



CzechAdapt – System for Exchange of Information on Climate Change Impacts, Vulnerability and Adaptation Measures on the Territory of the Czech Republic

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The aim of this broad and interdisciplinary project, coordinated by Global Change Research Institute AS CR (GCRI), Department of Climate Analysis and Modelling, was to create an open and continuously updated online database summarizing information about climate change impacts, risks, vulnerabilities and adaptation measures. Outcomes were prepared for the whole area of the Czech Republic on the basis of best available techniques and cooperation of specialist teams. Other goals of the project was to create an information system that provides integrated monitoring and early warning system; and also design the user-friendly system with an emphasis on a high degree of resolution (from the area in front of the Czech regions to individual stations).

The project was conducted in 4 activities as follows: Activity I: preparation of a robust and collective database data; Activity II: the creation of a flexible and open database of climate change impacts, vulnerability and adaptation measures in connection with the issue of climate protection at the national, regional and local levels; Activity III: commissioning an integrated monitoring and warning system for monitoring, early warning and prognosis; Activity IV: organizing information campaigns aimed at vulnerabilities, risks, impacts and adaptation measures through a series of workshops and a final conference focused on particularly vulnerable regions.

The results of the project are presented on the web page www.klimatickazmena.cz where we provide detailed map information describing both current and future state of a number of indicators. The layers are divided into sectors: Agriculture (e.g. soil moisture), Forestry (e.g. forest fires), Water regime (e.g. drought stress), Climate extremes (e.g. temperature, precipitation), Landscape (e.g. biodiversity).

Models used for the calculation of future conditions were selected through combination of both objective and subjective criterions from a set of 40 suitable GCMs (climate4impacts.eu). As it was not feasible to present all the GCM outputs, only selection of 5 GCMs was performed. Two criterions were applied: to obtain a set well representing inter-model variability of all GCMs, and at the same time to contain maximum number of GCMs that are used for driving RCMs within the CORDEX project.

Our analysis of future climate conditions is further based on RCM simulations prepared within the European part of the global Coordinated Regional Climate Downscaling Experiment (CORDEX, www.cordex.org). In total, 10 different RCMs and 13 driving GCMs have been employed in total. In the CzechAdapt project we focused on 0.11° experiments resolution. The following RCMs were used and bias corrected: ALADIN53, CCLM4-8-17, HIRHAM5, RACMO₂2E and RCA4. Models CCLM4-8-17 and RCA4 are driven by three and six GCMs respectively. The experiment selection depended on their availability as of July 2015.

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