

**Hindcast experiment of the 50-day forecast of low frequency rainfall
in the lower reaches of the Yangtze River valley from December 7,
2013- January 25, 2014
(Scientific research, for reference only)**

Weather and Climate Laboratory of Jiangsu Meteorological Science Institute January 26, 2014

Hindcast experiment of the 50-day forecast of 20—40-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 20–40-day low-frequency rainfall of the LYRV with initial time December 6, 2013 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 0.82. 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 East Asia (90E-180°, 0 -45° E) as the factor , and based on the data from September 20 to December 6. It is predicted that the low frequency rainfall over LYRV on the time scale of 20-40 days is from negative into positive phase associated with a significant rainfall on January 10, 2014.

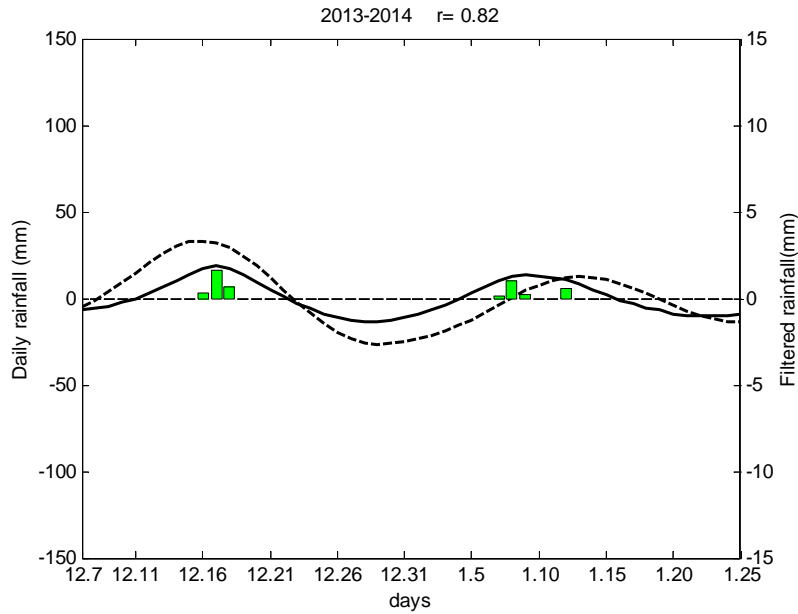


Fig. 1 Prediction (dashed line) and observation (solid line) of the 20—40-day rainfall over LYRV for the period from 1 into 50 days in the winter of 2013/2014 based on the principal components of the low frequency the meridional wind anomaly of 850 hPa of the region : 90E-180°, 0 -45° E; (unit: mm),the bar represents the time series of the daily precipitation over the lower reaches of the Yangtze River valley(unit: mm) , initial date: December 6,2013.

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*, doi: 10.11676/qxxb2014.028 (in press) (in Chinese).

http://www.cmsjournal.net/qxxb_cn/ch/reader/view_abstract.aspx?flag=1&file_no=20200274&journal_id=qxxn_cn