

THE STUDY OF RIVER CHANGE DETECTION INTEGRATING OBJECT-BASED CLASSIFICATION AND EDGE EXTRACTION

*Yu-Chan Lee¹, Fang-Shii Ning¹, Hao-Che Ho²

1. Department of Land Economics, National Chengchi University, 2. Department of Civil Engineering, National Taiwan University

Rivers in Taiwan have the characteristics of short mainstream and steep slope. With seasonal changes and different geographic environment, the middle course of drainage basin is prone to lateral erosion and deposition. However, due to the global climate change and the occurrence of natural disasters, the increasing precipitation strength and unstable river channel make the river migration more frequent and complex. Therefore, river governance has become a challenge in recent years.

In the history of change detection, we often needed multi-temporal of remote sensing images. Depending on geographical landscape and types of data, different methods like image classification are applied for change detection. All of these methods have their own advantages and disadvantages, so it is necessary to combine these methods to achieve river change detection. This study used remote sensing data and image processing software for object-based classification and also edge extraction as an aid to achieve river change detection.

Keywords: Change Detection, Image Classification, Edge Extraction, Remote Sensing Images