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Operational inundation forecasting contributing to business continuity management in the industrial complex scale –A case of the Chao Phraya River basin, Thailand-

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In 2011, the Chao Phraya River basin experienced a severe flood disaster, which caused fatal damage to human lives, households, infrastructure, agriculture and manufacturing industries. Ayutthaya Province, where important industrial complexes are located, was one of the most flood-affected areas. This study developed an operational and efficient inundation forecasting scheme to assist industrial complexes in reducing disaster risks in terms of Business Continuity Management (BCM). The Rojana Industrial Complex in Ayutthaya Province was selected as one of study areas, and the Rainfall-Runoff-Inundation model developed by ICHARM was employed for inundation forecasting. Although flood and inundation forecasting should be conducted at a basin scale from a hydrological view, the study found, from the analysis of inundation damage to the industrial complex, that inundation forecasting of a fine resolution, e.g., 10 m, is necessary to provide practical information for the implementation of BCM. The results suggest the development of a two-tiered forecasting model capable of operating at a basin scale of 2 km and an industrial-complex scale of 10 m to implement a practical Area-BCM.