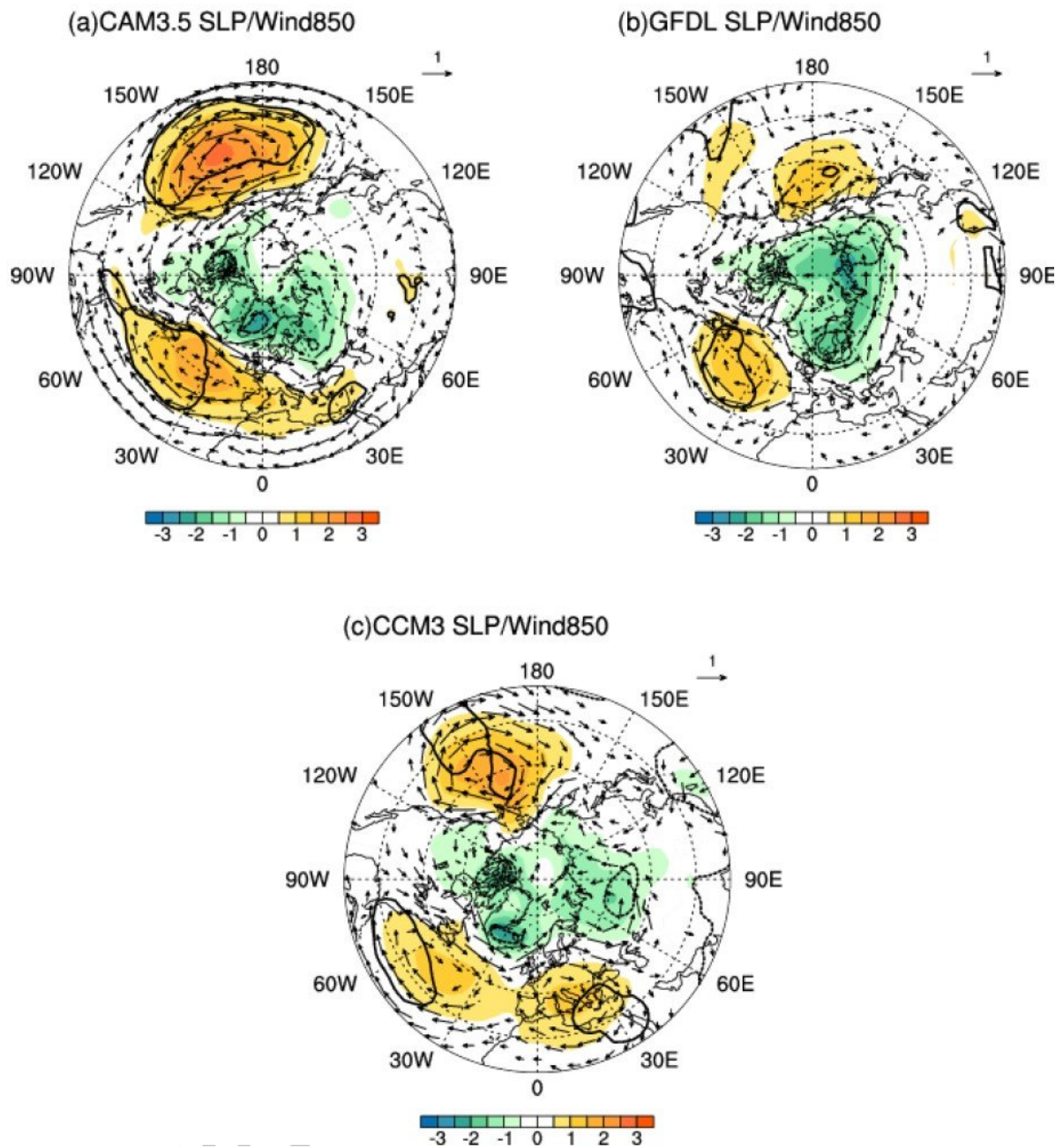


# Multimodel ensemble prediction of summer droughts over the Yellow River Basin

August 14 2018



Drought over the Yellow River basin in 2014. Credit: Xinhua Net

The Yellow River basin is located in arid and semi-arid areas where drought is severe. However, soil moisture drought prediction at the seasonal time scale is very challenging, due to limited climate predictability over the mid-latitude region and uncertainties in land surface modeling over complex landscapes.

"It is necessary to explore the predictability of [drought](#) from an ensemble prediction perspective over the Yellow River basin, both for deterministic and probabilistic drought forecasting," says Prof. Xing Yuan, from the Institute of Atmospheric Physics, Chinese Academy of Sciences and the corresponding author of a paper on this topic recently published in *Atmospheric and Oceanic Science Letters*.

Their results indicated that, after bias correction of the meteorological forecast and the implementation of a well-calibrated land surface hydrological model, summer soil moisture drought forecasting was improved significantly, especially over the middle and lower reaches of the Yellow River basin. Compared with the raw forecasts from climate models, the climate-hydrology approach had a higher probabilistic drought forecasting skill in terms of a higher Brier skill score and better reliability and resolution of the ensemble.

"The ensemble prediction will provide invaluable information for drought adaptation over the Yellow River basin," says Yuan. "In the future, we will optimize the multimodel ensemble for a better prediction of extreme events."

**More information:** YAO Meng-Na et al, Evaluation of summer drought ensemble prediction over the Yellow River basin, *Atmospheric and Oceanic Science Letters* (2018). [DOI: 10.1080/16742834.2018.1484253](https://doi.org/10.1080/16742834.2018.1484253)

Provided by Institute of Atmospheric Physics, Chinese Academy of Sciences

Citation: Multimodel ensemble prediction of summer droughts over the Yellow River Basin (2018, August 14) retrieved 25 April 2024 from <https://phys.org/news/2018-08-multimodel-ensemble-summer-droughts-yellow.html>

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