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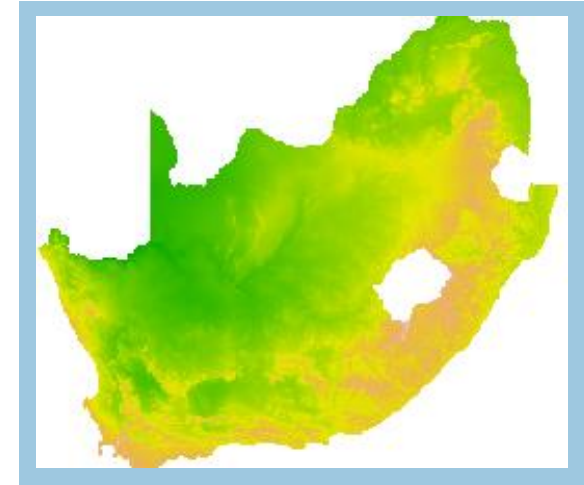
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Prof. Kelsey Glennon (Wits)



SAEON
South African Environmental
Observation Network

Modelling the current and future distributions of *Warburgia salutaris* in South Africa



Traditional medicine

- Approximately 60% of South Africans rely on traditional medicine as a primary source of health care
- *Warburgia salutaris* (G. Bertol.) Chiov. (pepper-bark tree)



Van Weezendonk, E. iNaturalist

Warburgia salutaris

- Family Canellaceae
- Eastern South Africa
- IUCN EN A1acd

A	Population size reduction
a	Direct observation
c	Decline in area and extent of occupancy/habitat quality
d	Exploitation



Study aim

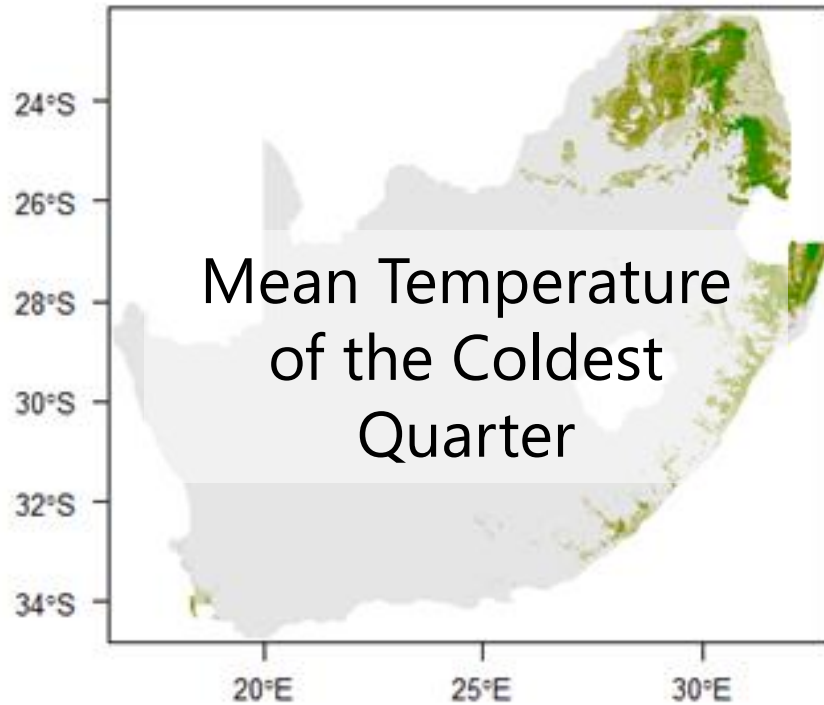
To assess the current distribution and predict the future (2070) distributions of *W. salutaris* under different climate change scenarios (RCP 4.5 and RCP 8.5) in South Africa

Species distribution modelling (SDM)

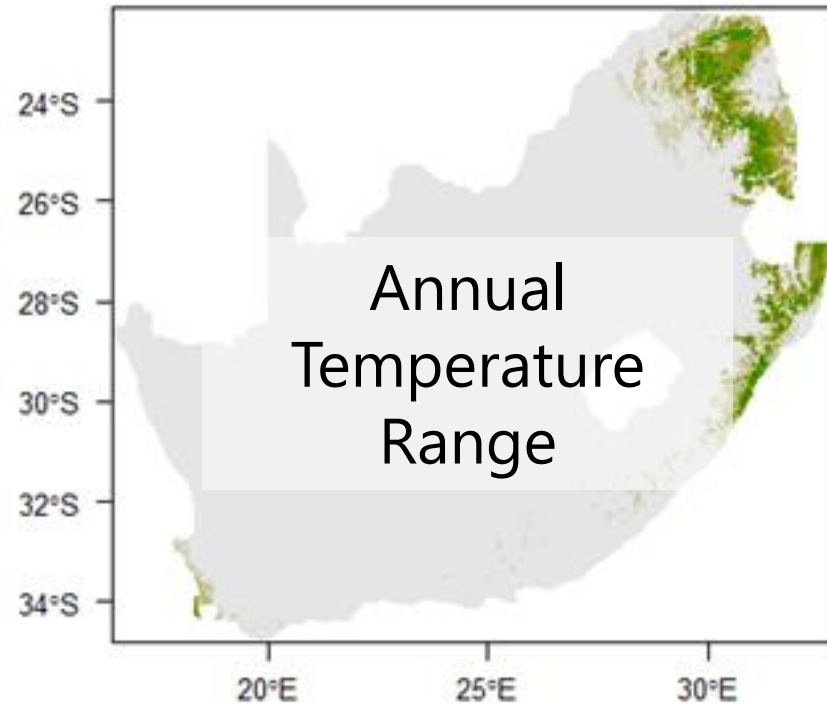
SDM: a tool for understanding and predicting the geographic distribution of species

Driver environmental variables

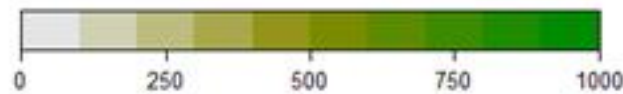
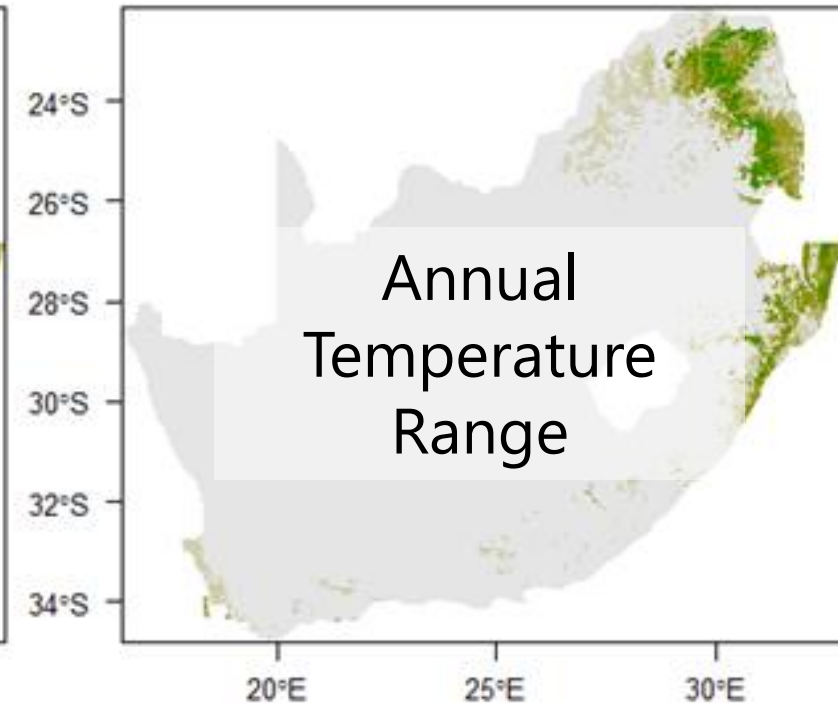
Current



RCP 4.5 (2070)



RCP 8.5 (2070)



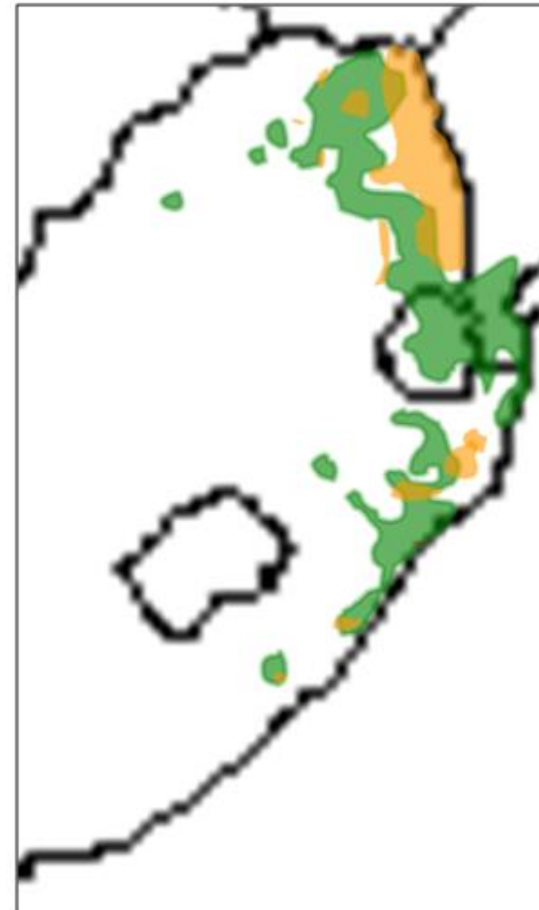
Range Size Change:

+ 15.571%

- 19.533%

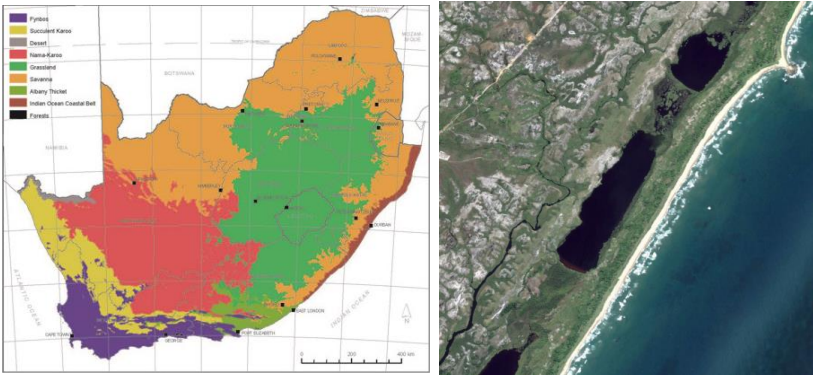
Future of *W. salutaris* in South Africa

- Limited overlap between suitable areas and protected areas
- Prioritise propagation in areas expected to increase in suitability
- Manage and monitor areas expected to decrease in suitability



- Limpopo and Mpumalanga**
- Protected areas in Limpopo
 - Kruger National Park
 - Blyde River Canyon Nature Reserve
 - Bushbuckridge area
- KwaZulu-Natal**
- Hluhluwe-iMfolozi Park
 - St. Lucia Game Park
 - eMakhosini Ophate Heritage Park
 - oNgoyo Forest Reserve
 - Vernon Crookes Nature Reserve
 - Weza Protected Environment





Indian Ocean Coastal Belt



Overharvesting for trade

Conclusions



Propagation and distribution



Plant part substitution



Acknowledgements

- Dr. Thando Twala (Wits)
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- SANParks