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- Recent Papers
- Volumes
- Library Search
- Title and Author Search

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Review

Production

Subscription



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The 8 July 2002 storm over Athens: analysis of the Kifissos River/Canal overflows

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Abstract. We analyse the flood event of 8 July 2002 that caused overflows over portions of the lower reach of the Kifissos River/Canal. The storm covered only the lower basin area and was concentrated on the centre and the southwest side of Greater Athens. The issue that stirred the public opinion was whether the hydraulic works underway in lower Kifissos at that time were responsible for the overflows. We explore this issue with the hydrologic-hydraulic model of the Kifissos basin TELESIM. To shed light on the probable cause of the observed flooding, we ran TELESIM for two rain-field scenarios derived from the recorded point-rainfalls, computing flows for each scenario. Depth profiles for channel conditions without obstructions do not explain the observed flooding. With the channel taken as locally obstructed by flow-area reducing ramps plus bed-debris, estimated nominal overflows (bank-full level is threshold, but the water stays inside the channel) compare well with actual ones for the milder rainfall scenario. Hence, the simulations support as plausible the hypothesis that flow obstructions due to the construction caused the overflows.

Full Article in PDF (PDF, 500 KB)

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