Graduate Research Assistant Position Opening on Severity Assessment of Extreme Rainfall and Flash Flooding

The Hydrometeorology and Remote Sensing Lab (http://hydro.ou.edu) at The University of Oklahoma (OU)/National Weather Center (http://nwc.ou.edu) is seeking an enthusiastic graduate student to work on the use of remote-sensing data to improve flash flood prediction. The Flooded Locations And Simulated Hydrographs (FLASH) project is a continuation of HyDROS group’s long-term investment in flash flood prediction. A significant amount of work has been carried out on a first version of a real-time flood forecasting system (online display: http://flash.ou.edu/). A second version is currently under development and will improve the characterization of the severity of heavy rainfall-producing storms monitored by the NEXRAD radar network.

This NASA-funded project will consist in developing a retrieval database for a Bayesian inference of the severity assessment of storms potentially causing flash floods. It will benefit from an unprecedented, decade-long database of high-resolution rainfall estimates from NOAA/NSSL’s National Mosaic and Quantitative Precipitation Estimation (NMQ/Q2) system (http://nmq.ou.edu). The project will consider utilizing the database to assess the uncertainty of rainfall estimates, yielding probabilistic products. If the Bayesian method is proven to be successful for rainfall rates, then it will be extended to accommodate surface water flows simulated from a distributed hydrologic model. The selected student will join an enthusiastic team of about 30 people including several other students working on various hydrometeorology topics.

Candidates for this position should have knowledge and/or experiences with radar/satellite remote sensing, hydrology, atmospheric science/meteorology and statistics. They should have good oral and written communication skills and excellent teamwork capability. Experience with large datasets is recommended. Familiarity with programming languages (Fortran/C/Matlab/Python/R-statics/Web, etc.) and Unix/Linux system is desirable. The work will be co-supervised by Dr. Jonathan J. Gourley (NSSL; jj.gourley@noaa.gov) and Prof. Yang Hong (OU; yanghong@ou.edu). You are welcome to contact us for more details. Applications will be accepted beginning now until the position is filled.