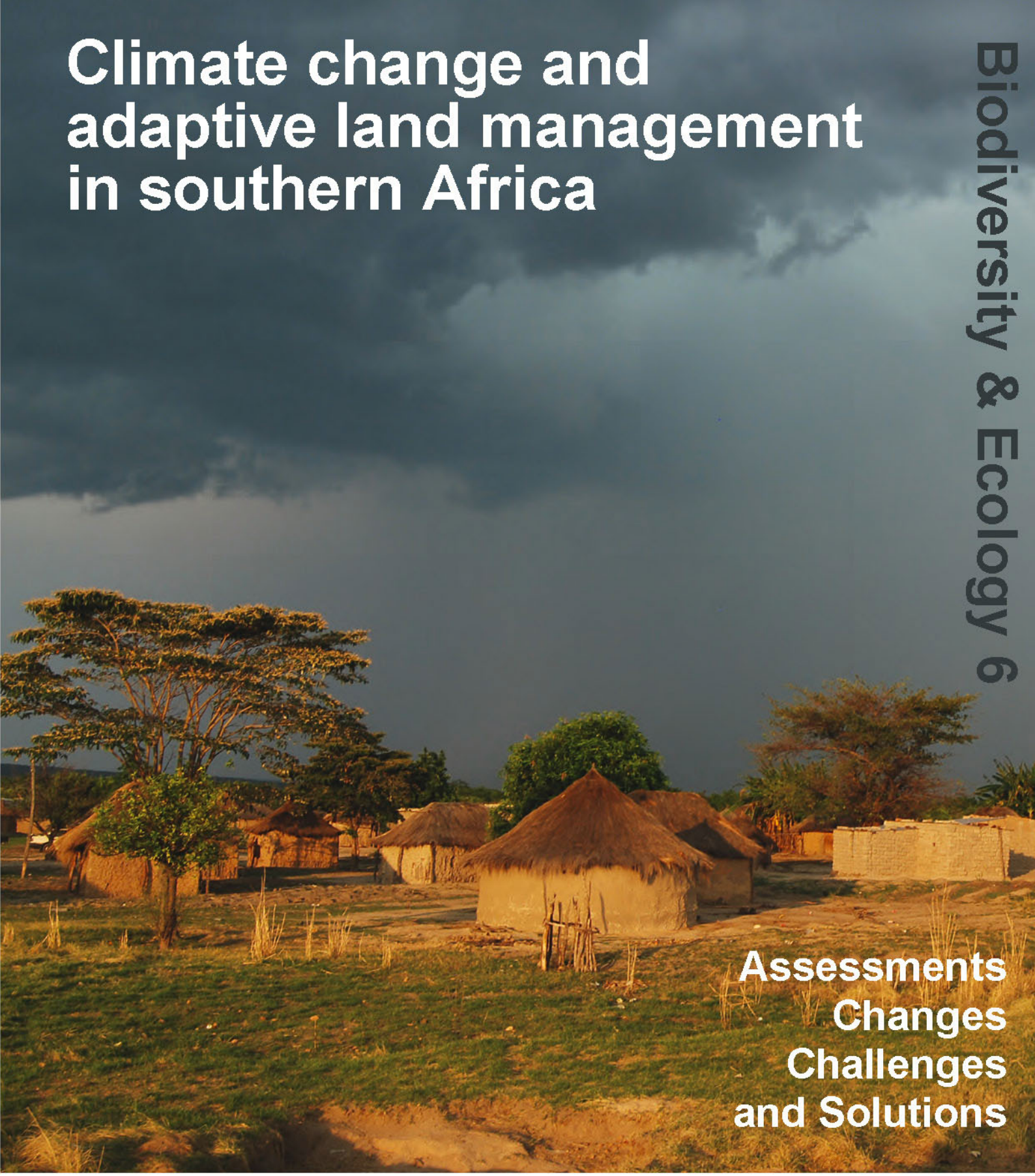
Climate change and adaptive land management in southern Africa

Biodiversity & Ecology 6



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Climate change and adaptive land management in southern Africa

Assessments, changes, challenges, and solutions

Edited by

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Gridded maps of climate data for southern Africa

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Interpolation of meteorological data from SASSCAL-WeatherNet (Muche et al., 2018) observational land surface stations provides additional information for a data-sparse region. As an application example, different spatial interpolation methods for maximum and minimum temperature have been tested to produce a gridded dataset for the SASSCAL region. We tested the interpolation for the time period of September 2014 to August 2016, as this period had the highest availability of observational temperature data. The best interpolation was achieved by combining multiple linear regression (elevation, a continentality index, and latitude as predictors) with three-dimensional inverse distance weighting (Eiselt et al., 2017).

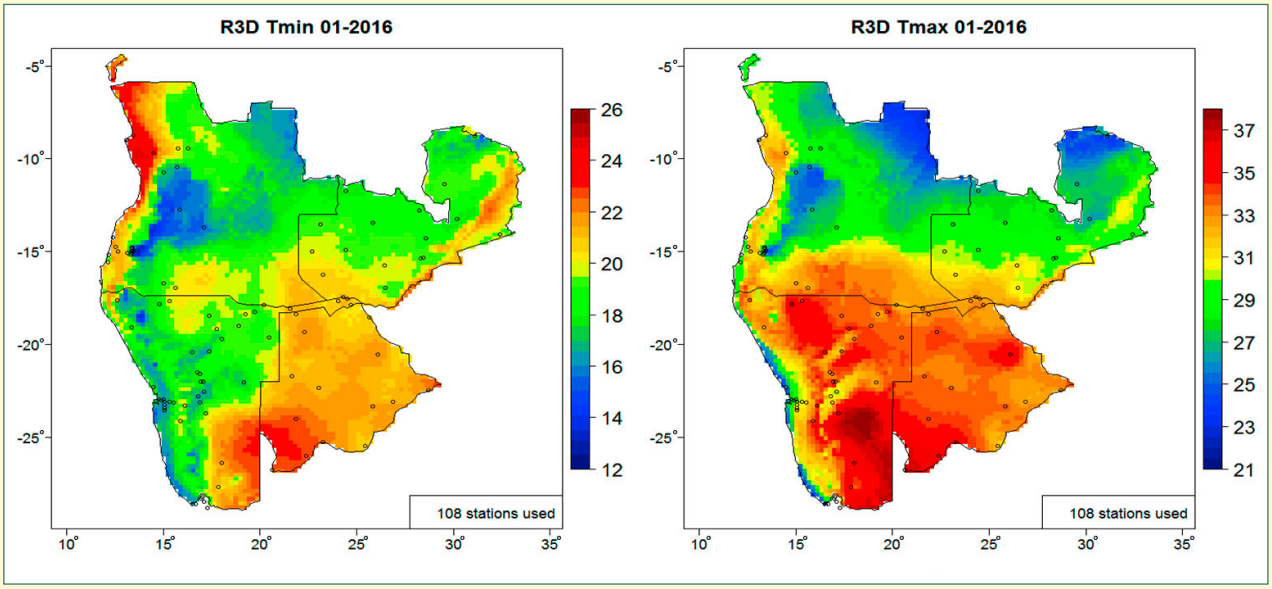

Figure 1: Application example for the month of January 2016, with a three-dimensional interpolation of minimum temperature (Tmin, left) and maximum temperature (Tmax, right). The best predictors of the model were elevation, continentality index, and latitude. The locations of the AWS of SASSCAL are indicated by circles.

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Eiselt, K.-U., Kaspar, F., Mölg, T., Krähenmann, S., Posada, R. & Riede, J. (2017). Evaluation of gridding procedures for air temperature over Southern Africa. *Advances in Science and Research*, **14,** 163–173. doi: 10.5194/asr-14-163-2017

Muche, G., Kruger, S., Hillmann, T. et al. (2018) SASSCAL WeatherNet: present state, challenges, and achievements of the regional climatic observation network and database. This volume.