Global change impact on Drakensberg grassland diversity

T.G. O'Connor, South African Environmental Observation Network (SAEON)
FBIS160616171863

The uKhahlamba Drakensberg grasslands have a high level of plant diversity and species endemism. These species rich grasslands are however threatened by global change and detrimental land management practices. Local drivers (land management practices such as grazing, forestry and cropping) have resulted in largescale transformation of vegetation communities. Global drivers (e.g. shifts in rainfall patterns, temperature increases and CO2 fertilisation) associated with global change are also predicted to result in changes in vegetation communities. Furthermore, the interplay between global and local drivers needs to be assessed in order to evaluate the anthropogenic role in managing vegetation communities and the diversity thereof. This project aims to assess the roles of both local and global drivers on vegetation composition and diversity. This assessment will be done in the northern uKhahlamba Drakensberg of KwaZulu-Natal, at two scales. At the plot or localized scale, vegetation monitoring plots originally established in the late 1970's will be sampled to assess changes in diversity and composition. The plots are spread between three different land use types, conservation, communal and commercial. At the landscape scale, vegetation changes over time will be assessed using orthorectified aerial photos (i.e. shrub and tree ingression into grasslands). By comparing the change in vegetation from the late 1970's to present, the effects of the various management types will be examined. These changes will be assessed in the context of global drivers. This comparison will enable the differentiation of the effects of different local drivers and global drivers on vegetation composition and diversity.