

## CLIMATE CHANGE IMPACTS ON STREAMFLOW AND NUTRIENT LOADING IN THE NORTHERN LAKE OKEECHOBEE BASIN

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The projection of streamflow and nutrient loads is essential for future water resource management plans under varying climate and environmental conditions. This study investigated how climate change may affect streamflow and nutrient loading to Lake Okeechobee from its drainage watersheds, including the Kissimmee River Basin. Future precipitation and air temperature projections were made using 29 Global Climate Models (GCMs) for the two future periods (near 2043–2053 and far 2073–2083) under Representative Concentration Pathway (RCP) 4.5 and 8.5 scenarios. For hydrological projections, the climate projections were then incorporated into Watershed Assessment Tool (WAM) that was prepared to simulate water and nutrient transport processes in the drainage watersheds. Results showed that streamflow and nutrient loadings might change significantly for the future periods. However, climate and hydrological projections substantially varied depending on the selections of GCMs and RCPs, which suggests the need for a careful interpretation and comprehensive evaluation of future projections. This study is expected to provide information that helps develop climate adaptation plans and opportunities to understand the influence of global-scale changes on local watersheds for improved sustainability of the Northern Everglades system.

**PRESENTER BIO:** Satbyeol Shin is a Ph.D. student. Her doctoral research investigates optimal water management in a watershed-lake system. She is developing a spatially integrated tool to provide a holistic view of the connection between the upstream watershed and downstream waterbody.