



Multi-Sensor Rainfall Observation Data Merging in the Upper Medway Catchment

Jaqueline Vígolo Coutinho and Yunqing Xuan

Swansea University, College of Engineering, Swansea, United Kingdom (y.xuan@swansea.ac.uk)

Constant efforts of improving rainfall data have been made for more efficient flood warning and prevention. One of the strategies is merging raingauge and weather radar data to conciliate accuracy and high spatial and temporal resolution. This study aims to assess the 24h accumulated rainfall spatial distribution in the upper Medway catchment over the period of 2006-2007 through the use of merged ground-based and radar data in an ordinary Kriging technique. Unlike many previous studies making use raingauge data to form foundation for further merging, the spatial structure was extracted from the radar data first in an effort to maximise the use of such information from the radar images. It has been shown to be an effective method for spatial rainfall estimation, as evidenced by the small error between the interpolated field and observed radar data in this case study.