



Flood boundary delineation using various raster data - a case study in northern Taiwan

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In Taiwan, water problems become more and more serious. When the season with Typhoon comes, water brings much more hazards such as landslides and flood. In other countries around the world, remote sensing has been successfully applied to the real-time monitor of flood area. Nevertheless, it is much more difficult to monitor the flood area by remote sensing in Taiwan. Due to the steep landforms, the stagnation period of flood is quite short and the flood goes back merely in a day or even in several hours. As a result, it's not easy to obtain the satellite images in flood period. Furthermore, due to the constricted land area with high density of population and multiple land usages, it also brings difficulties to differentiate the flood areas by satellite images. However, the advantages of satellite images including which can monitor large-scale land-surface and can be less influenced by the weather from active images make satellite images possess potential in this kind of applications.

The record of flood area survey is not easy to get; it's also dangerous and uneconomic to investigate the large-scale area by human while flooding or after flooding. In this research, we will analyze the satellite images acquired during typhoon season. Classification and change detection techniques were involved to analyze various raster data (SPOT, SAR, DTM and etc.) to delineate flood boundary. We expect the outcome of flood map can be provided to the government for rescuing/insurance needs, and still more, to provide the verification data of flood model for further researches.