Bird communities show resilience to the most recent extreme drought in KNP

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Background

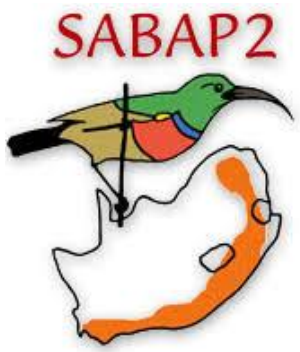
- Extreme Weather Events
- Link with PAs?

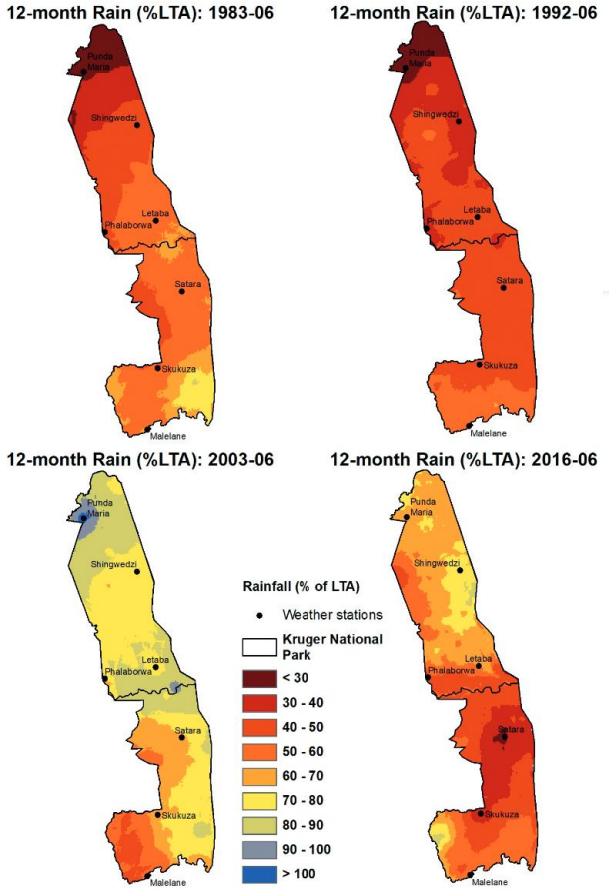
- Drought
- Press perturbation
- Pulse perturbation
- Birds?

- Resilience = Resistance + Recovery

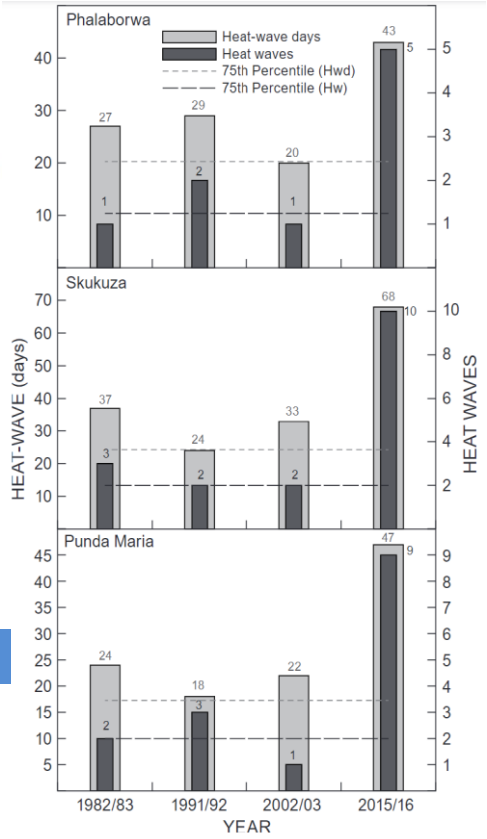
Rationale, Study Area, Methods

- What do we know about KNP's bird communities?
- Drought impacts?
- 2015/2016 extreme drought
- Pre-, during- and post-drought
- Bird community composition, diversity and functional group sensitivity
- CS and RS data





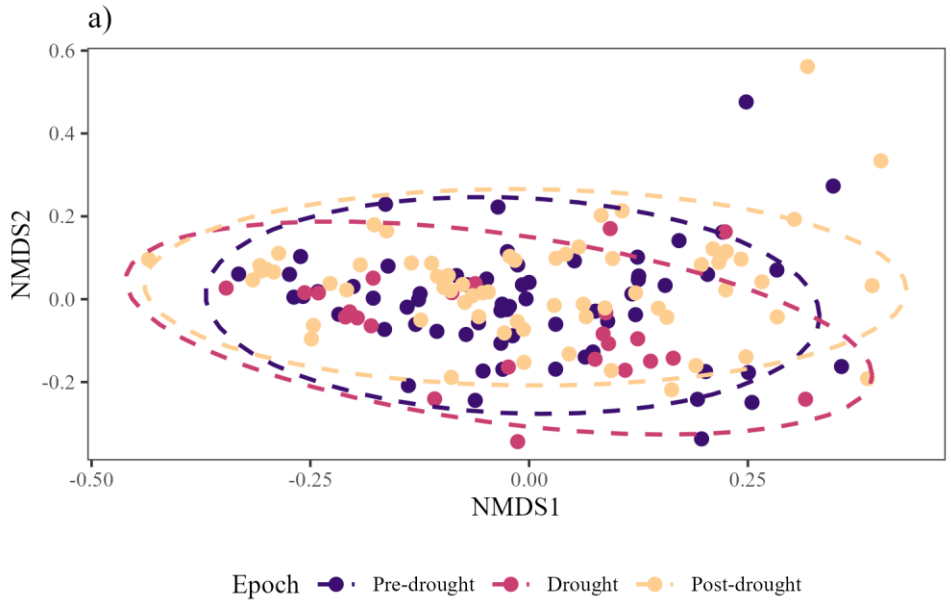
Malherbe et al. (2020)

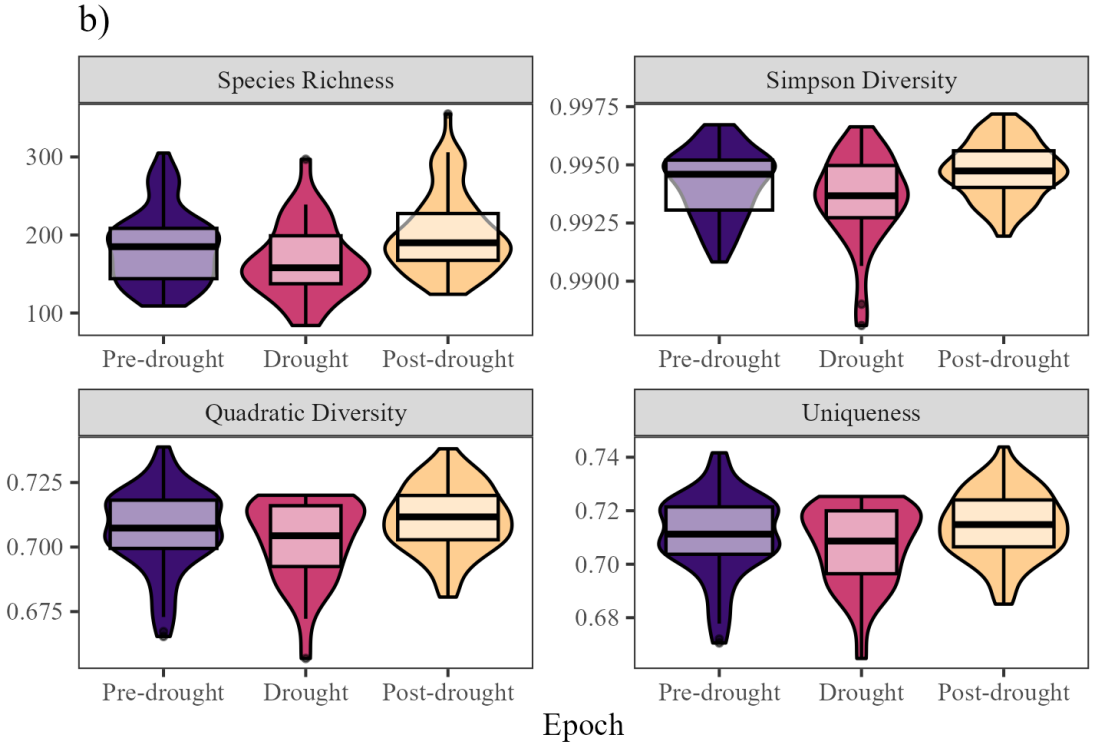


NASA MODIS
Moderate Resolution Imaging Spectroradiometer

Results

- Bird species compo across drought epochs?
- Bird diversity across drought epochs?
- Significant changes from drought to post-drought



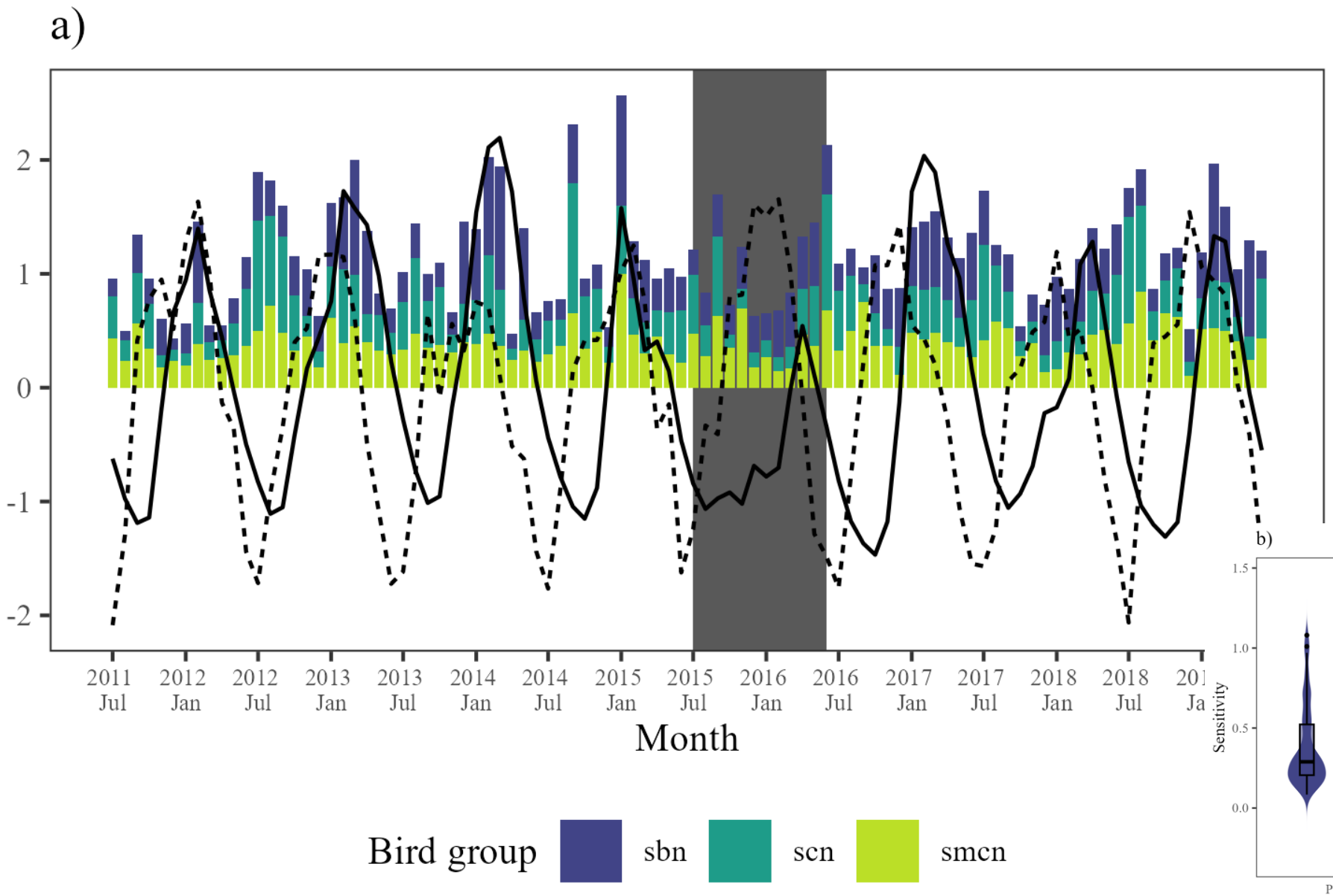


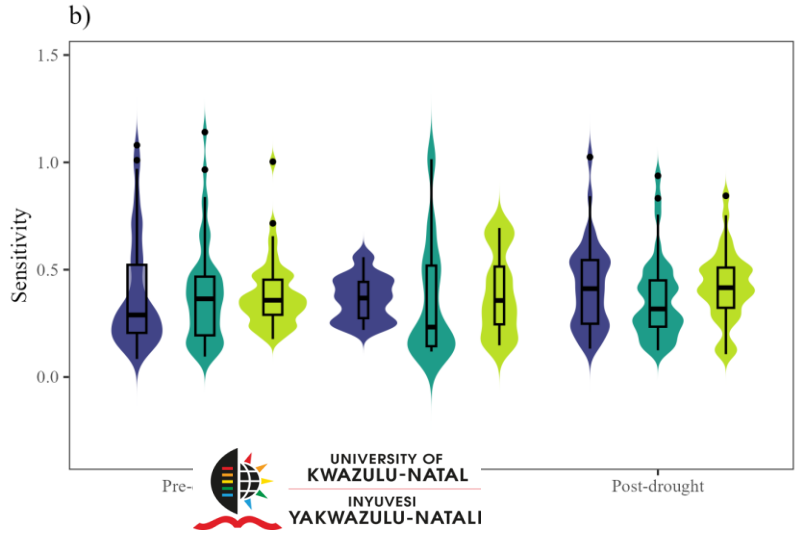
Results cont.

- Three functional trait groups
- Small ball-nesting species
- Small cup-nesting species
- Small to medium cavity-nesting species
- Two environmental variables identified
- Maximum ambient temperature
- NDVI / Veg. greenness

Photos. W. Tarboton

Results cont.





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Take-home messages

- The most **common bird** functional trait **groups** in KNP are **resilient** to shorter-term, single season **droughts**

- **Drought** (a press perturbation) **impacted** on pulse perturbations like **ambient temperature and vegetation greenness** but our results show **no effect** on the sensitivities of **common bird** groups

- Studies have shown that **longer droughts may have severe impacts on bird communities** of especially arid and semi-arid environments. **PA management should not only focus on Species of Special Concern**