

Global Lakes & reservoirs Repository and their application for terrestrial surface environment

*Yosuke Alexandre Yamashiki¹, Ryusuke Kuroki¹, Botong Gao¹, Hina Bando², Fuka Takagi³, Shweta Yadav⁴

1. Earth & Planetary Water Resources Assessment Laboratory Graduate School of Advanced Integrated Studies in Human Survivability Kyoto University, 2. Faculty of Science, Kyoto University, 3. Faculty of Agriculture, Kyoto University, 4. Educational Unit for Studies on Connectivity of Hills, Humans and Ocean, Kyoto University

Global Lakes & Reservoirs Repository (GLR) has been developed in order to list global scale freshwater storage focusing on Lakes & Reservoirs. In this presentation we'll introduce their application, combining this with the ecological model for lakes & reservoirs for their surface environmental assessment under different climatic conditions. A two-layer aquatic ecological model (consisted with three types of phytoplanktons & zooplankton) is linked for a number of global lakes for the evaluation of future trends of aquatic ecosystems, mainly focusing on phytoplankton growth. The application of the database, by coupling it with satellite remote sensing for monitoring aquatic environment, together with the three-dimensional lake & reservoir aquatic environment model, are also introduced in the database.

Keywords: GLR, Remote sensing of aquatic environment