Nicky Allsopp, ARC-Animal and Forage Production

Title: Monitoring impacts of land use and climate change on vegetation along the Namaqualand-Bushmanland Ecotone

Regional focus and limits:  
The project will be focused within the Namaqualand region where it meets Bushamanland in South Africa.

Contribution to five overarching themes of BIOTA  
This project will contribute most closely to integrative themes 3, 4 and 5 viz:  
3. Understanding of human use, value and impact in time and space,  
4. Interventions for sustainable use of biodiversity and biodiversity management, and,  
5 inform policy on local, national etc levels.

3 will be achieved directly whilst 4 and 5 will be achieved by linking to predictive modelling exercises. Close linkages with the local municipality and Department of agriculture will ensure that a dialogue around land use and climate change impacts in the ecotone region is maintained.

Proposed co-operating partners

DLR (Drrs Michael Schmidt and Manfred Keil)  
IPC-UCT (Prof Timm Hoffman and Dr Rick Rohde)  
EGS-UCT (Climate group under Prof Bruce Hewitson)  
BCB-UWC (Dr Richard Knight)  
Northern Cape department of Agriculture and Kamiesberg Municipality.

There is a possible link to a project modelling the winter/summer rainfall ecotone in Namaqualand and the Richtersveld by Danielle Jacobs.

Key questions

• Can recent changes in land tenure and grazing practices be used to elucidate past impacts of land use and climate on vegetation along the Namaqualand/Bushmanland ecotone?  
• Can data from remote sensed imagery be used to model vegetation change along the ecotone?  
• Can historic changes of vegetation cover and composition along the ecotone be used to model impacts of climate change on vegetation dynamics?

Key activities

• To monitor cover and composition of vegetation along the ecotone in order to ground truth remotely sensed data
• To interview landusers on their perceptions of short term and long term change in their rangeland environment
• To analyse historic photos and aerial photos to detect change along the ecotone
• To provide data for climate change and land use scenarios for modelling vegetation change in Namaqualand
• To provide grazing guidelines for the use of land along the ecotone specifically focusing on that under communal tenure.