

EGU21-4972

<https://doi.org/10.5194/egusphere-egu21-4972>

EGU General Assembly 2021

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## The Effects of Agricultural Conservation Practices on the Local Water Cycle in conditions of the Czech Republic Modeled by SWAT

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The Czech Republic is an intensely agricultural country. Agricultural intensification of the Czech Republic started in the 1970s during the Communist regime wherein large monotonous agricultural fields, subsurface tile drainage systems, and artificially straightened streams were incorporated across the landscape. Since 1989 (the end of the Communist era), agricultural land and management has been privatized and has experienced shifts from centrally planned crop rotations to those that are economically-driven. On the other hand, nowadays many Czech farmers are beginning to explore various agricultural conservation practices which can have as significant of an impact as land use changes. The purpose of this study is to determine the effects of various agricultural conservation practices (contour tillage, reduced tillage, and grass strip addition) and decreasing field sizes at the farm scale in a representative agricultural basin in the Czech Republic. We conducted scenario analysis using the Soil and Water Assessment Tool (SWAT) to determine the effects of these measures on basin water balance and soil erosion. Through SWAT we were able to determine which measures are most effective when combined at the farm-scale.

**Acknowledgment:** The presented research has been performed within project H2020 No. 773903 Shui, focused on water scarcity in European and Chinese cropping systems and the Grant Agency of Czech Technical University in Prague, No. SGS20/156/OHK1/3T/11.