المجلة الجزائرية للمناطق الجافة
Journal Algérien des Régions Arides (JARA)
Algerian Journal of Arid Regions
CRSTRA
Scientific and Technical Research Centre for Arid Areas

Research Paper

Effects of morphometric characteristics on flash flood response at arid area (case study of wadi deffa, el bayadh city, algeria)

A. HACHEMI [1*], MA. HAFNAOUI [1], M. MADI [1]

1. Scientific and Technical Research Center on Arid Regions -CRSTRA -Biskra, Algeria.

Received: 06 November 2019 ; Accepted: 18 November 2019; Published: December 2019

Abstract

In Algeria, flash floods are becoming one of the most damaging natural hazards. Therefore, the study of watershed morphometric parameters is very important since it is a significant element of the flow processes and flash flood generation. Especially in arid areas characterized by poor vegetation cover. This work deal with the analysis of the morphometric parameters upstream El Bayadh, 700 km south of the capital Algiers. The city has been hit by devastating flash floods in October 2011. The flooding impacted both population and property with 13 dead, tens of injured, hundreds of destroyed houses, 5 collapsed bridges, at an estimated cost of 6 billion dinars (600 million Euros). DEMs data has been used in the evaluation morphometric parameters including linear, areal and relief aspects using Geographic Information System (GIS) to assess flash flooding susceptibility and will be used for further investigation and diagnostic of the hydrologic behaviour in this studied arid watershed.

Key Words: Srtm Dem, Morphometric Analysis, GIS, Watershed, Flood, El Bayadh, Algeria.

* *Corresponding author :* ***Hachemi Ali***
E-mail address: alihachemi.hyd@gmail.com, hachemi.ali@crstra.dz

e-ISSN: 2676-2226, Published by: Scientific and Technical Research Centre for Arid Areas (CRSTRA)

CRSTRA