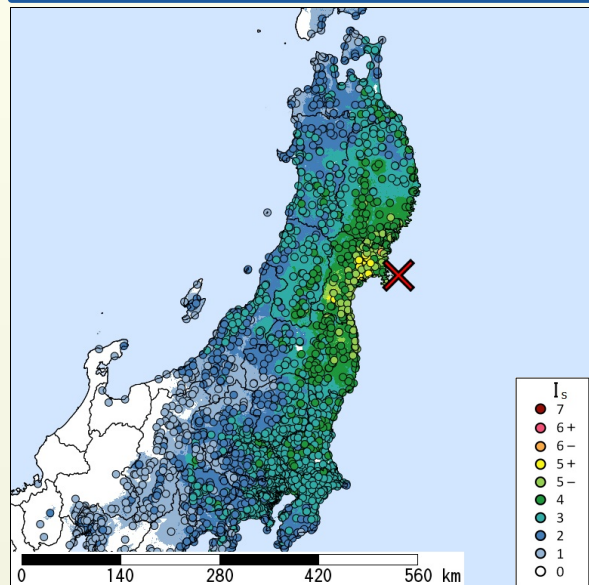


2021-03-20 18:09 (UTC+9), OFF MIYAGI, 60km Depth, M 7.2 by JMA

I_s Distribution Maximum Observed I_s:6- Estimated I_s for Major Cities

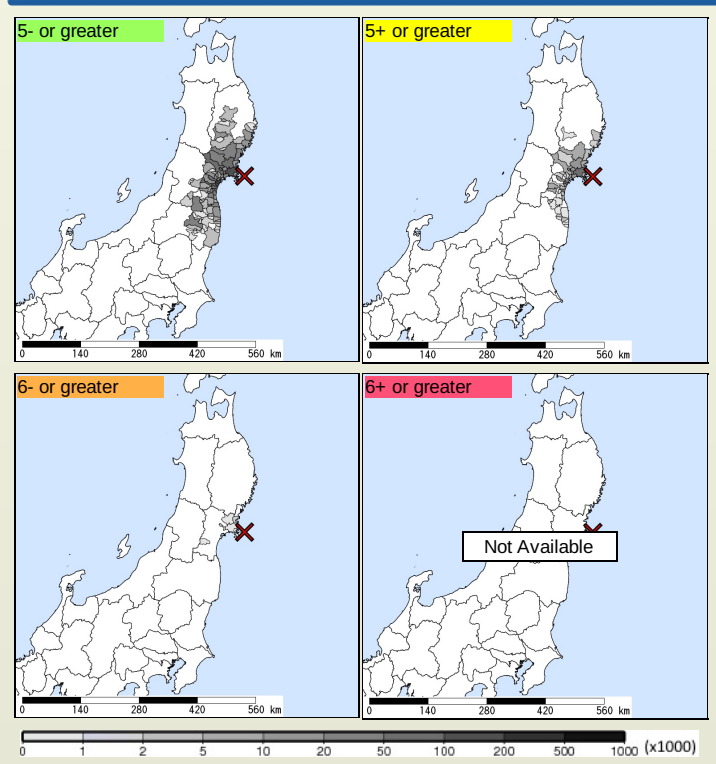


Seismic Intensity (I_s) distribution is estimated from the observed data (circles) of NIED K-NET, KiK-net, JMA, and local governments that had been collected by 2021/03/20 18:20:02.

Max. Obs. I _s	Histogram of Estimated I _s							Municipality	Daytime Population	Distance [km]
	1	2	3	4	5	5+	6			
6-								Minamisanriku, Motoyoshi, Miyagi	17,000	37
5+								Miyagino, Sendai, Miyagi	210,000	70
5+								Ishinomaki, Miyagi	160,000	34
5+								Osaki, Miyagi	130,000	67
5+								Tome, Miyagi	80,000	55
5-								Ichinoseki, Iwate	130,000	77
5-								Aoba, Sendai, Miyagi	430,000	73
5-								Izumi, Sendai, Miyagi	170,000	71
3								Utsunomiya, Tochigi	510,000	260
3								Adachi, Tokyo	510,000	336
3								Hachioji, Tokyo	560,000	370
3								Koto, Tokyo	530,000	346
3								Chiyoda, Tokyo	1,200,000	346
3								Setagaya, Tokyo	650,000	356
3								Ota, Tokyo	630,000	361
3								Shibuya, Tokyo	590,000	352
3								Chuo, Tokyo	840,000	348
3								Minato, Tokyo	1,100,000	350
3								Shinagawa, Tokyo	510,000	356
3								Shinjuku, Tokyo	850,000	349

The histogram shows frequency distribution of estimated I_s derived from interpolation of the observation with 250-m mesh. The daytime and nighttime correspond to 9:00-18:59 and 19:00-8:59, respectively. The distance is measured from the epicenter to the center of the municipality.

I_s Exposed-Population Estimates of Each City



	5- or greater	5+ or greater	6- or greater	6+ or greater
Whole of Japan	2,000,000	500,000	2,000	
Iwate Prefecture	100,000	20,000		
Ichinoseki, Iwate	50,000	10,000		
Miyagi Prefecture	1,000,000	500,000	2,000	
Miyagino, Sendai, Miyagi	200,000	100,000		
Wakabayashi, Sendai, Miyagi	100,000	50,000		
Taihaku, Sendai, Miyagi	100,000	< 1,000		
Izumi, Sendai, Miyagi	50,000	10,000		
Ishinomaki, Miyagi	200,000	100,000	< 1,000	
Kesenuma, Miyagi	50,000	2,000		
Natori, Miyagi	50,000	5,000		
Tagajo, Miyagi	20,000	5,000		
Iwanuma, Miyagi	50,000	20,000		
Tome, Miyagi	50,000	20,000	< 1,000	
Higashimatsushima, Miyagi	50,000	10,000		
Osaki, Miyagi	100,000	10,000		
Zao, Katta, Miyagi	10,000	10,000		
Watari, Watari, Miyagi	20,000	5,000		
Matsushima, Miyagi, Miyagi	10,000	10,000		
Rifu, Miyagi, Miyagi	20,000	10,000		
Wakuya, Toda, Miyagi	20,000	10,000		
Misato, Toda, Miyagi	20,000	20,000	< 1,000	
Minamisanriku, Motoyoshi, Miyagi	20,000	10,000	2,000	
Fukushima Prefecture	200,000	5,000		

The summation of the exposed population for each city does not necessarily equal to that of the prefecture or whole of Japan.

Major Historical Damaging Earthquakes in This Region

Year	Region	M	Damage
2003	Off Miyagi	7.1	The intraslab earthquake with a focal depth of 70 km. 174 injured, 2 houses collapsed, 21 partially destroyed.
2003	Northern Miyagi	6.4	The inland crustal earthquake preceded by a foreshock (M5.6) and followed by an aftershock (M5.5) on the same day. 677 injured, 1,276 houses collapsed, 3,809 partially destroyed.
2005	Off Miyagi	7.2	100 injured, 1 house collapsed, 0 partially collapsed. Maximum I _s was 6-. A tsunami was observed along the Pacific coast of Tohoku (with a maximum height of 13 cm).
2008	Southern Nairiku, Iwate	7.2	Iwate Miyagi Nairiku Earthquake, 17 dead, 6 missing, 426 injured, 30 houses collapsed, 146 partially destroyed (as of June 2010). Maximum I _s was 6+. Although, a peak acceleration value of over 4000 gal was observed.
2011	Off Sanriku	9.0	2011 off the Pacific coast of Tohoku Earthquake, Mega-thrust earthquake in the subduction zone along the Japan trench from off the middle of Sanriku to off of Ibaraki. 19,418 dead, 2,592 missing, 6,220 injured, 121,809 houses collapsed, 278,496 partially destroyed (as of March 2016; including some damage by aftershocks and induced earthquakes). 90% of fatalities were drownings. Most of the damage including nuclear disaster was caused by a large tsunami (height of about 40 m, according to field investigation). Maximum I _s was 7. The damage by ground motion was relatively less significant than that by tsunami.
2011	Off Miyagi	7.2	The intraslab earthquake with the reverse fault of the Pacific plate, occurring around the epicentral area of the 2011 off the Pacific Coast of Tohoku Earthquake. 4 dead, 296 injured, over 36 houses collapsed, over 27 partially collapsed. Maximum I _s was 6+.

Reference: National Astronomical Observatory of Japan, Chronological Scientific Tables, Maruzen, (2017) *partially extracted

Seismic Hazard Information of J-SHIS

J-SHIS is a Web service by NIED, to help prevent and prepare for earthquake disaster by providing a public portal for seismic hazard information across Japan. I_s Distribution of 2% Probability of Exceedance in 50 Years I_s Distribution of Return Period of 50,000-year

