The characteristics of water resources in XinJiang Uyghur Autonomous Region, China, using GIS and remote sensing

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Lakes and rivers are the most important water resources in XinJiang Uyghur Autonomous Region, China, since there are little precipitation and melted-snow water from high mountains,which are limited in summer season. This research describes the characteristics of water resources through analyzing the water area changes of main closed lakes using multi-temporal satellite data,and mapping the meteorological observations of the main rivers outflow for the past 50 years. Land cover change of Lake Ebnur region and its vicinity from 1972 to 2003 were analyzed by comparing the land cover classification images. As a result, some remarkable changes of water resources in XinJiang were produced.It is supposed that from 1950 until the second half of 1980, the changes of the water resources in XinJiang have been affected by human activities. On the contrary, from the second half of 1980 until present, the water resources have been affected by climatically fluctuation strongly. The detected land use / cover change of Lake Ebnur region from 1972 to 2003 shows that water area of the lake were governed by these changes.