



Investigation on changes of the Gorgan River morphology in the vicinity of Gonbad City

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Gorgan River, with its length of 325 km is one of the largest rivers in the Caspian Sea basin. It crosses sensitive erosion reaches and finally joining the Caspian Sea from the Eastern side. The Gorgan River morphology has changed in the last century, due to the geological, topographical and climatological conditions, as well as due to the human impact. In the following research, morphology of a 13 km long river reach in the vicinity of Gonbad City has been studied. For this purpose, the longitudinal and cross section maps of this reach were prepared, basing on the old documents from the year 1967 and later compared with recent ones, from the year 2003. Further on, some morphological parameters of the Gorgan River have been measured and calculated as for example: sinuosity length, meander length, width of meander belt, average curve radius, amplitude and sinuosity coefficient. It could be concluded, that the number of meanders has increased from 22 to 28 and the meander coefficients from 3.21 to 3.47 respectively. Finally, by means of the t test (spss software), for some of the morphological parameters in the selected river reach, significant changes have been proved.

Keywords: River morphology; bed erosion; human impact; morphological parameters; Gorgan River.