



Storm analysis and precipitation distribution of the flash flood in Almyrida basin, Crete

I.K. Tsanis (1), A. Koutroulis (1), I. Daliakopoulos (1), S. Michaelides (2)

(1) Department of Environmental Engineering, Technical University of Crete, Chania 73100, Greece (tsanis@hydromech.gr), (2) Cyprus Meteorological Service, Larnaka Airport 6650, Cyprus (silas@ucy.ac.cy)

Reconstruction of flash flood disasters in ungauged basins is a difficult process and requires a fusion of all available information sources. This paper analyzes the storm of November 17, 2006 which caused the flash flood event that occurred in Almyrida basin, a 25 km² watershed located in the northwest part of the island of Crete. This extreme event led to the loss of one life and over 1M EUR in damages in Almyrida alone leaving a total damage toll of approximately 3M EUR. A synoptic meteorological analysis shows the generation and structure of the storm approaching Crete from the southwest direction. The weather radar located less than 25km from the watershed provided sparse reflectivity data during the event. The Z-R relationship is obtained from previous events and compared with interpolated precipitation measurements from neighboring rain gauges producing area precipitation estimations over the study area. Initial analysis shows that a precipitation event of over 200 years return period produced an estimated peak flow of 120m³/sec, which corresponds to a specific peak discharge of 5m³/s/km². This case study is investigated as a part of the EC funded HYDRATE research project.