



## **CHANNEL PROCESSES AND SEDIMENTOLOGY OF A BOULDER-BED EPHEMERAL STREAM**

Paolo Billi

University of Ferrara, Italy (bli@unife.it)

Very few papers report about the geomorphology and sedimentology of modern very coarse-grained, ephemeral streams. Other than the relevance of shedding some light on fluvial processes in dryland, boulder-bed rivers, this paper aims to provide some insight on their sedimentological characteristics as a diagnostic tool in the interpretation of old deposits. A field study on such topics is carried out on the Golina River, a sandy boulder-bed ephemeral stream of the Kobo basin in northern Ethiopia, subjected to intermittent flow generated by isolated, high intensity rainfall. Though the main geomorphological characteristics of the braid bars and channels are apparently similar to those of perennial counterparts, field investigations show the general physiographic setting and the sedimentology of the study reach result from very different depositional/erosion processes. A model based on the superimposition of coarse-grained bedload sheets, with the characteristics described by Whiting et al. (1988), and subsequent dissection during the receding flood flow is considered. This model was found to well explain the morphological and sedimentological features of the study river reach.