

### **3.5 LONG-TERM ANALYSIS OF GAUGE-ADJUSTED PAN-EUROPEAN RADAR RAINFALL ACCUMULATION**

SHINJU PARK<sup>1</sup>, MARC BERENGUER<sup>2</sup>, DANIEL SEMPERE-TORRES<sup>3</sup>

<sup>1</sup> Universitat Politècnica de Catalunya, Center of Applied Research in Hydrometeorology (UPC-CRAHI), Barcelona, Spain

<sup>2</sup> Universitat Politècnica de Catalunya, Center of Applied Research in Hydrometeorology (UPC-CRAHI), Barcelona, Spain

<sup>3</sup> Universitat Politècnica de Catalunya, Center of Applied Research in Hydrometeorology (UPC-CRAHI), Barcelona, Spain  
shinju.park@crahi.upc.edu

High-resolution pan-European radar composites (2 km, 15 min) have been produced operationally by EUMETNET OPERA (Operational Programme for the Exchange of weather RADar) data center ODYSSEY since 2012. In the framework of a number of European projects (e.g., H2020-ANYWHERE, EC-SMUFF) on flash flood hazard assessment and nowcasting, CRAHI-UPC has been producing near real-time radar rainfall accumulations from the OPERA rainrate composites accounting for the effect of the precipitation motion.

Because the quality of the input rainfall accumulation is critical to the flash flood hazards assessment, the pan-European radar accumulation products are adjusted in real-time using a spatially-variable factor. This adjustment factor is calculated based on the long-term comparison (up to 6 months) of daily radar rainfall accumulations with those calculated from SYNOP-gauge records at European scale.

We present the analyses of OPERA rainfall accumulations with and without the gauge adjustment during the period of 2015-2017 showing the status of radar QPE and the impact of the QPE to the flash flood identification.