

## **Analysis of the “needs” of the users for the newly introduced X-Band MP (multi-parameter) radar**

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**Abstract** It is envisaged that the newly introduced X-Band MP (multi parameter) radar will provide higher precision rainfall information compared to the conventional radar, contributing to river and disaster management in Japan. The objective of this research is to analyse the “needs” of the users for the MP radar from the perspectives of river managers, municipalities, general public, etc. It aims to propose the operational procedures to realize the functionalities demanded by the users, and to make recommendations for developing disaster management support systems. The research involved two main elements. The first one conducting interviews with a wide variety of users to analyse their needs for radar rainfall and disaster information; and the second one developing a prototype system for flood/inundation forecasting and flood disaster evacuation support systems which disseminate information to mobile phones. The questionnaire surveys and interviews were conducted targeting the users of flood information in order to determine the types of information needed during flood events. Potential users of flood information include such entities as organizations related to disaster-prevention, administrators of rivers, sewerage or roads, managers of underground facilities, river users, recreational users and the nearby residents. The survey revealed the needs of and the information required by river, sewerage and disaster prevention managers, and also the key issues regarding flood information that are considered important to resolve. In addition, the prototype system which provides flood/inundation forecasting and flood disaster evacuation support information using X-band MP radar was designed and developed. The system provides information such as current and estimated rainfall, water level and inundation depth at any given locations and ranges, and can be accessed through mobile phones. Pilot testing of the system is being conducted this year in order to verify the effectiveness of the system and to refine its specifications.

**Key words** X-Band MP (multi- parameter) radar; disaster evacuation support systems