**EVALUATION AT THE WATERSHED SCALE**

At the watershed scale, magnitude and timing of the model simulated flows were evaluated using observed stream flow at the watershed outlet.

Since satellite-based rainfall estimates from NASA TRMM algorithm is the key input to the model, this product was also compared with rainfall estimates from NEXRAD Stage IV (radar/gauge merged) product. This comparison was performed at the watershed scale (area averaged values). In this study NASA TRMM Version 6 has been used. Of course, any bias in the rainfall estimation algorithm will translate into the flood potential estimates generated by the hydrologic model.

**CONCLUSIONS & FUTURE WORK**

1) Satellite-based precipitation estimates and land surface characteristics have provided new opportunity to develop global flood prediction techniques—results appear promising for global and regional applications.

2) To realize the full potential of global flood prediction system, the evaluation needs to be performed for longer time period and for more number of watersheds and inundation cases world wide.

3) Current global near-real time flood predictions provide valuable information related to spatial extent and onset of extreme flooding events. However the accuracy diminishes in tracking the later stages of flood event.

4) At the present (relatively coarse) resolution, flow routing component of the model is not sophisticated enough to represent the translation and smoothing performed by the river network for the tested medium scale watersheds. One possibility for improvement is a new routing component with a finer spatial scale and that takes advantage of globally available drainage network datasets (e.g. HYDROSHEDS).

5) Flood predictions are intimately tied to the accuracy of the satellite-based rainfall estimates. Therefore, the current evaluation study will be extended to flood predictions using the new version of the NASA TRMM real time satellite-based rainfall estimates.

6) Currently, Univ. of Oklahoma team lead by Dr. Hong is working on a suite of alternative hydrologic models (e.g. Xinjiang model) for improving the global flood prediction system. These models are being tested at scales ranging from global to individual watersheds.

7) In parallel work, we are working on incorporating rainfall forecasts from global numerical weather prediction models to increase lead time.

8) We are looking for developing user partners (government and non-government organizations) to receive feedback and aid in practical evaluations of both global and regional applications.