Hindcast experiment of the 50-day forecast of low frequency rainfall in the lower reaches of the Yangtze River valley from June 12-July 31, 2014

(Scientific research, for reference only)

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Hindcast experiment of the 50-day forecast of $20-30$-day low-frequency rainfalls the lower reaches of the Yangtze River valley

Fig. 1 shows the 1–50-days forecast (dashed line) and observation (solid line) of the 20–30-day low-frequency rainfall of the lower reaches of the Yangtze River valley (LYRV) with initial time March 11, 2014 by using the MLR/PC-CAR model (Yang, 2014), in which the forecast skill r (correlation coefficients between the forecast and observed low-frequency rainfall) reaches 0.81. In this prediction, MLR/PC-CAR is established with first four low-frequency principal components (PC1-PC4) of the meridional wind anomaly of 850 hPa in middle latitude of the Northern Hemisphere (10°$-$65°N, 0°$-$360°) as the factor , and based on the data from March 26, 2014 to June 11, 2014. It is predicted that the low frequency rainfalls over LYRV on the time scale of 20-30 days are the positive phases associated with the rainy periods on June 26 - July 6 and July 21-31,2014.
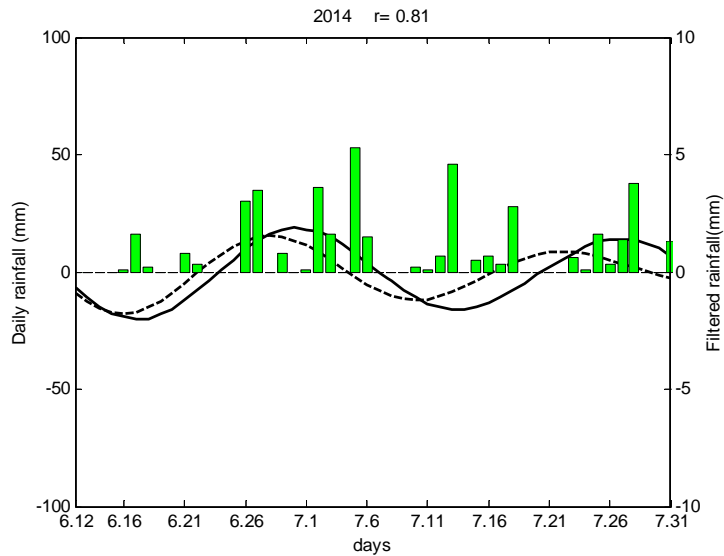
Fig. 1   Prediction (dashed line) and observation (solid line) of the 20—30-day rainfall over LYRV for the period from 1 into 50 days in the spring of 2014 based on the principal components of the low frequency the meridional wind anomaly of 850 hPa of the region : 10°—65°N, 0°—360°; (unit: mm),the bar represents the time series of the daily precipitation over LYRV(unit: mm) , initial date: June 11, 2014.

References

Yang   Qiuming, 2014: A study on the method of the extended-range forecast for the low frequency rainfall over the lower reaches of Yangtze river valley in summer based on the 20—30-day oscillation. *Acta Meteor. Sinic* ,72(3):494-507, doi：10.11676/qxxb2014.028 (in Chinese).

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