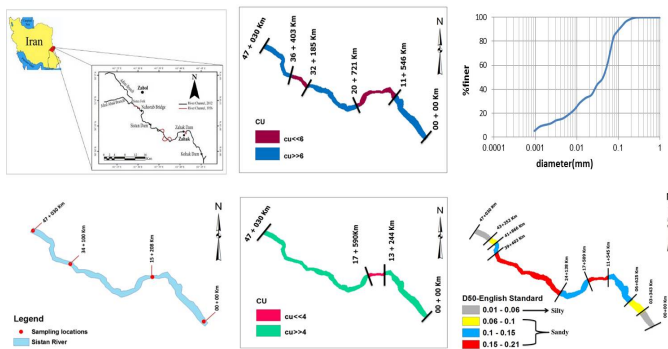


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Research Paper

Evaluating the Trend of Changes in Bed Sediments Gradation over the Sistan River

Motallebain M, Hassanpour F, and Kamell H.

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Abstract

Sediment movement in rivers is one of the most important indicators to evaluate the health of an ecosystem. Bed load different specification such as shape, dimensions and other statistical parameters of this sediment reflect the hydraulic and hydrological conditions governing them, directly. To investigate the changes of particle aggregation of Sistan river bed, four sediment samples were collected from the Sistan river. After aggregation of sediments in the laboratory, sediment diameter (D50) and uniformity coefficient (Cu) was calculated, and using inverse distance weighting (IDW) method, the mentioned parameters for the Sistan river from Jarikheh up to the AfzalAbad plugs place were interpolated and parameters using ARC-GIS software was zoning along the river. Results showed that Sistan river bed material is sand and silt, 3 km to the beginning and at end of the study interval based on the English standard classification it is silty texture and the rest of bed is sandy texture. 11 kilometers beginning and the end of the river also from 20 +721 kilometer up to about 12 kilometers has also a good aggregation. The entire river except for the middle section of river from the 13 +244 km to extent of 4 km river bed has non-uniform soil.

Keywords: Sistan River, bed Gradation, ARC-GIS, IDW method.

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