

## **Water Resources and Environment Monitoring by Remote Sensing in Guanting Reservoir of China**

*Xin, Jingfeng; Li, Jiren; Li, Xiaotao*

*IWHR, Ministry of Water Resources, CHINA*

Guanting reservoir is an important water source for urban living and economy of capital Beijing. Along with economic development and population increase, there's a great shortage of water resources and serious water pollution in Guanting catchment. Rapid acquisition of information on water resources, water quality and environmental factors, and assessment of water source safety for Guanting reservoir are significant to ensure sustainable development of capital economy. In this paper, multi-source satellite data were used to dynamically monitor vegetation condition, land use, water body and water quality in Guanting reservoir and catchment, and the variation trends were analyzed for land cover, water resources and water quality. Based on satellite data and ground observation, retrieval models were established for reservoir storage capacity and chl-a of water body, and eutrophication was estimated for Guanting reservoir. Finally, factors affecting water source safety were studied, and suggestions for ensuring water source safety were proposed.