

# Development of the crisis navigator for individuals

## Real-time Prediction and Control of Urban Flood Risk

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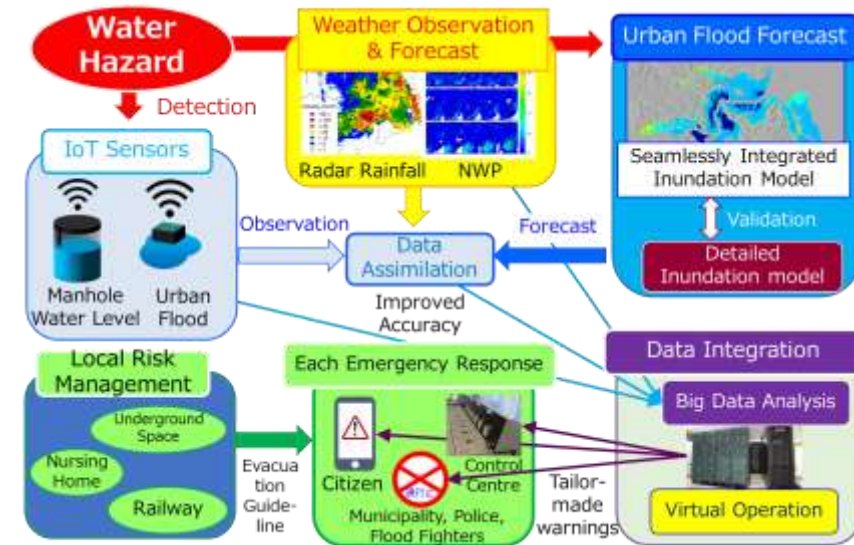
## Summary :

To protect urbanized areas from inundation caused by torrential rainfall, it is necessary to manage urban rivers and drainage pipe networks altogether for draining runoff efficiently and effectively. However, currently there do not exist any numerical models that can simulate interactive flow in urban rivers and drainage pipe networks at a high-speed. Because of non-availability of model, integrated urban storm water management has not been yet realized.

Therefore, this research introduces the methodology to improve forecast accuracy by utilizing observed data into numerical models (data assimilation), and also develop a novel inundation forecast model that can integrate meteorological observation and forecast information, water levels in rivers and drainage pipe networks for their analysis.

This realizes the advanced control of urban drainage facilities based on integrated management of river and drainage pipe networks that adequately support systematic decisions whether to pump out to rivers or to store into drainage pipes for maximum use of inundation control capacity. The control system is useful not only for implementing real-time countermeasure against inundation, but also for designing evacuation navigation and developing inundation mitigation plans.

## ICT Integration for Safe and Resilient Society against Urban Flood Hazard



<http://www.recwet.t.u-tokyo.ac.jp/mirai/index.html>