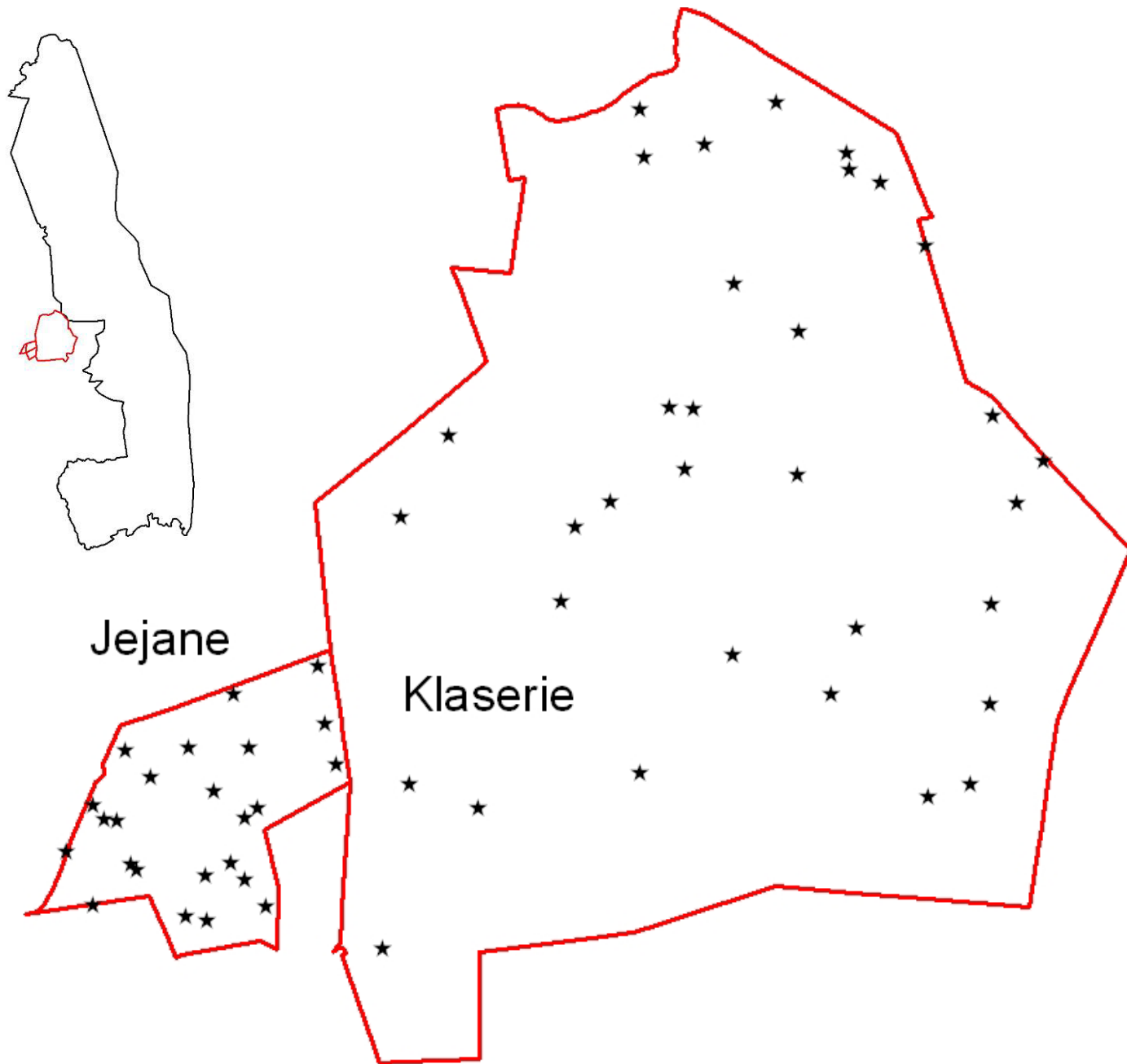


# Vegetation structure and composition in a Lowveld savanna are affected by climatic variables

Robert Buitenwerf





Data donated by Dr. Mike Peel (ARC-RFI)

# What to do with 15 years of data, from 58 sites, in 2 reserves?

1. Look for directional trends in:
  - Species relative abundance
  - Vegetation structure

**But then there were none....**

2. Establish how rainfall affects these variables



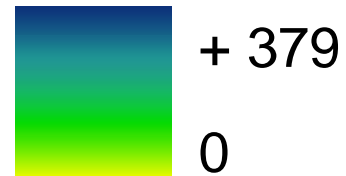
Predicted changes in  
rainfall range between:

+125 ml (gfdl)

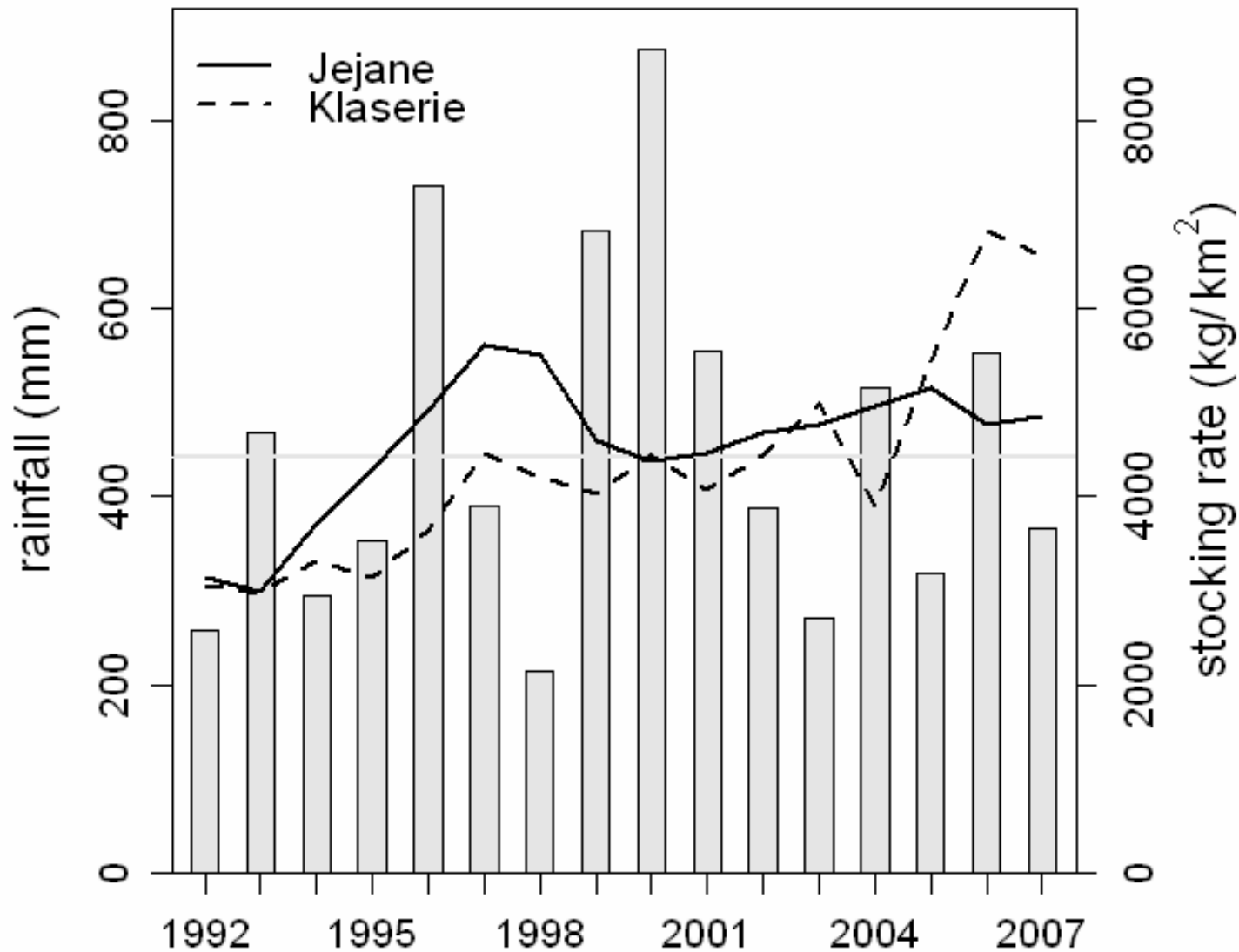
+138 ml (mri)

+175 ml (miroc)

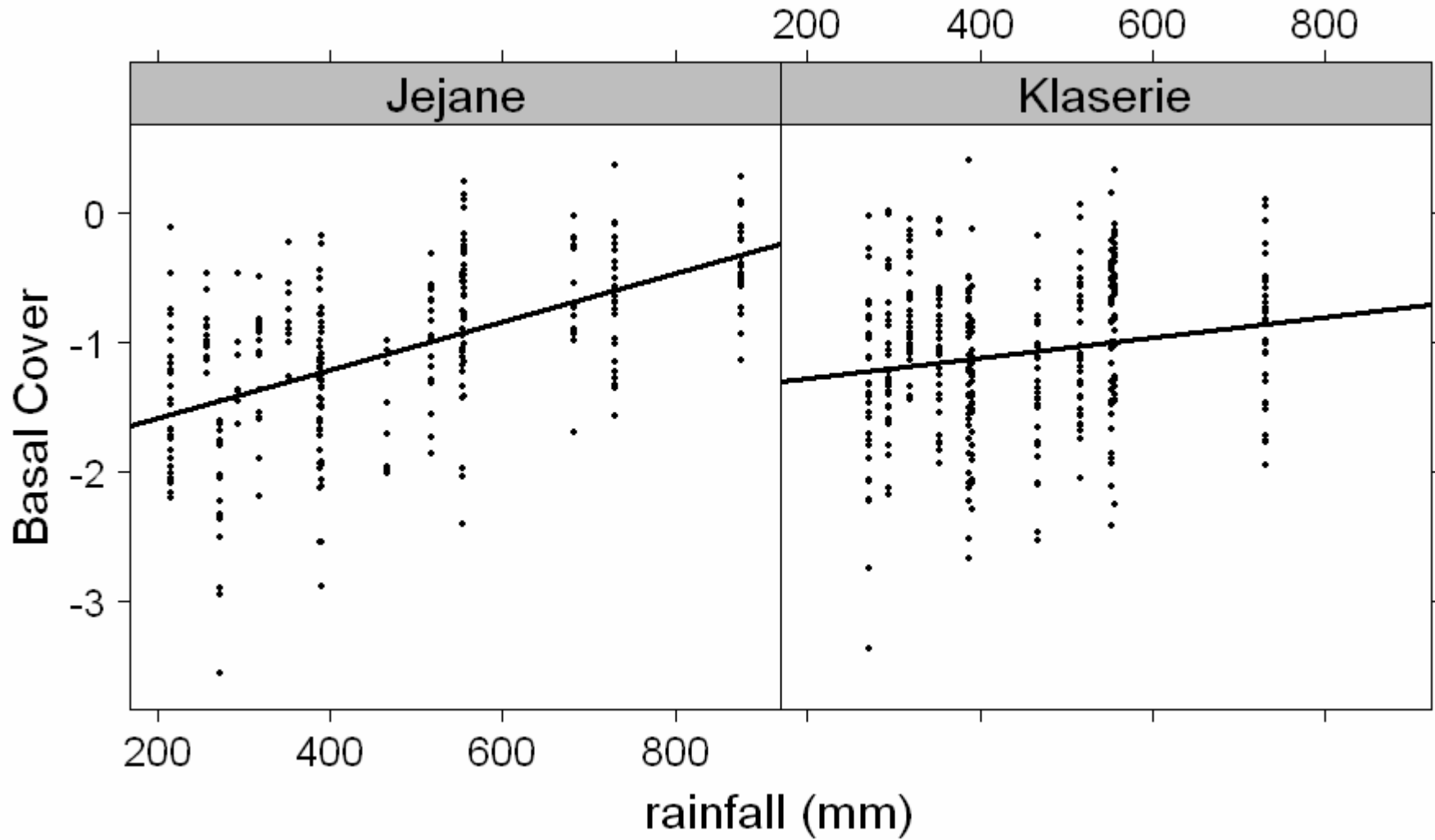
**Change in annual rainfall (mm)**



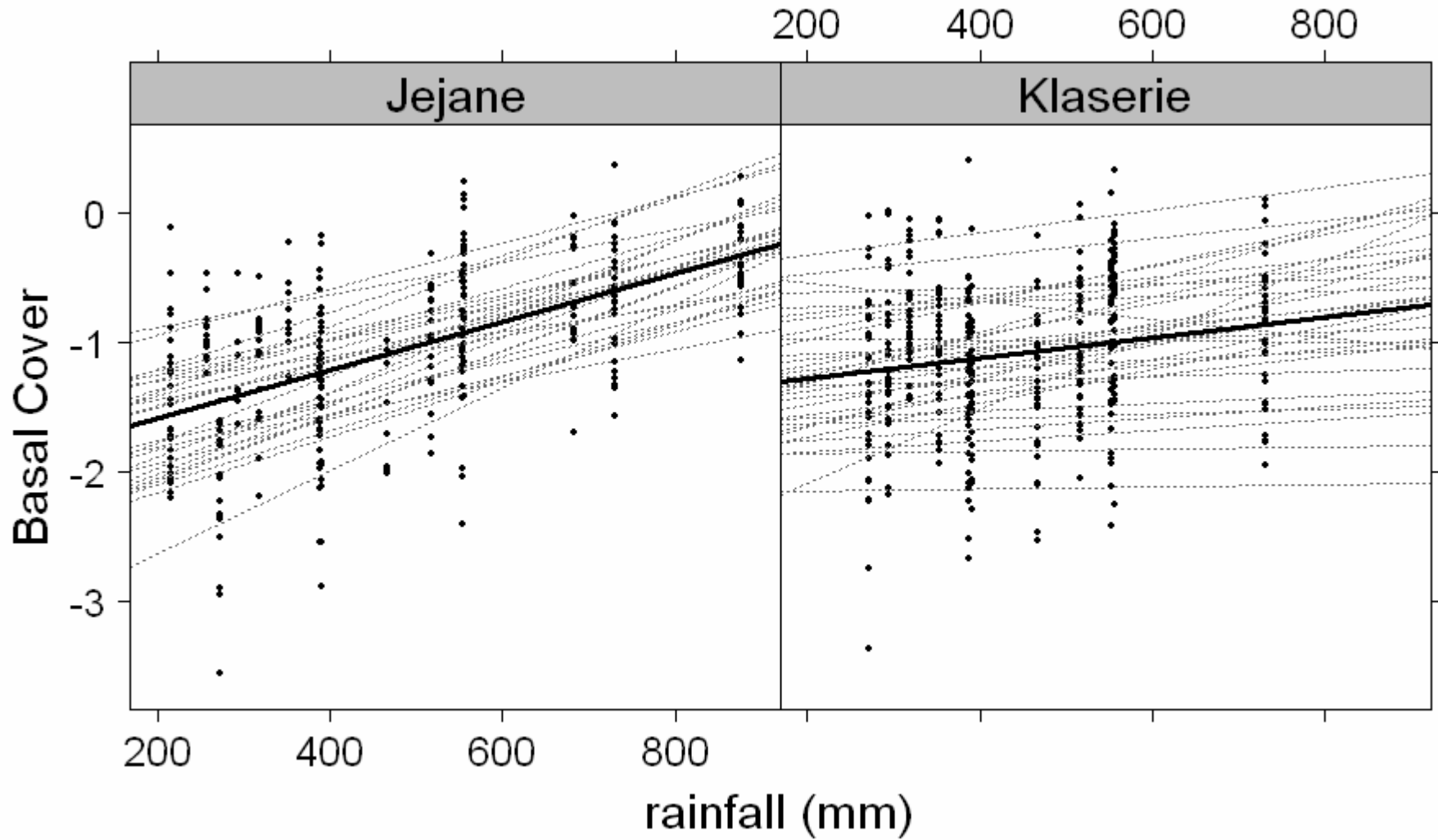
# Rainfall and stocking rates in Klaserie and Jejane



# Basal cover increases with rainfall

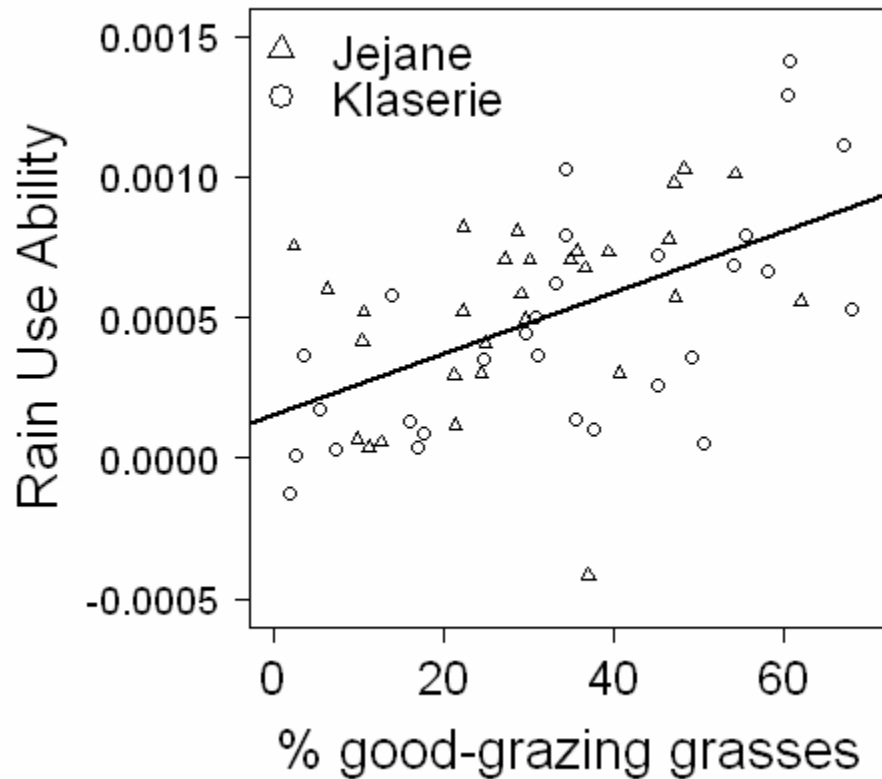


# Basal cover increases with rainfall

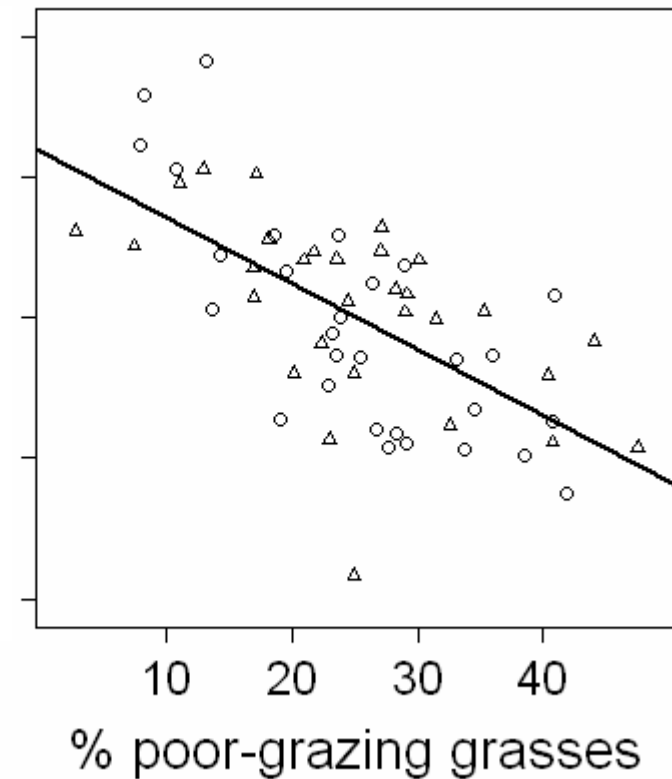


# Rain Use Ability and species composition

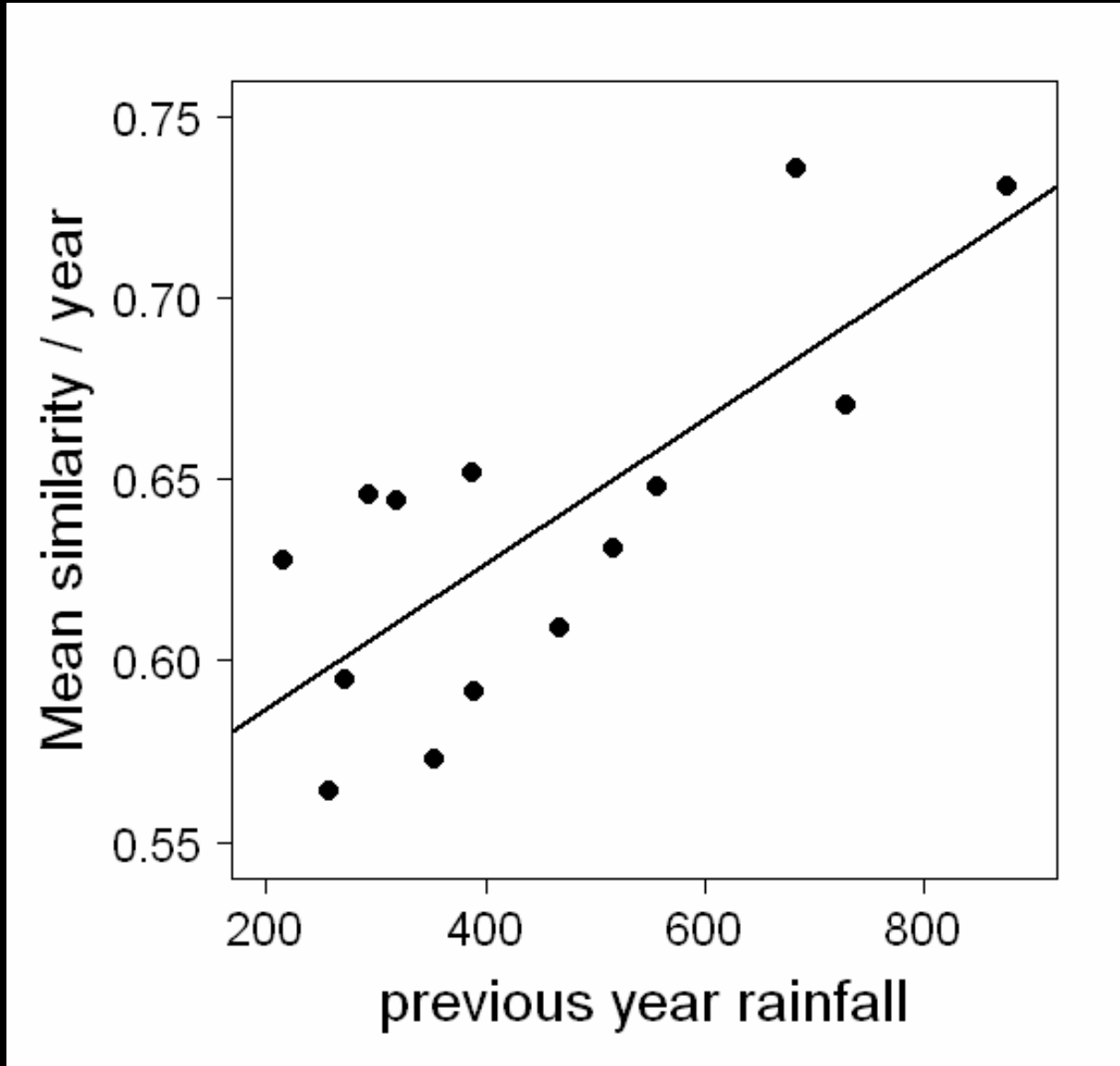
$P < 0.001$ ,  $R^2 = 0.28$



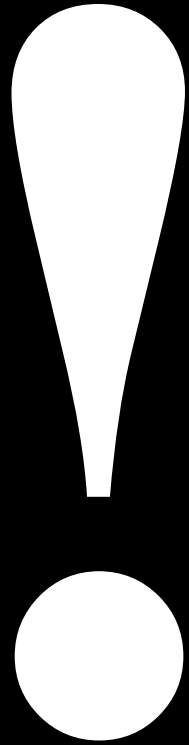
$P < 0.001$ ,  $R^2 = 0.40$



# Community similarity increases with rainfall



$P < 0.01, R^2 = 0.56$



# Acknowledgements

**Patrick Ndlovu**

**Mightyman Mashele**

**Mike Peel**

**ARC-RFI team**

**Nikki Stevens**

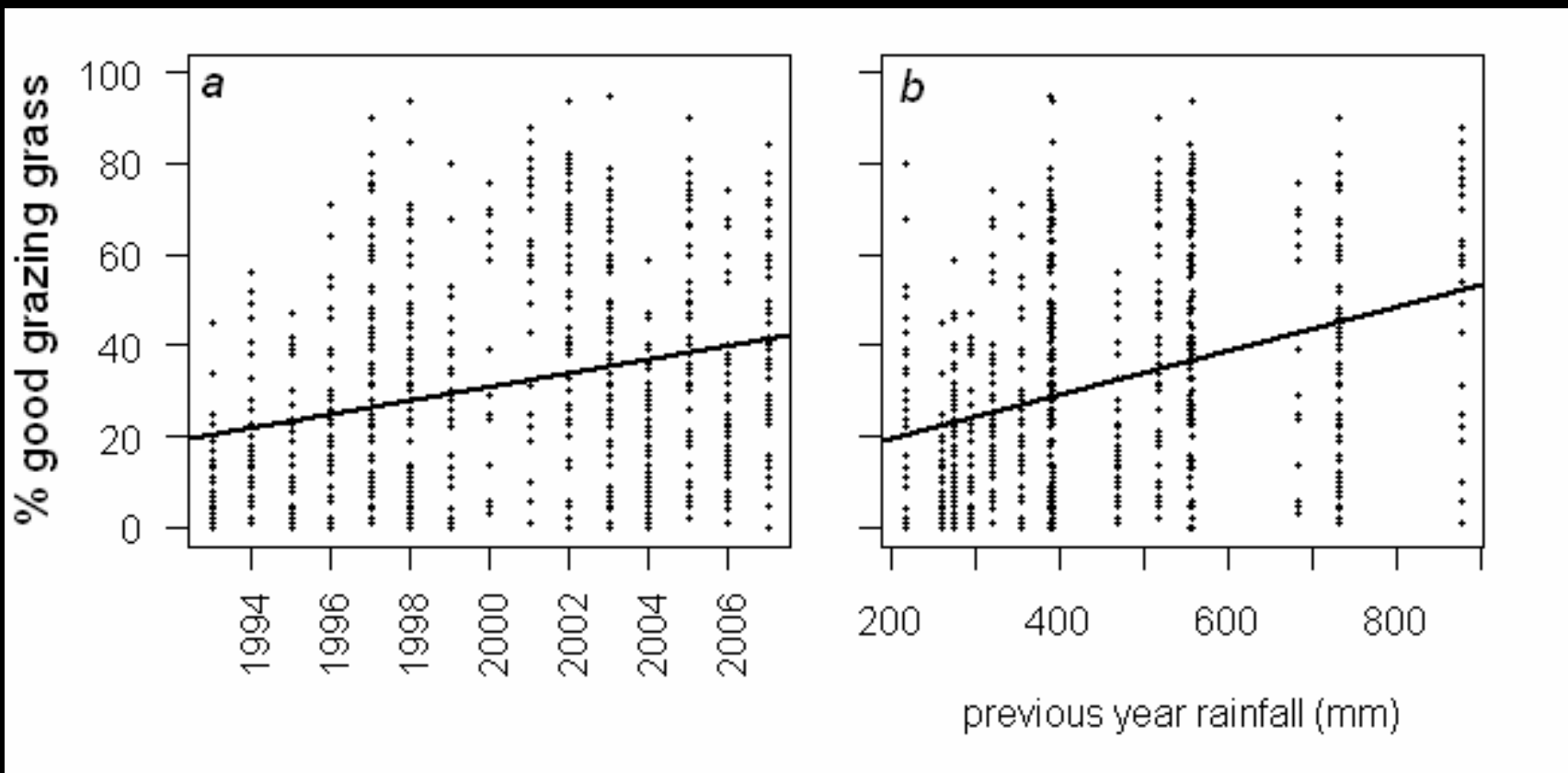
**Dave Thompson**

**SAEON**

## % Good grazing grass

- Increases over the years
- Increases with rainfall

equally in both reserves



# Basal cover is **highest** with **low woody cover** and **low stocking rates**

