

# Comparison of drought indices under climate change scenarios in Austria

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Precise recognizing of the direct and indirect effects of environmental constraints (as for example extreme temperatures or water shortage) plays an important role in agricultural production, particularly in plant production, and for optimising the efficiency of production techniques. Therefore, a lot of efforts are undertaken to develop practicable methods and techniques to optimise growth conditions and avoid any constraints such as by detection of drought stress in an early stage. In this context, drought indices and agrometeorological models play an important role. For agrometeorological applications (e.g. to estimate drought effects on agricultural production) these methods need to be calibrated for the specific climatic conditions and applications (e.g. crop related applications). Different methods, however, may show various sensitivities under climate change conditions.

In order to detect changing responses of such methods in relation to effects on crop drought stress, selected meteorological and agrometeorological drought indices and agrometeorological models are compared in a sensitivity analysis. They are further applied for a specific agricultural region in Austria under downscaled climate scenarios.