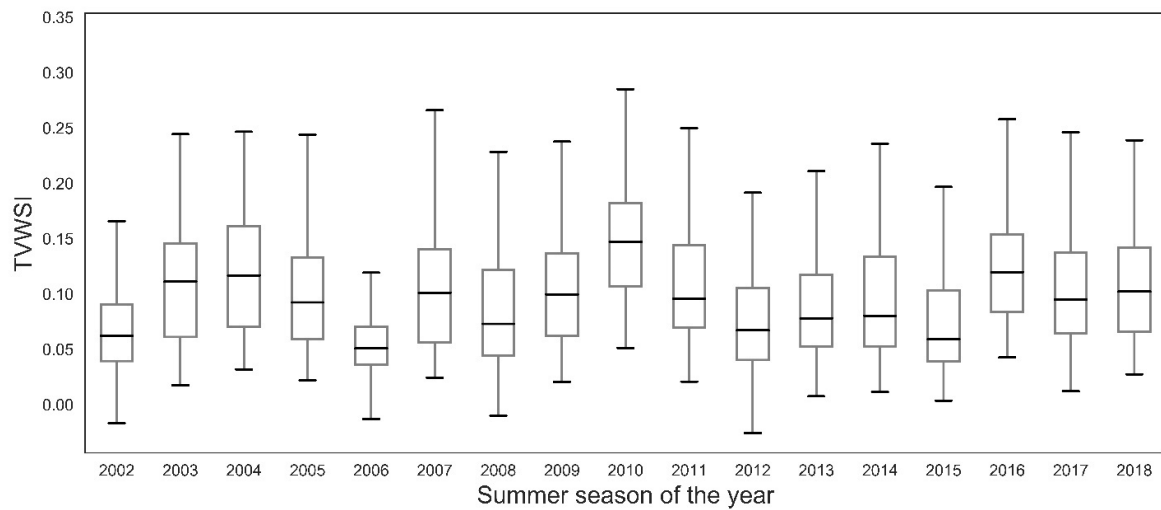
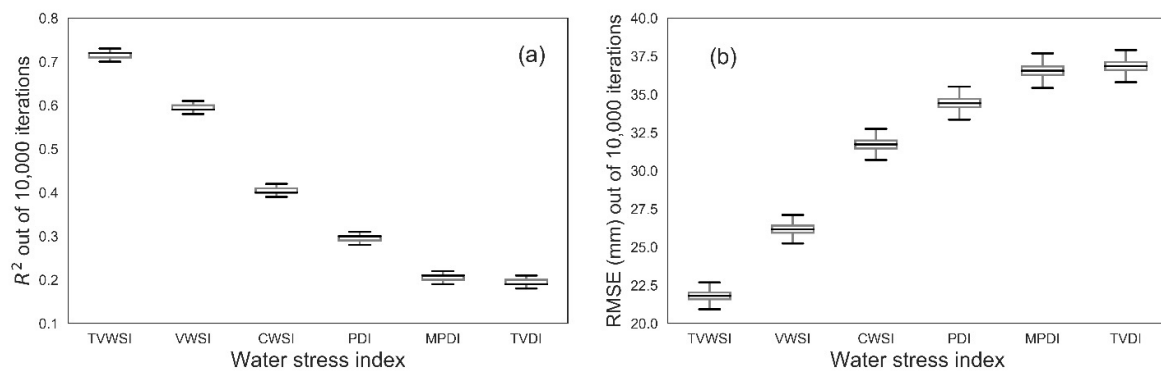


## Supplementary Material



**Figure S1.** The interannual variability in TVWSI during the temporal study period. 2006 was the driest year of the millennium drought (1997–2009), while 2010 was the wettest season.



**Figure S2.** the range of  $R^2$  and RMSE obtained by running 10,000 iterations on the different samples of training and testing data, a)  $R^2$  (Actual vs. Predicted AWRA-L soil moisture), b) RMSE (Actual vs. Predicted AWRA-L soil moisture).