

Assessment of the hydrological alteration of the Yangtze River

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Abstract The Yangtze River is the biggest river in China and ranks third in the world in terms of its length and the mean annual volume of water flowing into the East China Sea. With economic growth and population increase, its hydrological regime has been altered by human activities, particularly dam building. This paper selected the Yichang hydrological station on the Yangtze River for a case study, and employed its 1950–2000 daily discharge time series to assess its hydrological alteration in different decades in term of four groups of Hydrological Alteration Indices. The results revealed that only some IHA parameters at Yichang hydrological station present clear changes; this is because the existing capacity of the reservoirs built upstream is small when compared with the mean annual runoff volume. This paper provides a useful reference for further studies of the ecological impacts of human activities, especially dam building, on the key biological resources of the Yangtze River.

Key words hydrological alteration; ecological impact; the Yangtze River; Yichang hydrological station
