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Austrian drought monitoring system for agriculture

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Drought is one of the main risks for agricultural crop production and food security worldwide. In-creasing droughts and serious consequences for agricultural production are expected under climate change conditions also in Central European regions including Austria as reported by several studies. Therefore monitoring systems for drought risk, severity or impacts are often named as an important adaptation option in order to reduce vulnerability and improve resilience to drought, especially in the field of agricultural crop production. In order to assess drought affected areas spatial operational drought monitoring systems are already in use worldwide, however, mostly in a relatively general level regarding spatial resolution or identifying specific impacts to various recipients (such as specific crops). In order to improve related information on the status of drought(including forecasting) for stakeholders, however, there is a strong need to identify and describe specific impacts on a local level.

The aim of the project AgroDroughtAustria is therefore to develop and test a crop specific operational drought monitoring and forecasting system for agriculture in Austria. The objectives include the establishment and calibration of indicators and methods on crop specific drought and heat vulnerability and impacts based on field experiment data and crop model application. Further, a high spatial resolution model for crop drought and heat stress assessment will be applied by using improved spatial precipitation and temperature input (INCA data)combined with a near-time (up to 10 days) forecast. In specific, the methods for crop drought and heat stress detection are implemented in a GIS-based monitoring system with high spatial resolution (0.5x0.5km) for the main vulnerable arable crops of Austria. The drought monitoring system will be tested in selected case study regions including stakeholder participation.