

Article

Afforestation of Degraded Croplands as a Water-Saving Option in Irrigated Region of the Aral Sea Basin

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Supplementary Materials

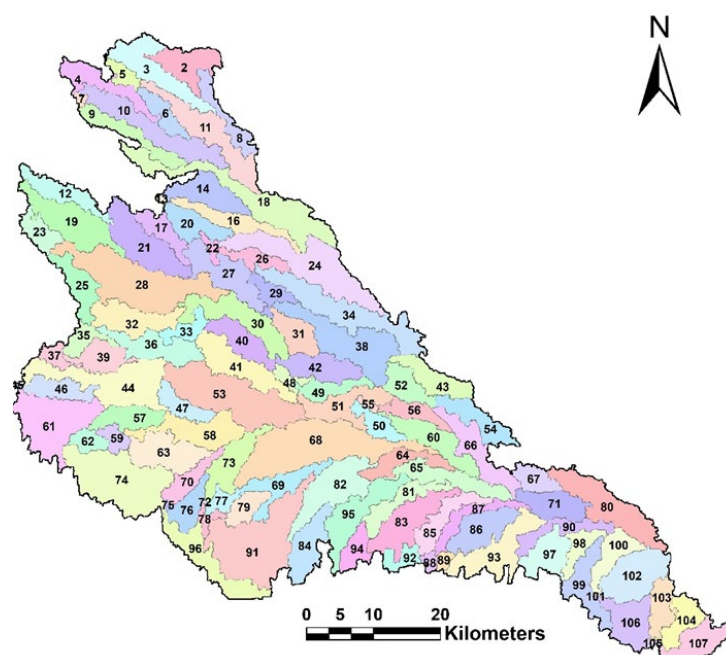


Figure S1. SWAT-delineated 107 sub-basins in the study region of Khorezm, Uzbekistan.

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Table S1. Input data used in SWAT model for estimation of water balance components.

Input Data	Type/Format/Spatial Resolution	Temporal Resolution and Duration	Data Source
SRTM Digital Elevation Model	Raster map of 90 m resolution (Figure 3)	Downloaded in 2015	Consultative Group for International Agricultural Research (CGIAR) Consortium http://srtm.csi.cgiar.org/
Weather data: precipitation, ambient temperature, wind speed, relative humidity, sunshine hours	Point data (Figure 4)	Daily records for the period 2000–2010	Conrad et al. 2012; Kumar et al. 2019; Modern Era-Retrospective Analysis for Research and Application (MERRA): https://gmao.gsfc.nasa.gov/reanalysis/MERRA/
Soil map with of soil properties (detailed in section 2.2.2)	Raster maps of 250 m resolution (Figure 5) and tabular point data on soil properties	Year 1999	Uzgiplomeliyovodkhoz Institute 1999; Khorezm project database: https://www.zef.de/khorezm.html
Land use maps	Raster images of 250 m resolution and attribute tables with land-use classes (Figure 6)	Annual time step for the period 2000–2010	Conrad et al. 2016; Knöfel 2016
Afforestation maps/scenarios	Raster maps of 250 m resolution (Figure 7)	Year 2005 (average water availability) and 2008 (drought year)	Kumar et al. 2019
Irrigation	Tabular data for hydro-module zones and crop types (Table 1)	Annual demands based on crop types (2000–2010)	Uzbekistan Science and Research Institute of Cotton Culture (UzNIIKh) 1992; Ministry of Agriculture and Water Resources of Uzbekistan (MAWR) 2001