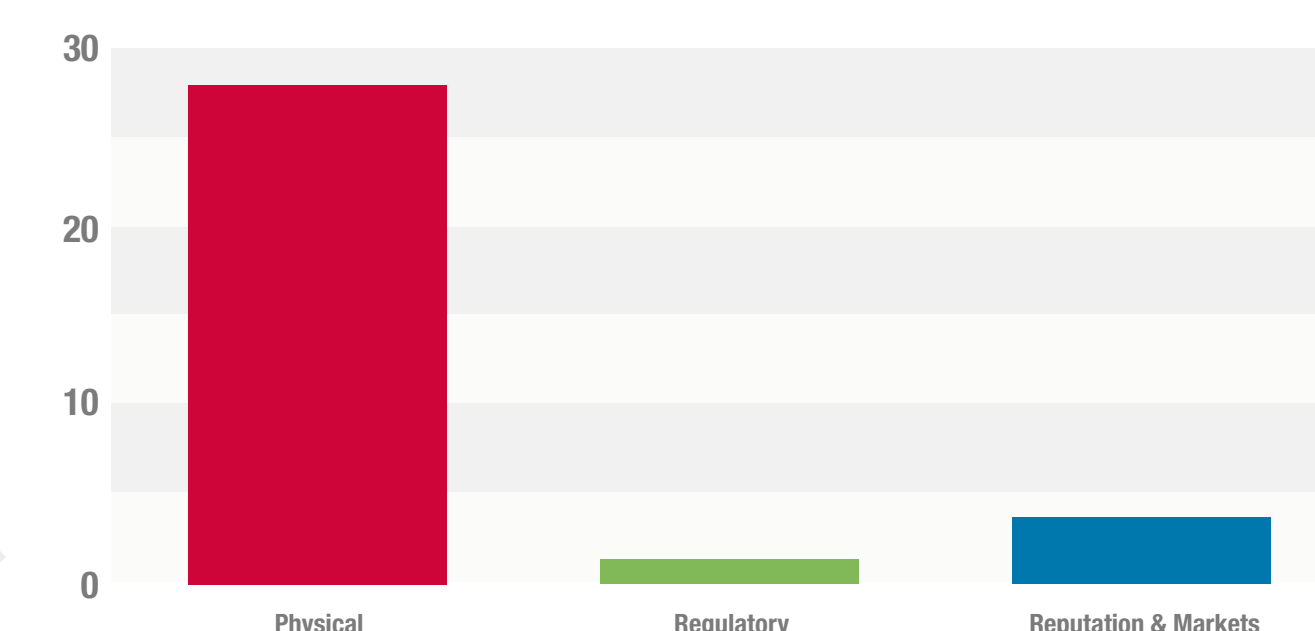
Water risks linked to company value chains with high impact and high probability are also considerable.



Out of 33 companies: 28 stated physical risks, 1 regulatory risks and 4 reputation & markets risks as the highest risks by type in their value chain.

Value chain risk is also linked predominantly to physical risk. Water security has been declining and companies across the value chain have experienced drought conditions since 2015. Only toward the end of 2020 has there been some reprieve.

Total number of risks by type in the value chain



COST VERSUS RESPONSE

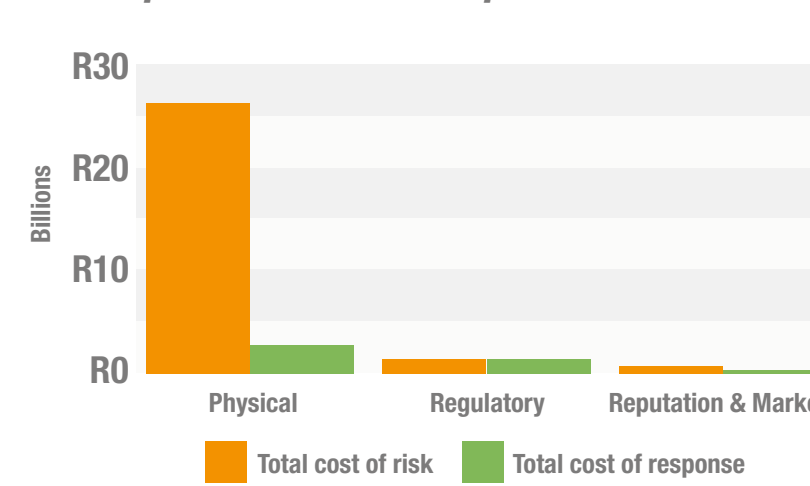
The financial impact of water risk far outweighs the cost of response, while the cost of no response exponentially escalates year on year.

Companies have incurred costs of R4.1bn in response to identified risks of R27.6bn in direct operations

Total cost of risk in direct operations vs. cost of response

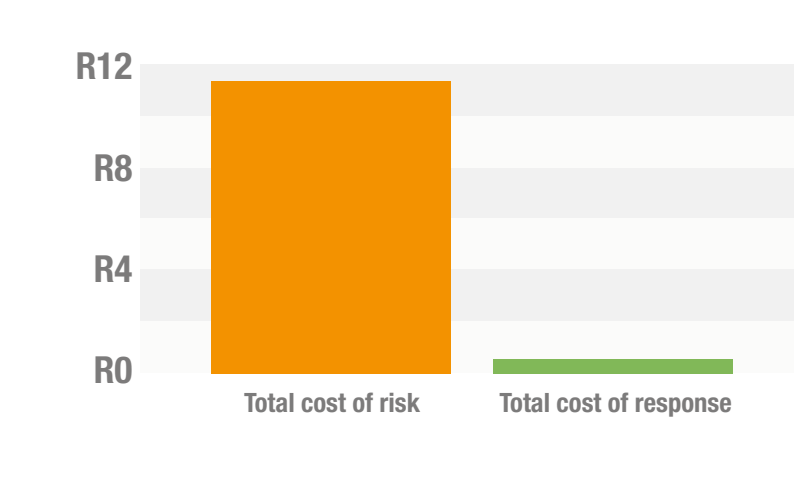


Type of risk by financial value vs. cost of response in direct operations

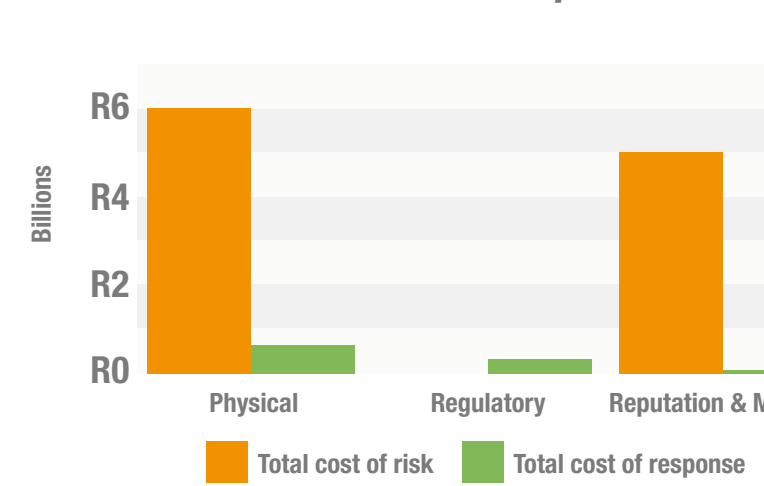


Companies have incurred costs of R0.5bn in response to identified risks of R11.2bn in their value chains

Total cost of risk vs. cost of response in the value chain



Financial value of risk by type in the value chain vs. cost of response



CONCLUSION

1. Climate variability is on the rise and there is an evident lack of protection of key components of our natural infrastructure
2. As the national water risk environment intensifies, we need to pay significant attention to water as an underlying enabler of economic growth

References:

- * Water Research Commission (WRC), 2018. Identification, delineation and importance of the strategic water source areas of South Africa, Lesotho and Swaziland for surface water and groundwater.
- ** South African National Biodiversity Institute (SANBI), 2018. National Biodiversity Assessment, The status of South Africa's ecosystems and biodiversity