

River's Bed Level Changing Pattern Due to Sedimentation, Case Study: Gash River, Kassala, Sudan

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Abstract : The Gash rivers an ephemeral river, it usually flows from July to September, it has a braided pattern with high sediment content, of 15200 ppm in suspension, and 360 kg/sec as bed load. The Gash river bed has an average slope of 1.3 m/Km. The objectives of this study were: assessing the Gash River bed level patterns; quantifying the annual variations in Gash bed level; and recommending a suitable method to reduce the sediment accumulation on the Gash River bed. The study covered temporally the period 1905-2013 using datasets included the Gash river flows, and the cross sections. The results showed that there is an increasing trend in the river bed of 5 cm³ per year. This is resulted in changing the behavior of the flood routing and consequently the flood hazard is tremendously increased in Kassala city.

Keywords : bed level, cross section, gash river, sedimentation

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