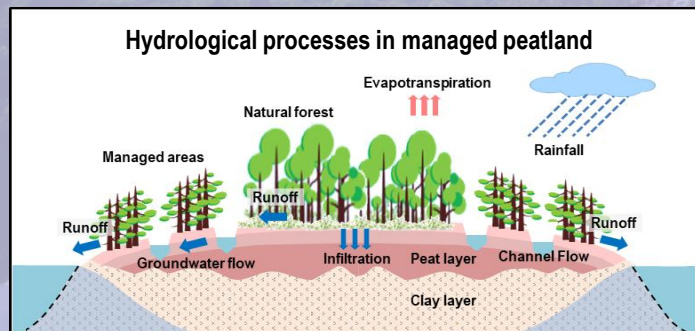
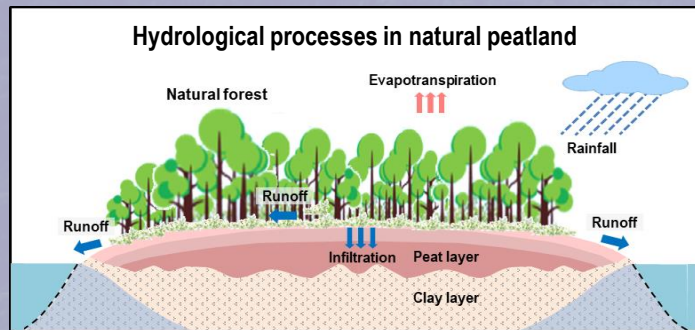


MOTIVATION AND OBJECTIVE

Hydrological processes strongly control peatland geomorphology, ecology, and biogeochemical cycle.

Alteration in hydrological processes due to land cover change may have crucial impacts to tropical peatland ecosystem.

Comprehensive understanding on this subject is required to develop best practices for responsible peatland management.

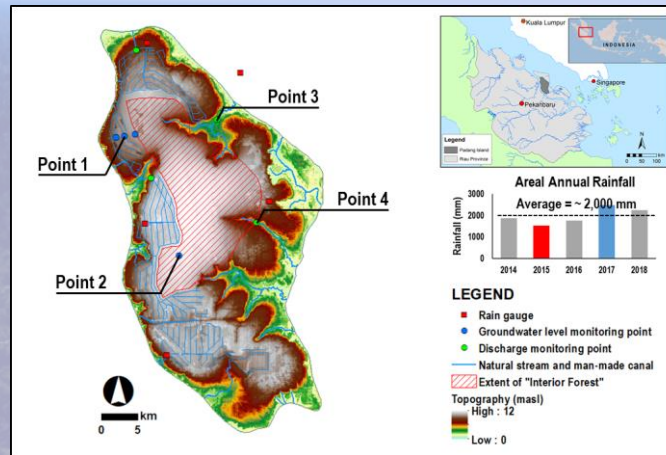


Study Objective:

Evaluating the impacts of land cover change on water balance of tropical peatland landscape using a fully-distributed and physically-based hydrological model

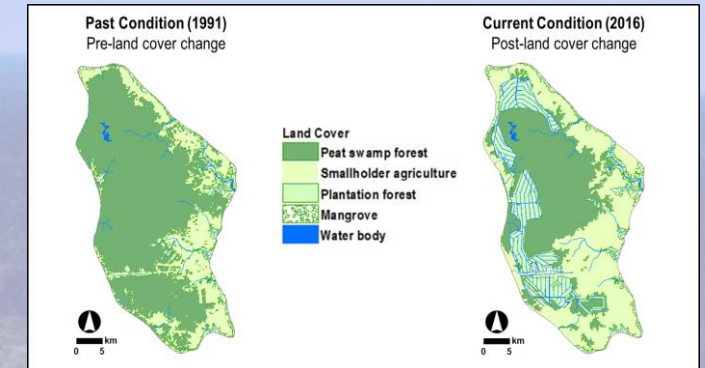
MODEL SETUP

A coupled MIKE SHE and MIKE Hydro River model was utilized based on comprehensive field data set from field measurements.

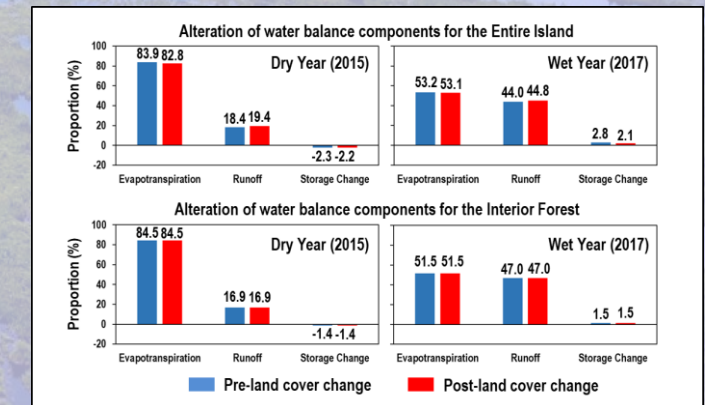


RESULTS AND DISCUSSION

Comparison of land cover distribution



Alteration of water balance components



Land cover change alters rainfall partitioning for the entire island, while water balance for the interior forest remains relatively intact.

The understanding on fundamental physical mechanisms of tropical peatland water balance under land cover change should help both scientists and policymakers in developing science-based peatland management practices.

CALIBRATION AND VALIDATION

Satisfactory performance against observed data

