

Research of Rapid Updated Cycling(RUC) Quantitative Precipitation Forecast System

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Timely and exact Quantitative Precipitation Forecast coupled with hydrological model will evidently improve the precision of river basin flood forecast and prolong the lead time. With the development of China, the accuracy of Quantitative Precipitation Forecast is more and more needed in some large watershed e.g. Yangtze River valley.

Rapid Updated Cycling Quantitative Precipitation Forecast System referred in this paper is an effective approach to enhance precipitation forecast precision. Through data ingesting technique of unconventional data such as Doppler radar, ground-based GPS, satellite, intensive automatic weather station etc., cloud analysis technique and the “hot start” technique, it can make full use of multiple detecting data to improve the initial value field of numerical weather forecast model then enhance forecast accuracy. Such data’s high spatio-temporal resolution helps to get meso-scale analysis meteorological field hourly or every 3-hour. The running frequency of numerical weather forecast model then turns from two times to 8 times every day, which highly improves the timeliness of Quantitative Precipitation Forecast.

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