Quantitative Detection of Area of Lakes in the West of China

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Abstract

Expanding or shrinking of lakes can be used as an indicator of climatic and environmental changes. There are a lot of lakes in the west of China, including lakes in the Tibet Plateau and in the arid areas. Most of them have been in shrinkage, some of them were changed into swamps and some dried dramatically up, causing abrupt changes of the lake environment. These abrupt changes of lake environments could be recognized as the result of natural processes or climate warming because there are little human activities. In this paper, the areas of lakes in the west of China are calculated using satellite data. We focus on Lake Qinghai, Lake Bosten, Lake E-Ling and Zha Ling and Lake NaMoCuo. The climatic elements that affect the area changes such as precipitation, temperature and evaporation are analyzed.