IWRM2018-125-2
8th International Water Resources Management Conference of ICWRS

Multi-scale linkages between topographic variables and vegetation indices in the Yellow River Delta

Kaige Chi (1), Gang Zhao (2), Bo Pang (3), and Ziqian Huang (4)

(1) Beijing Normal University, College of Water Sciences, Water Conservancy Project, China (ckg@mail.bnu.edu.cn), (2) Beijing Normal University, College of Water Sciences, Water Conservancy Project, China (gangzhao@mail.bnu.edu.cn), (3) Beijing Normal University, College of Water Sciences, Water Conservancy Project, China (pb@bnu.edu.cn), (4) Beijing Normal University, College of Water Sciences, Water Conservancy Project, China (ziqian@mail.bnu.edu.cn)

With the sediment deposition and climatic variation, the vegetation status and topographic attributes of Yellow River Delta (YRD) continually changed with complex relations in the past decades. In this paper, the vegetation–topography relations of YRD were analyzed using high-resolution remote sensing images from 1981 to 2003. The analyses are conducted at both multiple time scales (annual scale, seasonal scale and daily scale) and multiple spatial scales (from 30m to 1500m resolution). Based on the collection of meteorological and sediment data, the reasons of the vegetation–topography relations' change were also explored. The results showed that the sediment is deposited near the estuary due to the limited spread range, which cause the coast moving rate increases obviously. Since 1995, with the increase of cultivated area and more important attached to ecological environmental protection by local government, the vegetation indices have been significantly improved.