

Development of Global Lakes & Reservoir Repository and its application for water resource observation

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We developed Global Lakes & Reservoirs Repository in order to evaluate terrestrial water resources of the Earth. The system includes mostly important large waterbody and included also hydrological and water quality components. The system may potentially be applicable for other planetary system which possesses only lakes, not ocean. Distinction between Lakes system and seamless ocean differs very much when discussing the climate impact after receiving radiation. Ocean and lake planets thus provide distinct output for each environment. In the case of planet Earth, the total volume of water stored in lakes & reservoirs is estimated only around 90,000 Km³, which is far smaller compared with the ocean. At the same time, each lake creates internal microclimate and catchment for surrounding area. Heat budget for those areas are essentially important to comprehend climate in terrestrial system. It should also be considered that "terra forming" can only provide small amount of water in surface of different planetary system - thus for those planetary system "lakes" are essentially important factors to comprehend new systems.

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