



The Relationship between Geological Factors and the Distribution of Saline Soil; a case study around Khon Kaen University, Thailand

Rungroj Arjwech (1) and Mark Everett (2)

(1) Khon Kaen University, Khon Kaen, Thailand (rungroj@kku.ac.th), (2) Texas A&M University, College Station, Texas (everett@geo.tamu.edu)

Distribution of saline soil and groundwater causes severe problems over many areas in Khon Kaen province, Thailand. Due to the change of land reclamation over years around and in Khon Kaen University causes evidents of saline groundwater to be not observed on the ground surface. In this study, data were collected from aerial photo interpretation, field studies, and the information of potassium mineral resource exploration in Khon Kaen. The ERT and VES geophysical methods were used to study distribution of saline groundwater over the campus. The results show that the distributions of saline soils are widely spread on meandering and flood plain in braided drainage areas. The ERT and VES studied on and around campus show that saline groundwater distributes over half of the campus through the South side. Its depth ranges between 5 and 30 m related to geomorphology; shallow on floodplain and deeper on the gentle terrain. However saline groundwater does not exist on the terrace. The distributions are natural occurrences and they are controlled by subsurface geological structures fractures geomorphology and geology.