

Watershed Hydrology in the Philippines

Carolyn D. Barrias
Institute of Environmental Science and Meteorology
University of the Philippines
Diliman Quezon City, Philippines 1101
barriascarolyn@gmail.com

ABSTRACT

This candidacy paper investigates watershed hydrology and hydrologic modeling in the Philippines, highlighting its importance for water resource management and ecosystem services. It categorizes existing research into critical areas, including flood risk, land use, climate change, and environmental pollution, to assess the focus and depth of studies conducted from 2001 to 2023. The analysis reveals a significant disparity between the Philippines and global hydrological research trends, emphasizing a notable research gap with implications for effective water management and climate adaptation. Special attention is given to the Angat Watershed, a key source of water supply for Metro Manila, illustrating the vital need for comprehensive hydrological studies in regional planning. The paper highlights the need for increased scientific investment, education in hydrological sciences, and cooperative research to develop tailored hydrologic models. Finally, the paper asserts the critical necessity for enriched hydrological research in the Philippines to enhance environmental understanding, policymaking and management, and sustainable development in the face of changing land use / land cover and climate.