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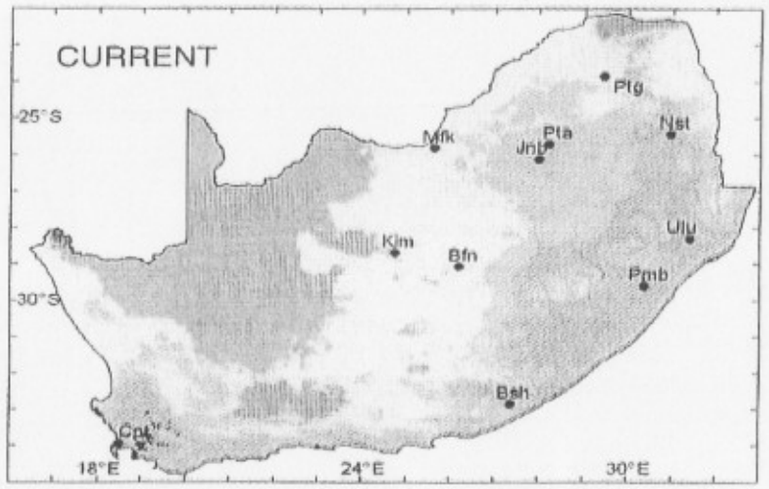
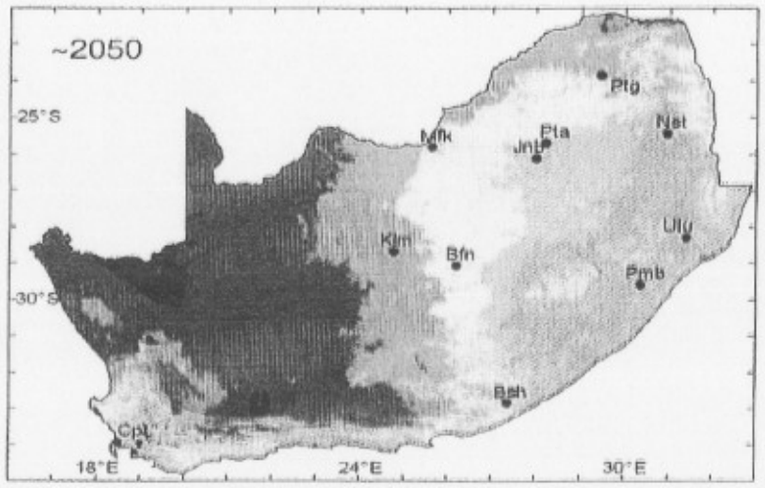
*The effect of global climate change on '**soil moisture days**' in South Africa (number of days when both soil moisture and temperature are suitable for plant growth)*

Rainfall and temperature change interact

Favourable soil moisture Days per year

- 0 - 20
- 20 - 40
- 40 - 60
- 60 - 80
- 80 - 100
- 100 - 120
- 120 - 140
- 140 - 160
- 160 - 180
- 180 - 200
- 200 - 220
- 220 - 240





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Agri-businesses at highest risk

- Those that are already stressed economically and / or biophysically
- Those at the threshold (or close to) of their climate tolerance e.g. high-chill apples
- Emerging (and other) farmers who may have limited capacity, resources and skills to adapt and withstand economic pressures
- Rural livelihoods who depend on agri-business based economic activity for jobs
- Commercial farmers with significant long-term investments (perennial crops, processing facilities)
- Agri-business that is dependent on the export market which is adapting to CC in itself (carbon neutrality)

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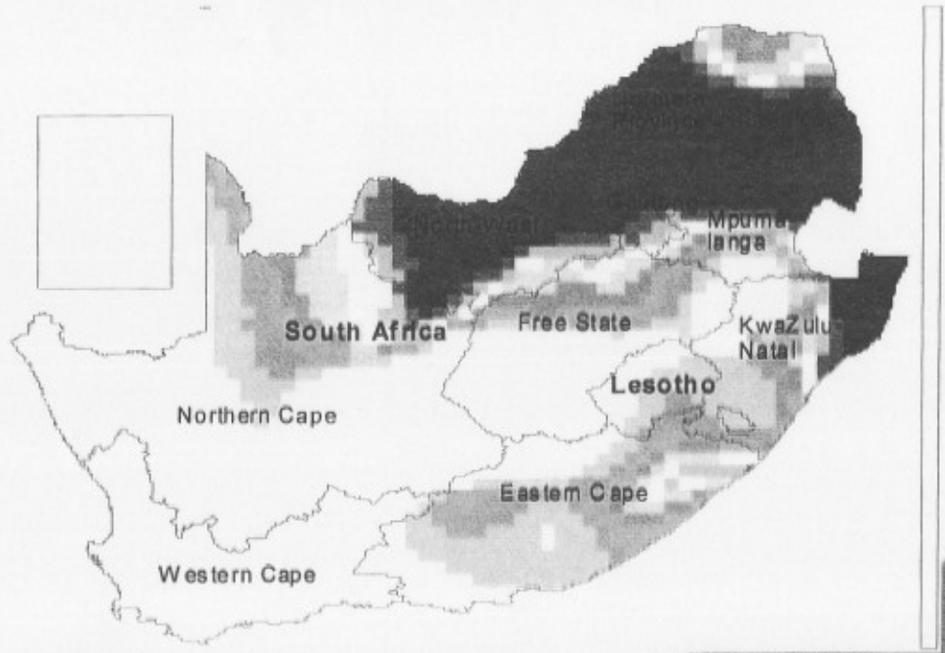
Theoretical Malaria distribution based on climate only (assuming no management control)

Population at high risk projected to quadruple by 2020 to 36 m - including many parts of Gauteng

Total costs of increased malaria are significant
0.1 - 0.2% of GDP
by ~2020

~2050



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Biodiversity Results

- Significant shifts in major vegetation types (biomes)
- Significant negative effects on home range size and species richness across almost all animal and plant groups
- Current conservation areas and their capacity to support species will be challenged

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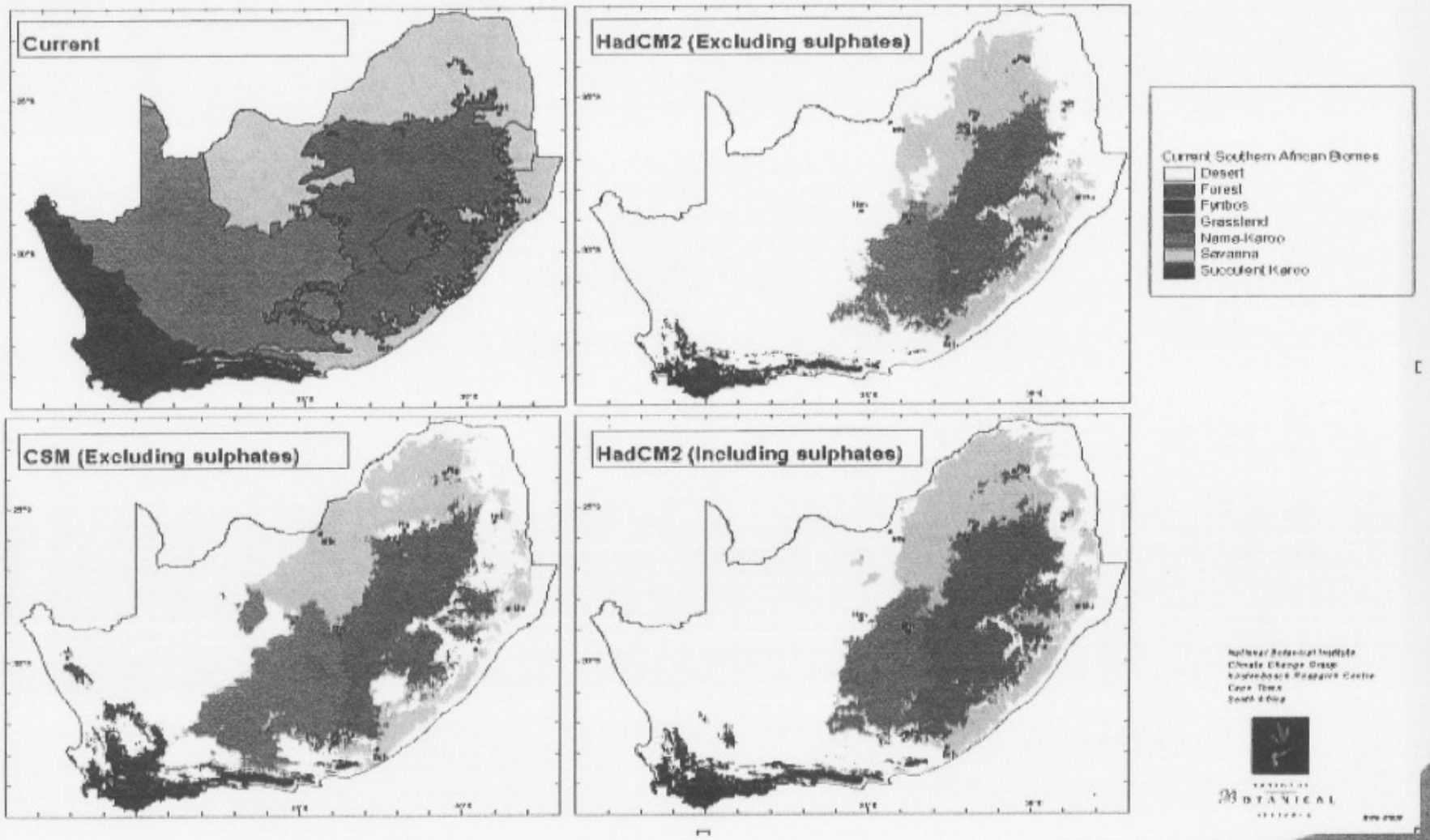
Potential shifts in vegetation biomes



National Botanical Institute
Climate Change Group
Kirstenbosch Research Centre
Cape Town
South Africa

NATIONAL BOTANICAL INSTITUTE

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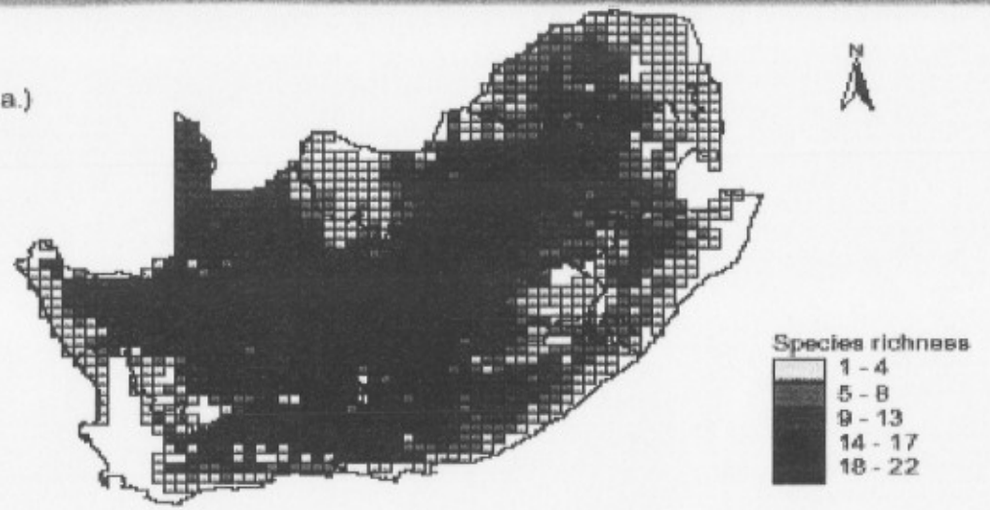
Bird Species Richness Patterns

a.)



b.)