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Performance of Earthquake Early Warning of JMA - approach for improving rapidity and accuracy

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Japan Meteorological Agency(JMA)'s Earthquake Early Warning(EEW) means information of anticipated amplitude and arrival time of a strong ground motion just after fault rupture occurred, but before the arrival of the strong ground motion.

JMA started to provide EEW to a limited number of users from August 2006, and started to the public in October 2007. The Meteorological Law amended in December 2007 was provided that EEW should be as forecast or warning of strong ground motions caused by an earthquake .

From October, 2007 to December, 2009, JMA issued 12 warnings to the public and issued 1302 forecasts. For 5 cases where maximum seismic intensity "5 lower" were observed JMA didn' issue warnings.

In 2009, warnings were issued for 3 events - M6.6 earthquake occurred at Suruga bay on 11, August, M4.1 earthquake occurred off Chiba prefecture on 25 August(this is false alarm caused by software bug), M6.8 earthquake occurred off Amami-Oshima island).

JMA has been enhancing seismic observation network, and improving the method for estimation of magnitude. For example, in August 2009, JMA applied new method of magnitude of P-wave and began to use new seismic stations - 5 ocean bottom seismographs and 2 free surface stations -.

In addition, JMA held the study committee consisted of specialists (Evaluation and improvement of the EEW committee).

In this presentation, we will show various efforts to improve EEW of JMA, and evaluate the performance of EEW issuance.

Keywords: Earthquake Early Warning, magnitude, seismic intensity