

Retrieval of intense rainfalls in the Maghreb: analysis of some recent events (Tunisia, 2016-2017)

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The Maghreb experiments an increase of extreme rainfalls. In a dry area, an accurate assessment of these phenomena is a key issue for the water management and for the civil security. Unfortunately the observation network density is too low for a proper retrieval of these rainfalls which are deeply modulated by ground effects due to elevation and temperature gradients. The new GPM (Global Precipitation Mission) products offer an opportunity to obtain a timely and fine scale information. However an operational use requires an event based validation.

The presentation focus on recent events on eastern Tunisia. The study area is characterized by moderate orographic effects and by significant thermal contrasts of the Gabes gulf. On these events the GPM estimations have been compared with system tracking index extracted from geostationary satellite by various algorithms. It appears that although GPM estimations are globally good they miss some extreme precipitations. More accurate assessments could be obtained by information derived from MSG satellite.