



Propagation of Rainfall Products uncertainties in hydrological applications : Studies in the framework of the Megha-Tropiques Satellite Mission

M. Gosset (1) and R. Roca (2)

(1) GET, 14 av Ed Belin 31400 Toulouse, France (marielle.gosset@ird.fr), (2) lab Météotologie Dynamique, Paris, France, (roca@lmd.jussieu.fr)

The use of satellite based rainfall in research or operational Hydrological application is becoming more and more frequent. This is specially true in the Tropics where ground based gages (or radar) network are generally scarce and generally degrading. The new French-Indian satellite Mission Megha-Tropiques (MT) dedicated to the water and energy budget in the tropical atmosphere will contribute to a better monitoring of rainfall in the inter-tropical zone. As part of this mission, research is developed on the use of MT rainfall products for hydrological research or operational application such as flood monitoring. A key issue for such applications is how to account for rainfall products biases and uncertainties, and how to propagate them in the end user models ? Another important question is how to chose the best space-time resolution for the rainfall forcing, given that both model performances and rain-product uncertainties are resolution dependent. This talk will present on going investigations and perspectives on this subject, with examples from the Megha_tropiques Ground validation sites. Several sensitivity studies have been carried out in the Oueme Basin in Benin, West Africa, one the instrumented basin that will be used for MT products direct and hydrological validation.