

Tree ring helps to reveal intensification of hydroclimatic change in middle reaches of Yangtze River

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Hydroclimate is an important part of the global climate system. How hydroclimate will change in the future has attracted lots of attention under global warming.

Ample high-resolution proxy-based reconstructions will aid to answer such question by increasing the accuracy of [climate](#) prediction models. However, discrepancies among existing reconstructions in the southeast part of China (SEC) has aroused uncertainty about the hydroclimatic

conditions.

Recently, a research group from the Institute of Earth Environment of the Chinese Academy of Sciences (IEECAS) reconstructed the dynamics of summer hydroclimatic change from 1876 to 2015 in the middle reaches of the Yangtz River based on accurately-dated tree-ring materials, and found an intensification trend.

The study was published in *Climate Dynamics* on October 20.

The researchers discovered a secular wetting trend in the study area from 1876 to 2000, and then it dried quickly. The driest (2006–2015) and wettest (1943–1955) periods both occurred after 1940, and 40 percent of the top 10 driest years occurred in the 21st century.

An increasing intensified hydroclimatic variation was identified, especially significant in the recent decade. The historical summer hydroclimatic variation, which were found closely related to the concurrent temperature variations, might be a comprehensive effect of Pacific Decadal Oscillation (PDO), Western Pacific Subtropical High (WPSH) and El Niño-Southern Oscillation (ENSO) variations.

More information: Qiufang Cai et al, Recent intensification of hydroclimatic change in the middle reaches of the Yangtz River Basin driven by PDO, ENSO and WPSH, *Climate Dynamics* (2021). [DOI: 10.1007/s00382-021-05990-8](https://doi.org/10.1007/s00382-021-05990-8)

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