

Article

# River Runoff Modelling and Hydrological Drought Assessment based on High-resolution Brightness Temperatures in Mainland China

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**Citation:** Qu, X.; Zeng, Z.; Yuan, Z.; Huo, J.; Wang, Y.; Xu, J. River Runoff Modelling and Hydrological Drought Assessment based on High-Resolution Brightness Temperatures in Mainland China. *Water* **2021**, *13*, 2429.

<https://doi.org/10.3390/w13172429>

Academic Editors: Xushu Wu, Jiabo Yin and Shengzhi Huang

Received: 16 July 2021

Accepted: 1 September 2021

Published: 3 September 2021

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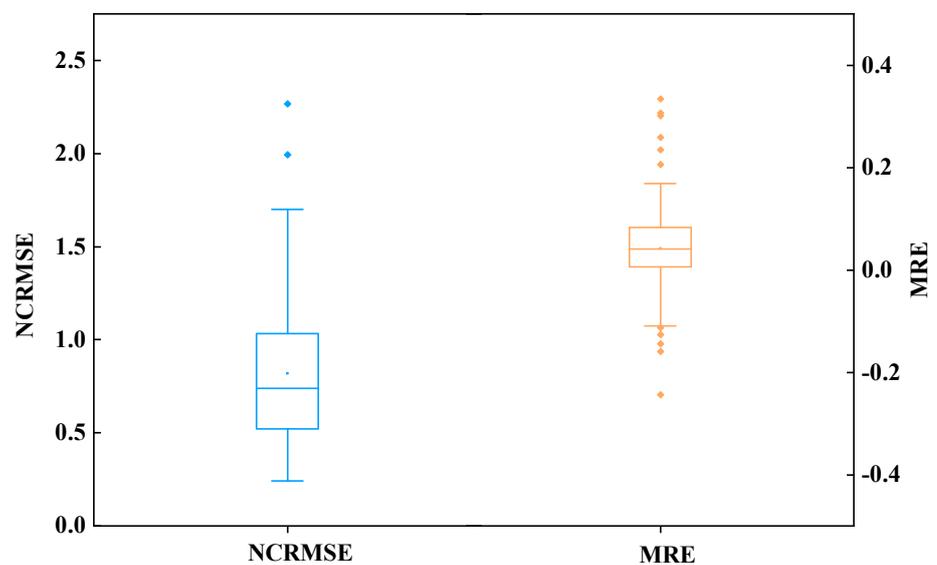


Figure S1. Box plots of normalized centered root-mean-square error (NCRMSE) and mean relative error (MRE) for the 79 stations.

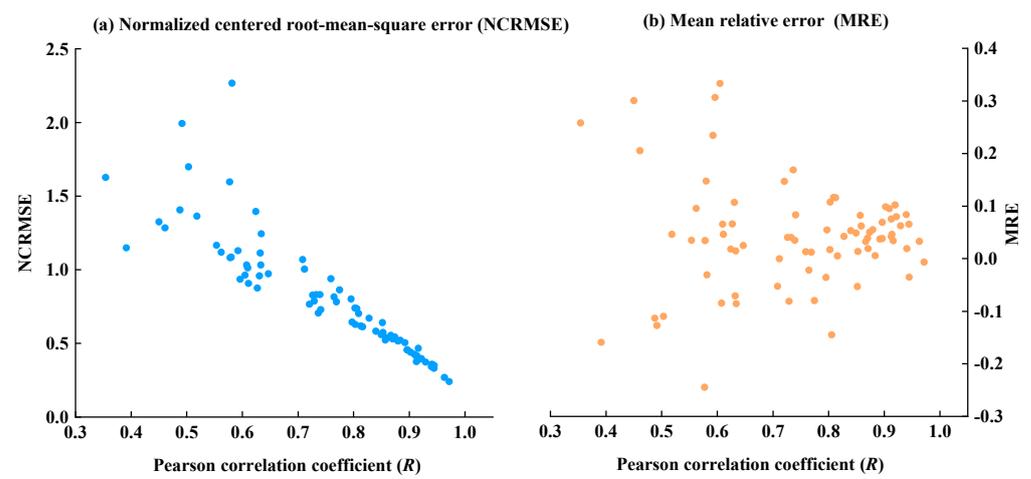


Figure S2. (a) NCRMSE vs.  $R$  and (b) MRE vs.  $R$  for the 79 stations.

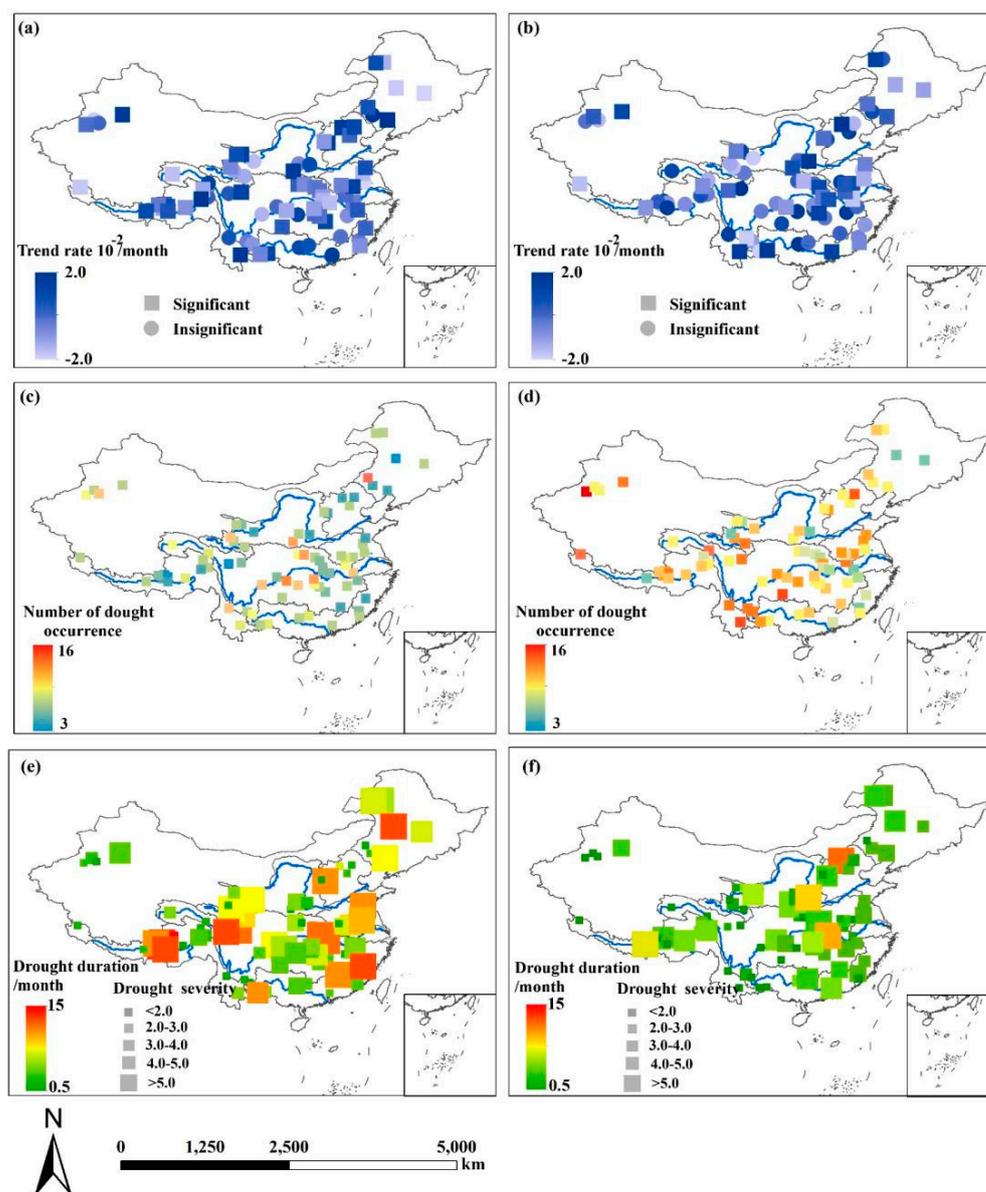


Figure S3. Comparisons of the standardized runoff index on a 3-month scale (SRI-3) trends, drought event frequency, distribution of drought duration (Dd) and drought severity (Ds) for the 79 stations from 1996-2008 based on simulated and observed runoff, respectively: (a) the SRI-3 trends and significance generated by observed runoff; (b) the SRI-3 trends and significance generated by simulated runoff; (c) the number of drought events calculated based on observed runoff; (d) the number of drought events calculated based on simulated runoff; (e) distribution of Dd and Ds calculated based on observed runoff; (f) distribution of Dd and Ds calculated based on simulated runoff.

Table S1. Multiple regression analysis of the influencing factors.

Factors	Standardization coefficient	P-value
Elevation	0.84	0.00
Climate type	0.37	0.03
Mean discharge	-0.27	0.02
River width	-0.21	0.89
LULC	-0.63	0.59
Vegetation cover	-0.04	0.72
Catchment area	-0.07	0.64