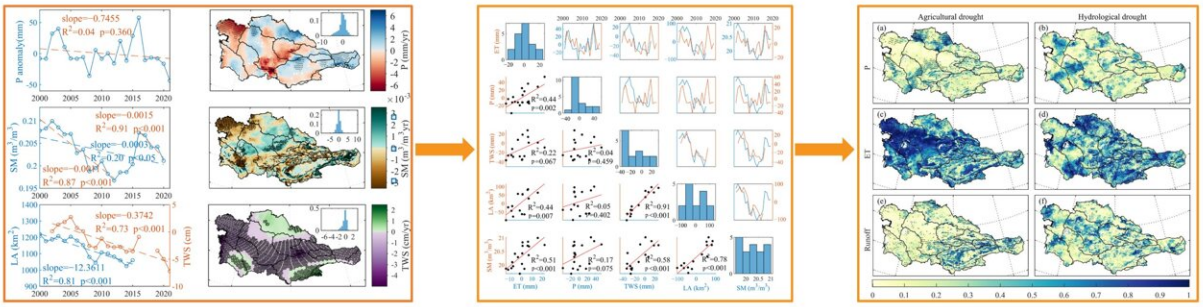
Actual evapotranspiration plays a dominant role in drought of central Asia: Study

October 11 2023, by Li Yuan



Graphical Abstract. Credit: *Remote Sensing* (2023). DOI: 10.3390/rs15184557

The Central Asian region is sensitive to global climate change and prone to drought. A research team led by Prof. Hao Xingming from the Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences, has found that actual evapotranspiration plays a significant role in drought of Central Asia.

Droughts in Central Asia intensified between 2000 and 2020, primarily in agricultural and hydrological droughts, and increase in actual evapotranspiration exacerbated and dominated both droughts to varying degrees.

This work was published in *Remote Sensing* on Sept. 16.

Precipitation, soil moisture, terrestrial water storage and total lake area in Central Asia showed decreasing trends during the study period, with a significant increase in agricultural and hydrological drought and a slight increase in meteorological drought. The trends and characteristics of different types of droughts exhibited significant differences in spatial-temporal distribution.

Compared to precipitation and runoff, actual evapotranspiration played a dominant role in agricultural and hydrological drought in Central Asia, with contributions of 64.38 and 51.04 percent, respectively.

More information: Zhuoyi Zhao et al, Actual Evapotranspiration Dominates Drought in Central Asia, *Remote Sensing* (2023). DOI: 10.3390/rs15184557

Provided by Chinese Academy of Sciences