

Table 1 Major tropical cyclones in the last 10 years causing extensive storm surges

NAME	DATE	CENTRAL PRESSURE	WIND SPEED	FATALITIES
<b>KATRINA</b>	Aug 29, 2005	923 hPa	110 kt	2,000
<b>SIDR</b>	Dec 15, 2007	926 hPa	140 kt	3,600
<b>NARGIS</b>	May 4, 2008	937 hPa	115 kt	138,000
<b>HAIYAN</b>	Nov 8, 2013	895 hPa	170 kt	6,000

Note: Central pressure and wind speed shown in the table are from when the TC made landfall

Data source: National Hurricane Center (NHC) <http://www.nhc.noaa.gov/data/> and Joint Typhoon

Warning Center (JTWC) <http://www.usno.navy.mil/JTWC/>

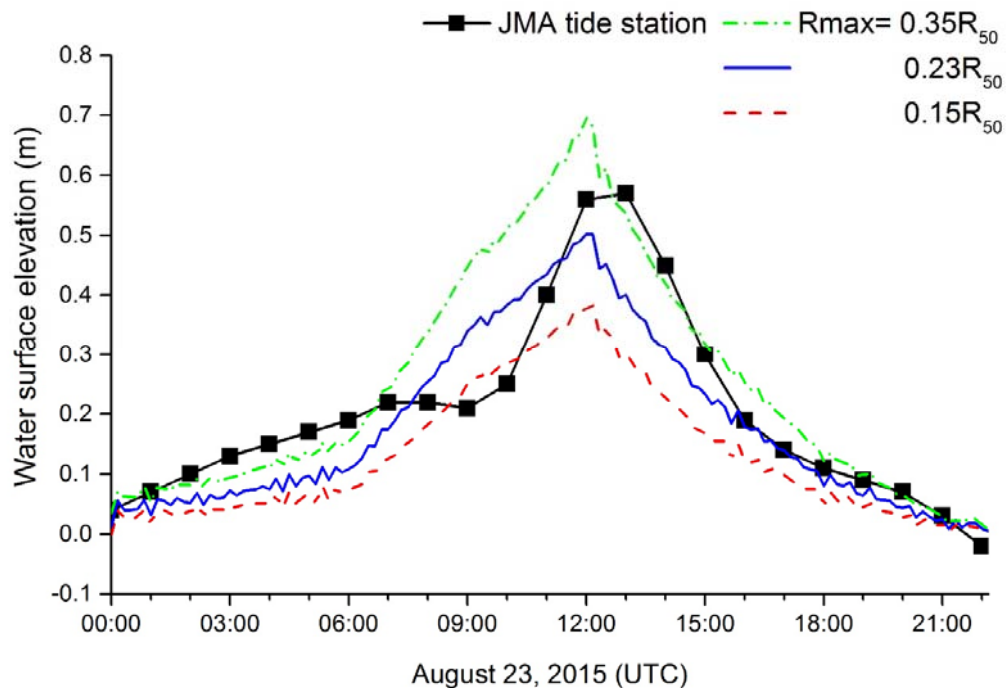


Fig.7 Comparison of observed and simulated storm surges during the passage of Typhoon *Goni* in 2015. The water level was observed at the tide station of Ishigakijima, which is located at 24°20'N and 124°10'E.

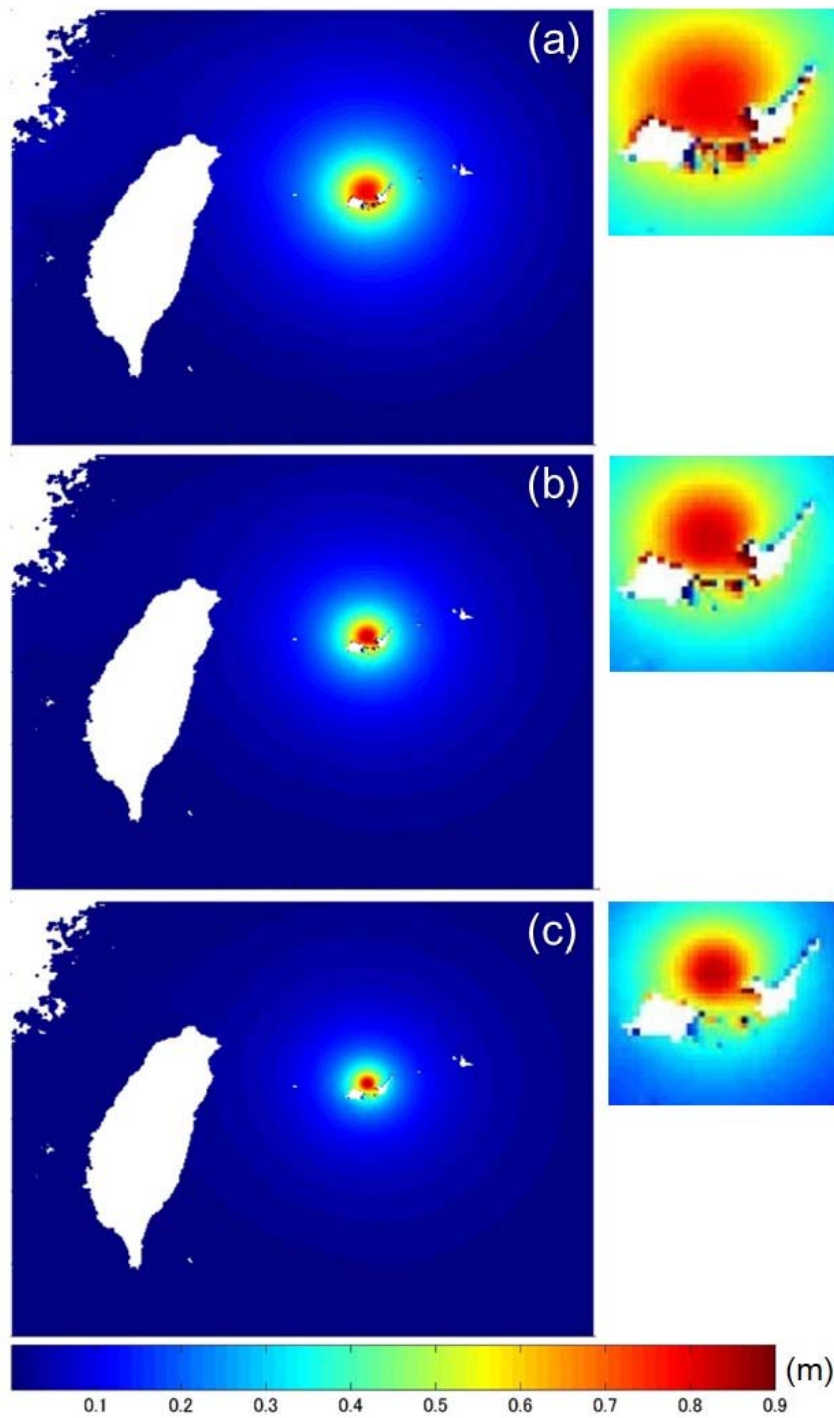


Fig.8 Distribution of storm surge heights at the time of Typhoon Goni passed over Ishigakijima, estimated with  $R_{max}$  derived from (a)  $0.15 R_{50}$ , (b)  $0.23 R_{50}$ , and (c)  $0.35 R_{50}$

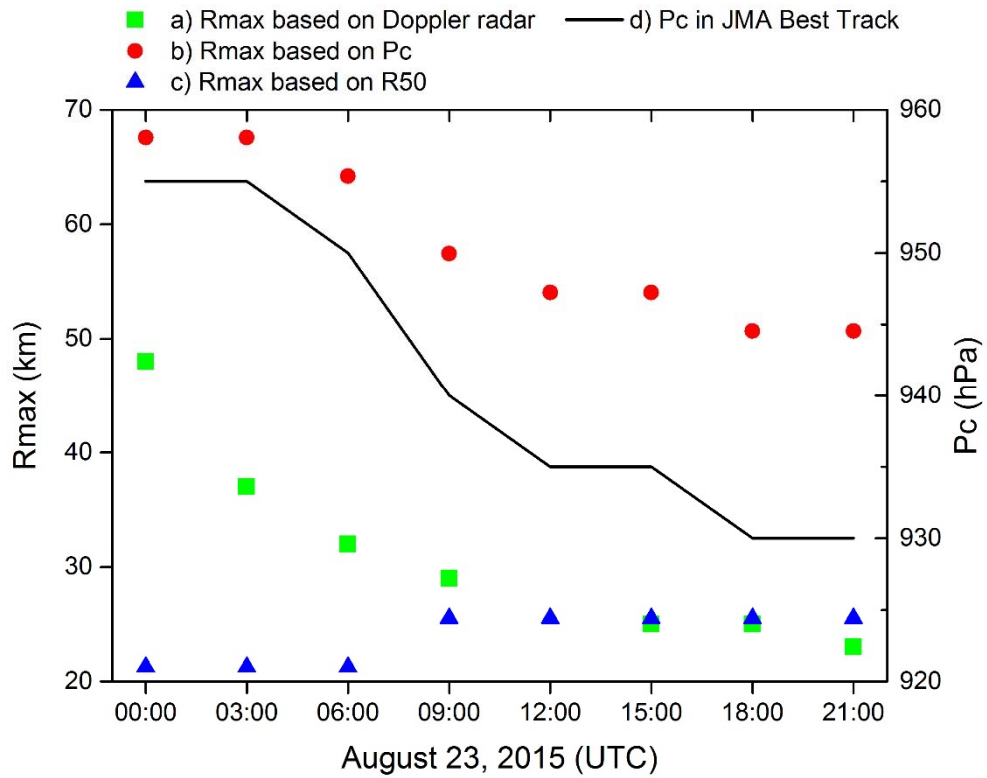


Fig.12 Estimated maximum wind radius and central pressures of the 2015 Typhoon

*Goni* during it transited near Ishigakijima, a) Rmax detected by a Doppler radar

operated by JMA, b) Rmax estimated from the relationship:  $R_{max} = 0.676 P_c - 578$ , c)

Rmax from  $R_{max} = 0.23 R_{50}$ , and d) Pc in the JMA Best Track Data