



Service Center for Climate Change Adaptation in Agriculture – an initiative of the University of West Hungary

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In whole Central Europe agricultural production is highly vulnerable and sensitive to impacts of projected climatic changes. The low-elevation regions of the Carpathian Basin (most of the territory of Hungary), where precipitation is the minimum factor of production, are especially exposed to climatic extremes, especially to droughts. Rainfed agriculture, animal husbandry on nature-close pastures and nature-close forestry are the most sensitive sectors due to limited possibilities to counterbalance moisture supply constraints. These sectors have to be best prepared to frequency increase of extreme events, disasters and economic losses. So far, there is a lack of information about the middle and long term consequences on regional and local level. Therefore the importance of complex, long term management planning and of land use optimization is increasing.

The aim of the initiative is to set up a fine-scale, GIS-based, complex, integrated system for the definition of the most important regional and local challenges and tasks of climate change adaptation and mitigation in agriculture, forestry, animal husbandry and also nature protection.

The Service Center for Climate Change Adaptation in Agriculture is planned to provide the following services:

§ Complex, GIS-supported database, which integrates the basic information about present and projected climates, extremes, hydrology and soil conditions;

§ Evaluation of existing satellite-based and earth-based monitoring systems;

§ GIS-supported information about the future trends of climate change impacts on the agroecological potential and sensitivity status on regional and local level (e.g. land cover/use and expectable changes, production, water and carbon cycle, biodiversity and other ecosystem services, potential pests and diseases, tolerance limits etc.) in fine-scale horizontal resolution, based first of all on natural produce, including also social and economic consequences;

§ Complex decision supporting system on regional and local scale for middle- and long term adaptation and mitigation strategies, providing information on optimum technologies and energy balances.

Cooperation with already existing Climate Service Centres and national and international collaboration in monitoring and research are important elements of the activity of the Centre. In the future, the Centre is planned to form part of a national information system on climate change adaptation and mitigation, supported by the Ministry of Development.

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