

Research and development of river flow condition prediction system by using GIS

[Point]

There have been frequent flood and sediment disaster in small-to-medium rivers and in upstream sites of rivers in recent years. However, detailed hydrological observation network that is sufficient enough to respond to small scale watershed is generally not organized, and it has been required to develop flood prediction method (flood hazard assessment) that can be extensively applied to small-to-medium rivers and upstream sites of rivers without long-term hydraulic data. This study was conducted for the purpose of suggesting easy and practical flood prediction method that could be extensively applied in the nation, even in small-to-medium rivers as well as in upstream sites of rivers without sufficient condition of precipitation station and of flow rate station. As a result, it was possible to develop river flow condition prediction technique that could flexibly respond to states of being of various needs that were specific to small-to-medium rivers, observation facilities, and observation data, with GIS analysis technique as foundation.

Keywords: small-to-medium river, flood prediction, GIS, distributed parameter runoff analysis model, radar rain gauge