

Extreme Weather Database -MP radar precipitation image information-

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Recently, rapidly developed local heavy rainfall disasters were occurred in large cities. Precipitation information for the monitoring of heavy rainfall is provided from conventional radar network. The information is adjusted by rain gauge data. It needs tens of minutes to process gauge adjusted radar data. It is not appropriate to detect rapidly developed local heavy rainfall. The Ministry of Land, Infrastructure, Transport and Tourism (MLIT) introduced X-band Multi Parameter (MP) radar which does not need to adjust by rain gauge data, to perform monitoring of heavy rainfall. Eleven MP radars are conducted trial operation in Kanto, Chubu, Kinki, and Hokuriku regions since July 2010. Additional fifteen MP radars are conducted trial operation in Kurikoma, Niigata, Shizuoka, Okayama, Hiroshima, Northern Kyushu, and Sakurajima regions since July 2011. The MP radar provides higher spatial (250m mesh) and higher temporal (one minute) resolution rainfall observations than the conventional radar. This radar precipitation information is useful to study the characteristic of extreme weather events. The NIED obtain the radar data from the MLIT on real time, and produce the variety of products which are necessary for analysis, and archive these data. We construct the precipitation image database to find the extreme weather events easier. It includes hourly precipitation rate image, hourly precipitation amount image, and every minute precipitation rate animation image per hour. We will study the characteristics of heavy rainfall in large cities using hourly and every minute precipitation data.

Keywords: Extreme Weather, Database, MP radar, Precipitation image