



## **WRF-Hydro cloud resolving model used for small water reservoir hydro forecast: a case study**

Baoguo Xie (1), Jinghai Yan (2), Yunting Li (2), Dawei Zhang (2), Wenjun Yin (1), Meng Zhang (1), and Hui Du (1)

(1) IBM Research, Beijing, China (xiebaog@cn.ibm.com), (2) Beijing Municipal Environmental Protection Bureau

WRF-Hydro is a coupled model which integrates the Weather Research and Forecast (WRF) and components of terrestrial hydrological models. WRF-Hydro has modularized component model coupling interfaces for many typical terrestrial hydrological processes such as surface runoff, channel flow, lake/reservoir flow, sub-surface flow, land-atmosphere exchanges. Therefore, it is possible used for the reservoir flow simulation and forecast, which is a potential usage for the water reservoir management. In this work, a case study of the precipitation and water reservoir flow simulation is performed for a small water reservoir during 30th may and 2th June 2015. The model configuration has the finest 1km horizontal resolution grid for the precipitation simulation and 100m resolution grid for surface flow process simulation. The results show that WRF-Hydro model can simulate this rainfall event very well. Accordingly, the water reservoir flow simulation is also very reasonable, in terms of the time of peak flow and maximum flow amount. Therefore, the WRF-Hydro model may be used for the small water reservoir flow forecast and flood alert management.