



## **Variation of evapotranspiration over degraded grassland and cropland surfaces in semi-arid area of China**

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Based on the latent heat flux data measured with Eddy Covariance (EC) method and meteorological data collected during 2003—2005 over the semi-arid area at Tongyu station in Northeast China, the variations of the evapotranspiration over the degraded grassland and the cropland are investigated. The results show that the daily evapotranspiration is 1.5-2.5 mm/day for the degraded grassland and 1.0-3.5mm/day for cropland during the growing season (from May to September). The soil moisture and the vegetation cover are important factors influencing the rate of the evapotranspiration during the growing season. For the drought year (2004), the total evapotranspiration over the cropland is larger than the total rainfall during the growing season while the former is almost equal with the latter over the degraded grassland. It is notable that for the whole studied period, the total amount of evapotranspiration over the cropland (stands for the land cover under human disturbance) is always higher than that over degraded grassland (stands for natural land cover), implying that human activity is capable of changing the local water cycle and may contribute to the development of the aridity trend in some degree.

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