



Monitoring of Soil-Plant-Atmosphere patterns and processes in an artificial catchment

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Since July 2007 a new Transregional Collaborative Research Center (SFB/TRR 38) funded by the Deutsche Forschungsgemeinschaft has gathered more than 50 scientists from Cottbus, Munich and Zurich to study the patterns and processes – and their interaction – of the initial phase of ecosystem development in an artificial catchment.

As the main research site the group uses the artificial catchment 'Chicken Creek' built in the Lusatian lignite-mining area close to Cottbus, Germany. The catchment with an area of 6 ha including a small lake is mainly composed of a 2-4 m layer of sandy to loamy Quaternary overburden sediments above a 1-2 m clay layer that seals the total catchment area at the bottom. No restoration, planting or other reclamation measures were carried out.

Main research objectives are:

Which abiotic and biotic patterns and processes are regulating the initial phase of ecosystem development?

How do processes interact with abiotic and biotic patterns?

Which patterns and processes can be used to define development stages?

Which parameters are suitable for generalization and application to other initial ecosystems?

As support for the whole project an intensive monitoring program is carried out in the catchment including grid soil sampling, meteorological stations, weirs, groundwater wells, vegetation and soil fauna monitoring, precipitation and soil solution sampling, and aerial photo documentation.

The presentation will present the research concept of the SFB/TRR 38, the construction process of the catchment and first results of the monitoring program.