

Satellite monitoring of reservoir storage variations in large scale regions

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In this study, feasibility of monitoring reservoir storage by satellite is analyzed across the globe using the global reservoir database, TOPEX/POSEIDON satellite altimeter data and TERRA/MODIS satellite images. Furthermore, a method for monitoring water storage variation is applied to large reservoirs and large lakes in Africa, in order to investigate the possibility of satellite monitoring of the variation of water storage in large reservoirs. The method used in this study utilizes only satellite data to estimate reservoir storage. This approach is capable of contributing greatly to integrated water resources management and water use quantification in large-scale regions—especially areas that have inadequate ground observations, making it very useful for determining the impact of reservoirs in the water cycle of large scale regions.