



2011.3.15

# **The 2011 off the Pacific coast of Tohoku Earthquake**

## **Situation Report 1 (immediate version)**

SEEDS Asia

# Map of Seismic Intensity Tohoku Earthquake of 14:46(JST), 11 March 2011

Source : Japan Meteorological Agency

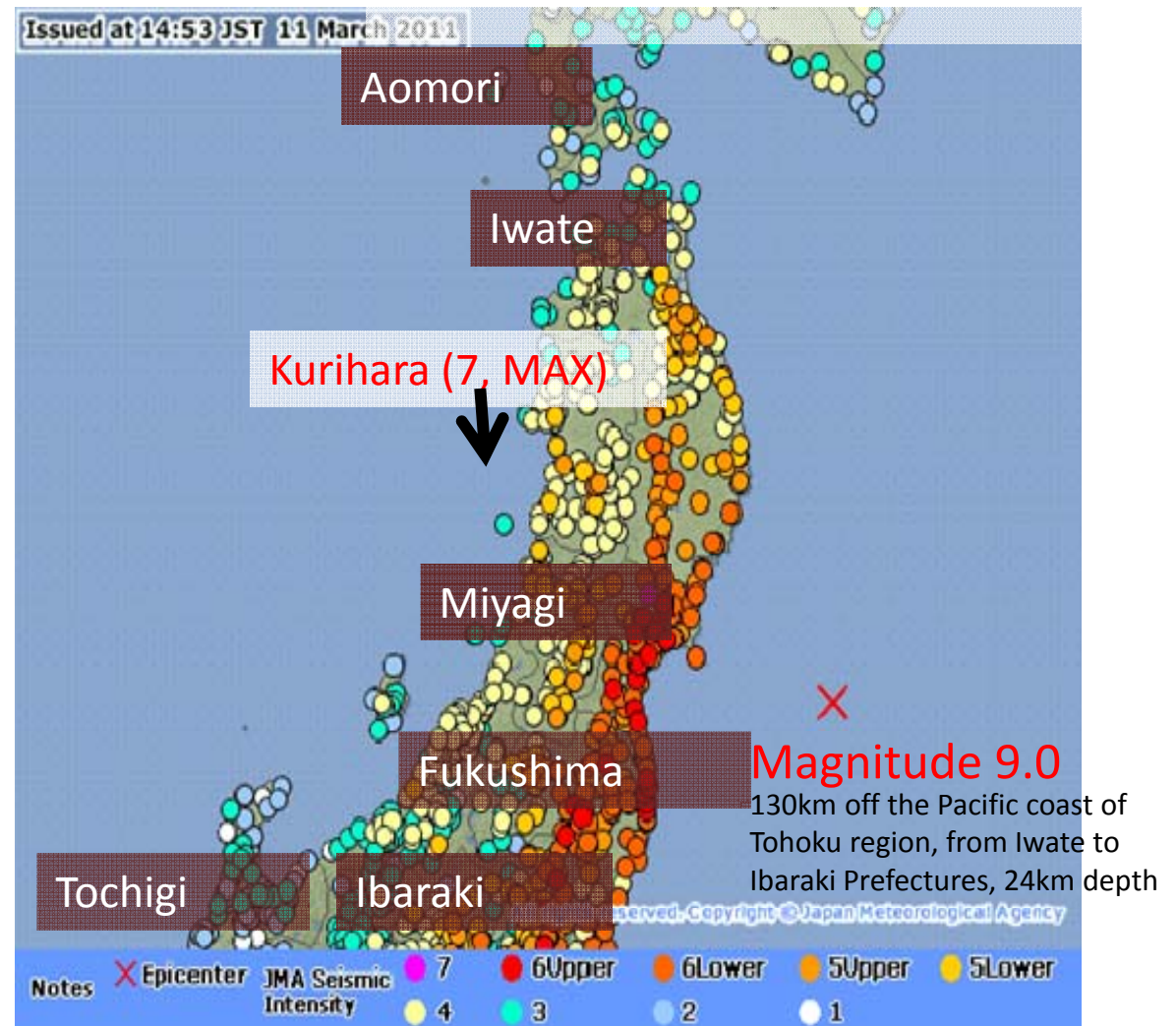


## Seismic Intensity:

**7 (Max)** Kurihara City of Miyagi Prefecture

**6+** 28 cities and towns (including Wakuya Town, Tome City, Osaki City, Natori City) in Miyagi, Fukushima, Ibaraki, and Tochigi Prefectures

**6-** or weaker Observed nationwide from Hokkaido to Kyushu



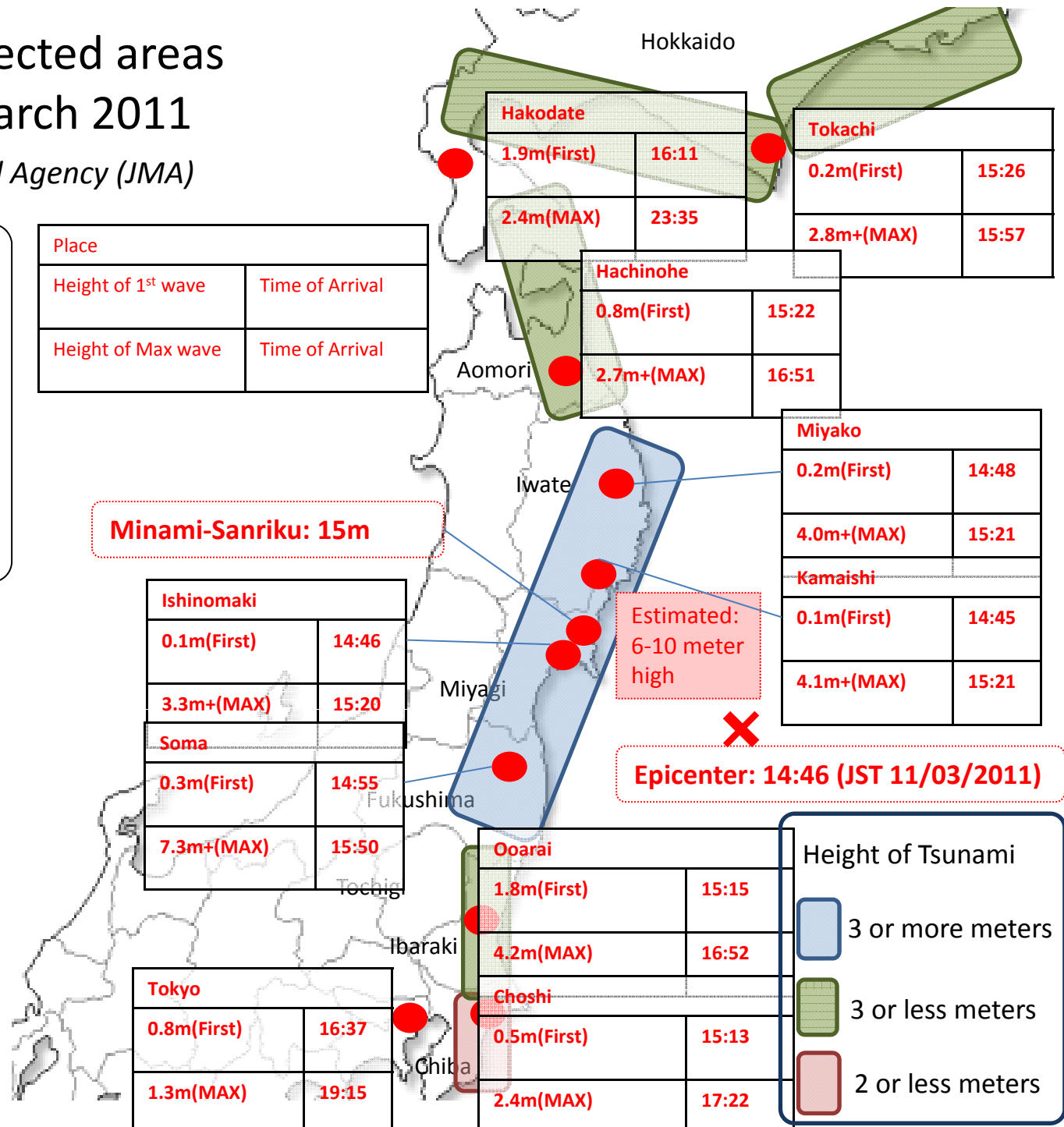
# Map of Tsunami-Affected areas

## Earthquake of 11 March 2011

Source : Japan Meteorological Agency (JMA)

The figures indicate the size of tsunami waves reached at indicated city or towns.

It is reported that 15 meter high tsunami attacked Minami-Sanriku and 10 meter or higher tsunami reached many cities and towns. Many of the tsunami attacks were not recorded due to break-down of JMA's facilities.

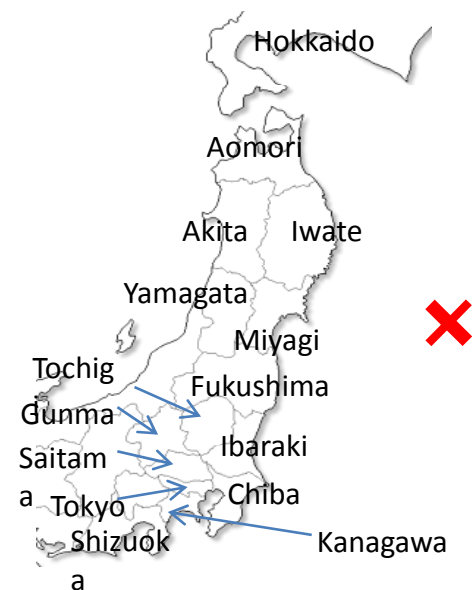


**Damage Situation and Police Countermeasures associated with 2011Tohoku district – off the Pacific Ocean Earthquake**  
**March 15, 2011 at 8:00am**

Prefecture	Type of damages	Personnel damages				Property damages										Damaged roads	Damaged bridges	Landslides	Break of dikes	Damaged railways
		Killed	Missing	Injured		Total	Total collapse	Half collapse	Swept out	Total burn down	Partial burn down	Inundated above floor level	Inundated below floor level	Partially damaged	Nbr-dwelling houses					
				Severely injured	Slightly injured															
		Person	Person	Person	Person	Person	Door	Door	Door	Door	Door	Door	Door	Door	Door	Place	Place	Place	Place	Place
Hokkaido		1			3	3						178	191		22					
Aomori		3	1	6	60	66	100									2				
Iwate		675	315			140	76	35		11				108		26	4	2		
Miyagi		1,254	1,106	65	259	324	199	149	40		1			62	378	12	1	2	1	
Akita				2	6	8								3	2	9				
Yamagata		1		8	13	21	37	78								15		26		
Fukushima		431	1,689			220	2,413	958		77		120		6,944	469					
Tokyo		7		13	64	77	3	6		3			2	239		16	1	1		
Ibaraki		19				614	140	864		30		78	2,020	23,922		59	20			
Tochigi		4		11	85	96	32	257						10,145	292	150		22		7
Gunma		1		13	22	35								3,785	195	7		4		
Saitama				6	35	41		5		1	1		1	1,775	31	145				
Chiba		15	7	7	160	167	346	182		3	3	219	211	2,510	97	278		11		1
Kanagawa		3				68								8						
Shizuoka				1	3	4														
Tokushima												1	3							
Kochi					1	1						6	10							
Total		2,414	3,118			1,885	3,346	2,534	40	125	5	602	2,438	49,501	1,486	719	26	68	1	8

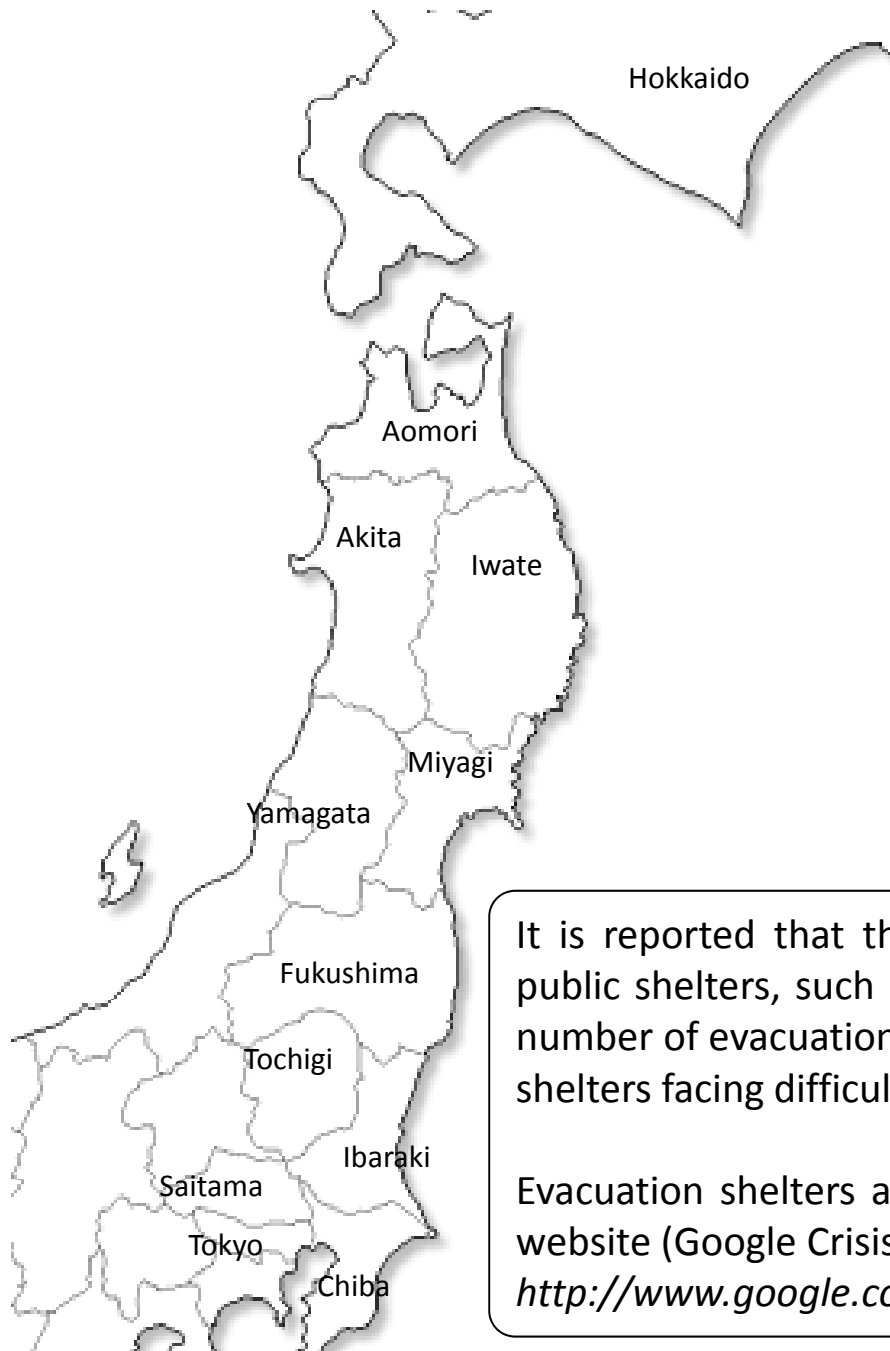
\* Unidentified information is included.

*Source: National Police Agency of Japan*  
*Emergency Disaster Countermeasures Headquarters*





# Number of Evacuators



Prefecture	Evacuators (person)
Aomori	2,143
Iwate	46,405
Miyagi	203,953
Fukushima	131,665
Ibaraki	2,595
Tochigi	9,530

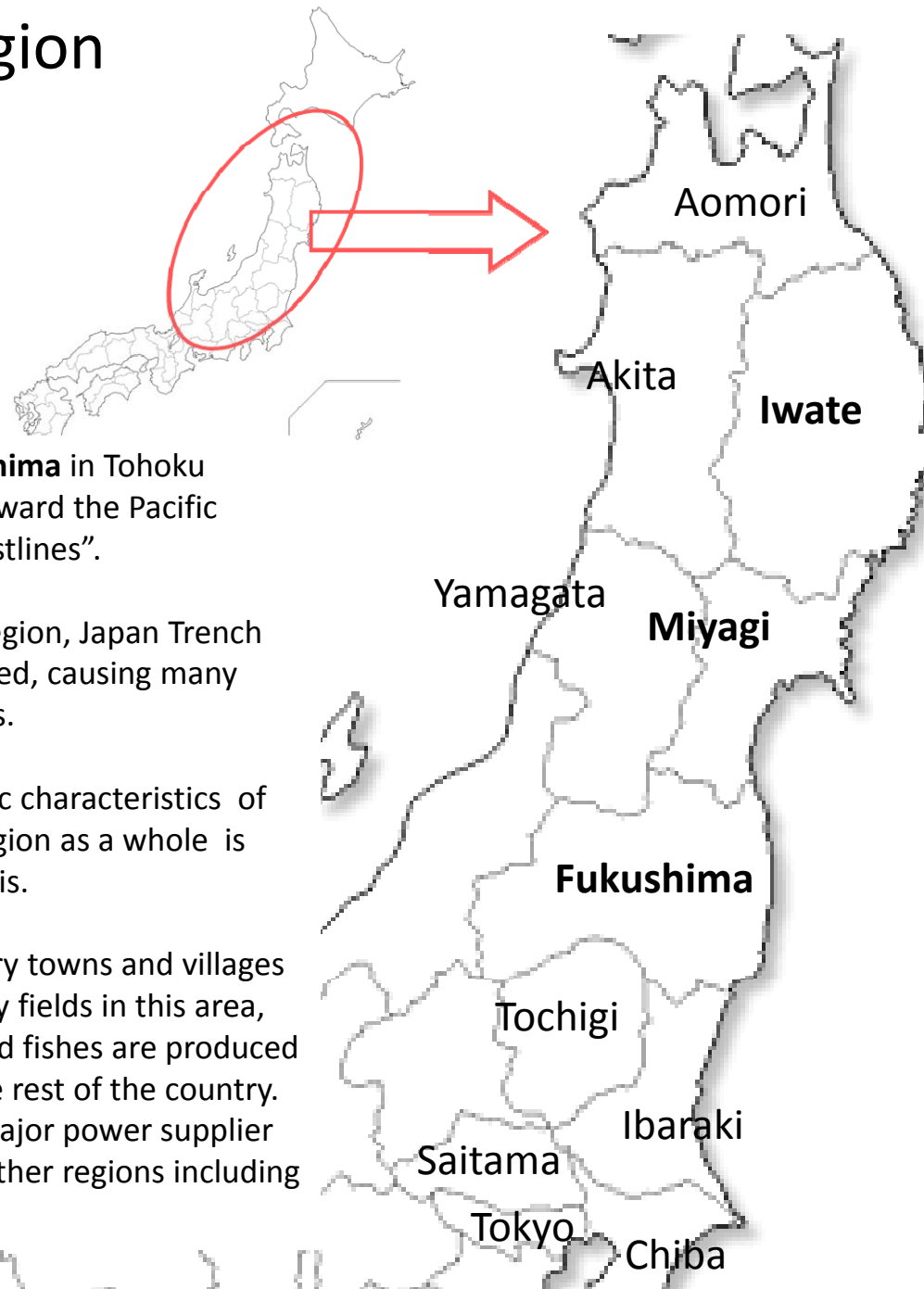
*Source: Cabinet Office (March 15, 9:00 (JST))*

It is reported that the amount of 460,000 and more people evacuated to public shelters, such as schools and public halls. There are no summarized number of evacuation shelters (around 2500), but it is reported that the many shelters facing difficulties in providing foods and basic supplies.

Evacuation shelters and other information can be found from the following website (Google Crisis Response Website).

<http://www.google.co.jp/intl/en/crisisresponse/japanquake2011.html>

# Tohoku Region



**Iwate, Miyagi, Fukushima** in Tohoku Region are located toward the Pacific Ocean, with “Ria Coastlines”.

Offshore out of the region, Japan Trench lay down at the sea bed, causing many historical earthquakes.

Due to this geographic characteristics of Ria Coastlines, the region as a whole is vulnerable to Tsunamis.

There are many fishery towns and villages as well as many paddy fields in this area, where many crops and fishes are produced and distributed to the rest of the country. The region is also a major power supplier from nuclear to the other regions including Tokyo.





# Aomori Prefecture

- **Blackout** at approximately 3400 households in Hachinohe city and Misawa city
- **No supply of gas** with about 1300 households which is 8 percent of total households in Hachinohe city
- **Cut in water supply** at the total of 40 households at Towada city.
- **No water** at 470 households because the water of the small water-supply system becomes muddy, and stop water in reservoir temporarily at Hachinohe city.
- Transportation system into Aomori down due to lack of power supply.
- Medical supply reached Aomori port via ferry from Hokkaido (Hachinohe port sill closed).



# Iwate Prefecture

- **Blackout** at more than 138,880 households of about 20% of the whole prefecture, around a coastal area and the inland of southern part
- **Cut in water supply** at approximately 79,000 households at Ichinoseki city
- 1,193 dead.
- 3,318 missing.





# Miyagi Prefecture

- Three sewage disposal plants (about 770,000 people used) were submerged in water, among 7 sewage disposal plants which a prefecture managed.
- 8,000 still missing.
- 1,619 confirmed dead. The Miyagi Prefecture assumes expected death toll to be more than 10,000.
- 290,000 evacuated.
- Evacuation shelters are full and communication/move of the affected populations are still difficult. Basic supplies still needed.



# Fukushima Prefecture

- **Blackout** at 44,502 households in the center of the city and around a coastal area which were damaged in Tsunami
- **Cut in water supply** at approximately 11,1000 households at a whole Fukuoka city
- **No supply of gas** with the total of 16,300 households in Fukushima, Iwaki, Shirakawa city
- 506 confirmed dead.
- 2,000 missing.
- More than 100,000 evacuated.

# Japan Platt Form(JPF) Support for Tohoku Earthquake

<the JPF participation NGOs>

Main activity is to distribute support supplies and investigate the situation for 1 or 2 weeks as a first step

Participation organizations

★Civic Force (CF) :

Monitoring the disaster situation over the sky by helicopter and conducting an initial investigation of the future possibilities of supports.

★Japan Emergency NGOs (JEN) :

Investigation of damage situation, support needs, and the transportation for supply course, as well as distribution of relief supplies such as blanket, water, and tank.

★Nippon International Cooperation for Community Development(NICCO):

Researching of damage situation, medical support and distribution of food as well as materials for their lives and investigation of the future possibilities of supports.

★Peace With Japan (PWJ):

Investigation of damage situation and victims, support needs. And distribution of large tents and stoves.

★Association for Aid and Relief, Japan (AAR Japan ) :

Investigation of d damage situation and support needs for the victims and distribution of aid supplies such as food, blanket, underwear, paper diaper, Sanitary items, and bento.

## Annex: Comparison of Major Earthquakes among Haiti, Chile, Kobe and Tohoku

	<b>Haiti</b> (12, Jan, 2010)	<b>Chile</b> (27, Feb, 2010)	<b>Kobe</b> (17 <sup>th</sup> Jan, 1995)	<b>Tohoku</b> (11, March, 2011)
Deaths toll	Around 300,000 deaths	Around 800 deaths	6,434 deaths	Can be more than 10,000 deaths(not yet finalized)
Magnitude	7.1	8.8	7.3	9.0
Tsunami	No	2m high	No	Observed more than 10m(The wave was too high thus machine could not work)
Depth of focal point from epicenter	10km	20km	16km	24km
Length /width of focal zone	30km(L)	500km(L) X 200km(W)	50km	400kmX200km
Type of earthquake	Normal Dip-Slip Fault	Reverse Dip-slip fault	Inland earthquake	Reverse Dip-slip fault
Density of population	346/km <sup>2</sup>	22/km <sup>2</sup>	2,715/km <sup>2</sup> (Kobe city only in 1995)	181人/km <sup>2</sup> (Aomori, Iwate, Fukushima and Miyagi Pref.)
Earthquake history around the area	No major one found	Chile earthquake, 1960	No major one found	<ul style="list-style-type: none"> <li>• Meiji-Sanriku(1896): recorded 38.2m Tsunami high</li> <li>• Rikoo (1986)</li> <li>• Showa sanriku (1933)</li> </ul>
Public Infrastructure	No existence of Building codes	Many of them follows the building codes of Chile Gov.	Based on the Japanese Building codes	Based on the standard of Japanese building code
DRR organizations	Not existed	National DRR task force(children are practicing 3times of mock drills in a year)	DRR plan and task force were there but not much active	DRR Plan, task force and embankment have been existed, but the level of disaster was too devastating