

IOC/UNESCO Bulletin No. 1

As of 16 March 2011 (revised obs table)

Casualties by the Earthquake and Tsunami

As of 04:30Z 16 March 2011

by the Japanese Fire and Disaster Management Agency (FDMA)

1. Dead: 2,694 persons
2. Missing: 7,222 persons
3. Injured: 2,189 persons
4. Fires: 257 events (250 fires were already extinguished)

C: City, T: Town, V: Village

Prefecture	City, Town, Village	dead	missing	Note: Tsunami related disaster
Hokkaido	Hakodate C	1		
Aomori	Hachinohe C	1	1	(FDMA) Wide-area are inundated
	Misawa C	2		(FDMA) Oil tanks in the harbor were collapsed
Iwate	Miyako C	183	1,700	(FDMA) - Severe tsunami damages - More than 10 villages are completely destroyed
	Ofunato C	206	191	(FDMA) - More than 300 houses flow out - Especially Suesaki and Hosoura regions are severely damaged.
	Kuji C	3	2	
	Rikuzen-Takata C	136	1,535	Ogasawara; Iwate U. (14 Mar) 15,000 missing out of 23,000 (FDMA) - Extremely severe damages
	Kamaishi C	144	unknown	(FDMA) Coast-Guard building inundated up to 2nd floor
	Otsuchi T	57	7	Ogasawara; Iwate U. (14 Mar) - Whole town is damaged - No communication system
	Yamada T	94	100	
	Iwaizumi T	4	4	

	Tanohata V	11	28	(FDMA) • 249 houses flow out
	Fudai V		5	(FDMA) • Tanabe and Horiuchi fishing ports are severely damaged.
	Noda V	26	20	
	Youno T			(FDMA) • 20 houses flow out • Many fishing boats flow out • JR train bridge collapsed
Miyagi	Sendai C	13		Koshimura; Tohoku U (12 Mar) • Near Sendai air-port: inundated area is up-to 3- 4km from coast (depth: about 1 m) • Difficult to go to coastal area due to inundated water • Wakabayashi-ku: severely damaged. Under survey of missing people (FDMA) • Sendai Port: many people (200 – 300) are missing •
	Ishinomaki C	205	448	(FDMA) • Wide areas are inundated. Difficult for rescue work
	Shiogama C	12	3	
	Kesennuma C	253	59	(FDMA) • Many people are isolated due to inundation of wide area
	Natori C	133	Under survey	(FDMA) • Many areas are inundated
	Tagajo C	46	Under survey	
	Iwanuma C	31	Under survey	
	Higashi-Matsushima C	392	429	
	Watari T	31	200	
	Shichigahama T	36	141	
	Rifu T	1	Under survey	
	Onagawa T	43	100	(FDMA)

				- About 630 people need to be rescued - Many areas are inundated
	Minami-Sanriku T	25	239	(FDMA) Many areas are inundated
Fukushima	Iwaki C	120	31	(FDMA) Severe tsunami damages
	Souma C	80		(FDMA) Severe tsunami damages
	Minami-Souma C	176	110	
	Hirono T	2	1	
	Naraha T	2	10	
	Tomioka T	2	8	
	Okuma T		8	
	Futaba T	1	14	
	Shinchi T	33	116	
Ibaragi	Oarai	1		(FDMA) Inundation up to central city
Shizuoka	Shimoda C			(FDMA) 13 houses are inundated

As of 05:00z 16 Mar 2011

By **the National Police Agency**

- Dead: 3,771
- Missing: 7,843

Link to each local government;

<http://www.city.hakodate.hokkaido.jp/>

<http://www.city.hachinohe.aomori.jp/>

<http://www.net.pref.aomori.jp/misawa/>

www.city.miyako.iwate.jp

www.city.ofunato.iwate.jp

<http://www.city.kuji.iwate.jp/>

<http://www.city.tono.iwate.jp/>

www.city.rikuzentakata.iwate.jp

www.city.kamaishi.iwate.jp

www.town.otsuchi.iwate.jp

www.town.yamada.iwate.jp

www.town.iwaizumi.iwate.jp

www.vill.tanohata.iwate.jp

www.vill.fudai.iwate.jp

www.vill.noda.iwate.jp

www.city.sendai.jp
www.city.ishinomaki.lg.jp
www.city.shiogama.miyagi.jp
www.city.kesennuma.lg.jp
www.city.shiroishi.miyagi.jp
www.city.natori.miyagi.jp
www.city.tagajo.miyagi.jp
www.city.iwanuma.miyagi.jp
www.city.tome.miyagi.jp
www.city.higashimatsushima.miyagi.jp
www.city.osaki.miyagi.jp
www.town.shibata.miyagi.jp
www.town.watari.miyagi.jp
shichigahama.com
www.town.rifu.miyagi.jp
www.miyatabi.net/miya/wakuya.html
www.city.yamagata.yamagata.jp
www.city.fukushima.fukushima.jp
www.city.aizuwakamatsu.fukushima.jp
www.city.iwaki.fukushima.jp
www.city.shirakawa.fukushima.jp
www.city.sukagawa.fukushima.jp
www.city.soma.fukushima.jp
www.city.minamisoma.lg.jp

**11 March 2011,
The 2011 off the Pacific coast of Tohoku Earthquake
Time Line**

	Elapse		Action
11 Mar. 2011 05:46		NEIC	OT: 05:46:23UTC Mw: 9.0 (Local time: 14:46) 38.322°N, 142.369°E, dep: 32 km 129km E of Sendai
05:49	3	JMA	Major Tsunami Warning: 3 Prefectures (Iwate, Miyagi, Fukushima) Tsunami warning: 5 zones Advisory: 15 zones
05:50	4	JMA	Tsunami Information on Expected tsunami arrival time and height
05:50	4	JMA	Tsunami Information on Time of high tide
05:55	9	NWPTAC (JMA)	38.0N, 142.9E, M: 7.9, Expected Tsunami height; Marshall Is.: 1 meter, Micronesia: 1 meter, Jayapula, Indonesia: 0.5 meter, Papua New Guines: 0.5 meter Mariana Is: 0.5 meter
05:55	9	PTWC	Warning for Japan, Russia, Marcus Is., N. Marianas, Guam, Wake Is., Taiwan Watch for Yap, Philippines, Marshall Is., Belau, Midway Is., Pohnpei, Chuuk, Kosrae, Indonesia, Papua New Guinea, Nauru, Johnston Is., Solomon Is., Kiribati, Hawaii 36.0N 142.9E, 10Km M:7.9
05:59	13	JMA	Tsunami Information on Observed tsunami height
06:01	15	JMA	Tsunami Information on Observed tsunami height
06:01	15	NAVTEX	NAVTEX Warning for Tsunami is issued
06:10	24	JMA	Tsunami Information on Observed tsunami height
06:14	28	JMA	Tsunami Warning is extended Major Tsunami Warning: 6 Prefectures (Iwate, Miyagi, Fukushima, Aomori, Ibaragi, Chiba) Tsunami warning: 7 zones Advisory: 23 zones
06:43	57	PTWC	Warning for Japan, Russia, Marcus Is., N. Marianas Watch for Guam, Wake Is., Taiwan, Yap, Philippines, Marshall Is., Belau, Midway Is., Pohnpei, Chuuk, Kosrae, Indonesia, Papua New Guinea, Nauru, Hawaii 38.2N, 142.5E, 10km, M:8.8
07:05	1:19	NWPTAC (JMA)	38.1N 142.9E M: 8.4 Expected Tsunami height; Marshall Is.: 2 meter, Micronesia: 2 meter, Jayapula, Indonesia: 1 meter, Papua New Guines: 1 meter, Mariana Is: 1 meter etc
07:08	1:23	JMA	38.1N, 142.9E h: 20km M: 8.4 Tsunami Warning is extended

			Major Tsunami Warning: 17 zones Tsunami warning: 19 zones Advisory: 17 zones
07:20	1:34	JMA	JMA named as “ The 2011 off the Pacific coast of Tohoku Earthquake”
07:30	1:44	PTWC	38.2N, 142.5E, 10km, M:8.8 WARNING for Japan, Russia, Marcus Is., N. Marianas Guam, Wake Is., Taiwan, Yap, Philippines, Marshall Is., Belau, Midway Is., Pohnpei, Chuuk, Kosrae, Indonesia, Papua New Guinea, Nauru, Johnston Is., Solomon Is., Kiribati, Howland-Baker, Hawaii, Tuvalu, Cook Is., Niue, Australia, Fiji, New Caledonia, Tonga, Mexico, Kermadec Is., FR. Polynesia, New Zealand, Pitcairn, Guatemala, El Salvador, Costa Rica, Nicaragua, Antarctica, Panama, Honduras, Chile, Ecuador, Colombia, Peru
08:30	2:44	PTWC	38.3N, 142.4E, 24km, M:8.9 (<i>Note: updated</i>) WARNING for Japan, Russia, Marcus Is., N. Marianas Guam, Wake Is., Taiwan, Yap, Philippines, Marshall Is., Belau, Midway Is., Pohnpei, Chuuk, Kosrae, Indonesia, Papua New Guinea, Nauru, Johnston Is., Solomon Is., Kiribati, Howland-Baker, Hawaii, Tuvalu, Cook Is., Niue, Australia, Fiji, New Caledonia, Tonga, Mexico, Kermadec Is., FR. Polynesia, New Zealand, Pitcairn, Guatemala, El Salvador, Costa Rica, Nicaragua, Antarctica, Panama, Honduras, Chile, Ecuador, Colombia, Peru
08:48	3:02	JMA	38.1N, 142.9E h: 20km M: 8.8
09:30	3:44	PTWC No. 5	Warning area is reduced; Australia and New Zealand are deleted from warning area. WARNING for Japan, Russia, Marcus Is., N. Marianas Guam, Wake Is., Taiwan, Yap, Philippines, Marshall Is., Belau, Midway Is., Pohnpei, Chuuk, Kosrae, Indonesia, Papua New Guinea, Nauru, Johnston Is., Solomon Is., Kiribati, Howland-Baker, Hawaii, Tuvalu, Cook Is., Niue, Fiji, New Caledonia, Tonga, Mexico, Kermadec Is., FR. Polynesia, Pitcairn, Guatemala, El Salvador, Costa Rica, Nicaragua, Antarctica, Panama, Honduras, Chile, Ecuador, Colombia, Peru
09:51	4:05	NWPTAC (JMA) No. 5	Expected tsunami height Kamchatsk: 3 m, Urup, Kuril: 3 m, Papua New Guinea: 1 – 4 m, Solomon: 2 – 3 m etc
10:05	4:19	WCATWC	Warning: California and Oregon Warning: Alaska (Amchitka to Attu) Advisory:
12:16	6:30	NAVTEX	NAVTEX Warning is issued for Fukushima nuclear plant.

12:35	6:49	JMA	Tsunami Warning is extended Major Tsunami Warning: 17 zones (Iwate, Miyagi, Fukushima, Aomori, Ibaragi, Chiba etc) Tsunami warning: 22 zones Advisory: 19 zones
13:53	8:07	JMA	Tsunami Warning is extended Major Tsunami Warning: 18 zones Tsunami warning: 21 zones Advisory: 19 zones
16 :52	11 :06	WCATWC	Tsunami Warning in the Western Aleutians has been downgraded to an Advisory. Warning continues in effect for the coastal areas of California and Oregon from point conception California to the Oregon-Washington border.
18 :20	12 :34	JMA	Tsunami Warning is extended Major Tsunami Warning: 18 zones Tsunami warning: 21 zones Advisory: 27 zones (Total: all coastal zones)
12 Mar 03 :39	21 :53	PTWC	Warning area is reduced; Australia and New Zealand are deleted from warning area. WARNING for Japan, Mexico, Antarctica, Chile, Ecuador, Colombia, Peru
04:50	23 :04	JMA	Warning area is reduced Major Tsunami Warning: 4 zones (Iwate, Miyagi, Fukushima, Aomori) Tsunami warning: 11 zones Advisory: 26 zones
04:54	23:08	WCATWC No.24	Advisory continues for California and Oregon, and Alaska (Chignik to Attu) Advisory cancelled from Cascade head Oregon to Douglas lane county line Oregon.
06:36	24:50	PTWC No. 27	Tsunami warning and/or Watch issued by PTWC is now cancelled.
11:00	29:14	WCATWC No.30	Advisory continues for California and Oregon Cancelled Alaska Advisory Status
11:20	29:34	JMA	Warning area is reduced Tsunami Warning: 4 zones Advisory: 21 zones
12:09	30:23	WCATWC No.31	Advisory continues for California Cancelled Oregon Advisory Status
16:10	34:24	WCATWC No.35	Cancelled California Advisory Status (Note: no more Advisory exist)
22:30	40:44	JMA	No Warning; only Advisory Advisory: 15 zones
13 Mar 08:58	51:12	JMA	All Advisories are cancelled 38.1N, 142.9E h: 20km M: 9.0

16 Mar 03 :00		JMA	1. Probability of a earthquake (expected seismic intensity is more than 5-upper JMA scale; correspond 8 – 9 of MMI scale) within 3 days from 03Z, 16 Mar. is 40 % 2. Probability of a earthquake (expected seismic intensity is more than 5-upper JMA scale) within 3 days from 03Z, 19 Mar. is 20 %
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Observed Tsunami in Japanese coast.

Data are taken from Tsunami Information released by JMA.

(Note: Only the stations; of max amplitude is **more than 1 meter**, are shown.)

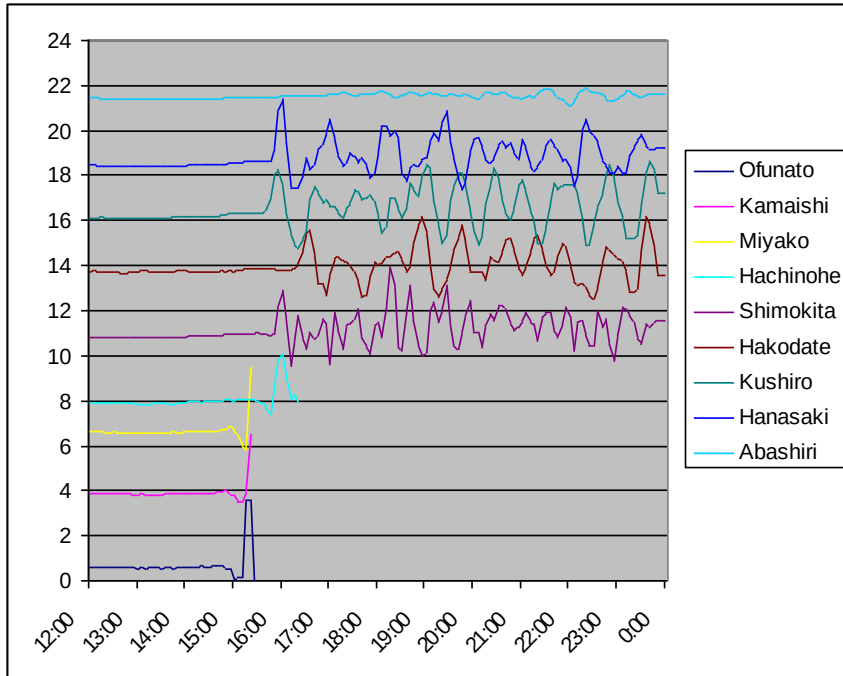
	Initial Tsunami arrival time (Z) 11 Mar 2011	Amplitude of initial motion (m)	direction of the first motion	Maximum Tsunami arrival time(Z) 11 Mar 2011	Max amplitude (zero to peak)	Elapse time of max wave
Kushiro	6:34	2.0m	(+)	14:39	2.1m	8:53
Nemuro-shi Hanasaki	6:34	Slight	(-)	6:57	2.8m	1:11
Hamanaka-cho Kiritappu-ko	6:27	Slight	(-)	13:19	2.6m	7:33
Urakawa	6:19	0.2m	(-)	7:42	2.7m	1:56
Tokachi-ko	6:26	0.2m	(-)	6:57	2.8m or more	1:11
Erimo-cho Shoya	6:18	0.1m	(-)	6:44	3.5m	0:58
Hakodate	7:11	1.9m	(+)	14:35	2.4m	8:49
Tomakomai-nishiko	6:37	0.2m	(-)	8:30	2.1m	2:44
Tomakomai-higashiko	6:40	0.2m	(-)	7:17	2.5m or more	1:31
Shiraoi-ko	6:40	0.1m	(-)	7:01	1.8m	1:15
Oshima Mori-ko	6:56	Slight	(-)	10:37	1.8m	4:51
Muroran-ko	6:56	Slight	(-)	11:06	1.0m	5:20
Hachinohe	6:22	0.8m	(-)	7:51	2.7m or more	2:05
Mutsu-shi Sekinehama	6:20	0.1m	(-)	9:16	2.9m	3:30
Miyako	5:48	0.2m	(+)	6:21	4.0m or more	0:35
Ofunato	5:46	0.2m	(-)	6:15	3.2m or more	0:29
Kamaishi	5:45	0.1m	(-)	6:21	4.1m or more	0:35
Ishinomaki-shi Ayukawa	5:46	0.1m	(+)	6:20	3.3m or more	0:34
Soma	5:55	0.3m	(+)	6:50	7.3m or more	1:04
Oarai	6:15	1.8m	(+)	7:52	4.2m	2:06
Choshi	6:13	0.5m	(+)	8:22	2.4m	2:36
Tateyama-shi Mera	6:29	1.3m	(+)	8:05	1.6m	2:19
Tokyo Harumi	7:37	0.8m	(+)	10:15	1.3m	4:29
Yokosuka	6:52	0.9m	(+)	8:16	1.6m	2:30
Yokohama	7:09	0.8m	(+)	8:37	1.6m	2:51
Hachijojima Yaene	6:40	1.4m	(+)	6:48	1.4m	1:02
Hachijojima Kaminato	6:35	1.2m	(+)	6:45	1.2m	0:59
Chichijima Futami	7:14	1.0m	(+)	7:46	1.8m	2:00
Numazu-shi Uchiura	7:01	1.4m	(+)	7:16	1.4m	1:30
Omaezaki	7:03	1.0m	(+)	8:18	1.4m	2:32
Tahara-shi Akabane	7:21	1.1m	(+)	8:32	1.6m	2:46
Nagoya	8:43	0.7m	(+)	10:36	1.0m	4:50
Toba	7:34	0.5m	(+)	10:13	1.8m	4:27
Owase	7:17	1.0m	(+)	8:12	1.7m	2:26

Kumano-shi Yuki	7:12	0.7m	(+)	7:28	0.7m	1:42
Nachi-katsuura-cho Uragami	7:14	0.9m	(+)	9:06	1.3m	3:20
Kushimoto-cho Fukuro-ko	7:16	0.7m	(+)	16:32	1.4m	10:46
Gobo-shi Haraido	7:35	0.7m	(+)	8:57	1.1m	3:11
Shirahama-cho Katata	7:34	0.9m	(+)	15:35	1.0m	9:49
Tokushima Yuki	7:37	1.0m	(+)	11:27	1.1m	5:41
Tosa-shimizu	7:56	0.9m	(+)	16:58	1.3m	11:12
Susaki-ko	8:00	1.4m	(+)	11:59	2.6m	6:13
Nichinan-shi Aburatsu	8:05	1.0m	(+)	15:12	1.1m	9:26
Miyazaki-ko	8:06	1.4m	(+)	18:33	1.6m	12:47
Shibushi-ko	8:12	1.1m	(+)	8:39	1.1m	2:53
Tanegashima Kumano	7:52	0.8m	(+)	18:23	1.5m	12:37
Amami-shi Kominato	8:01	0.1m	(-)	16:48	1.2m	11:02

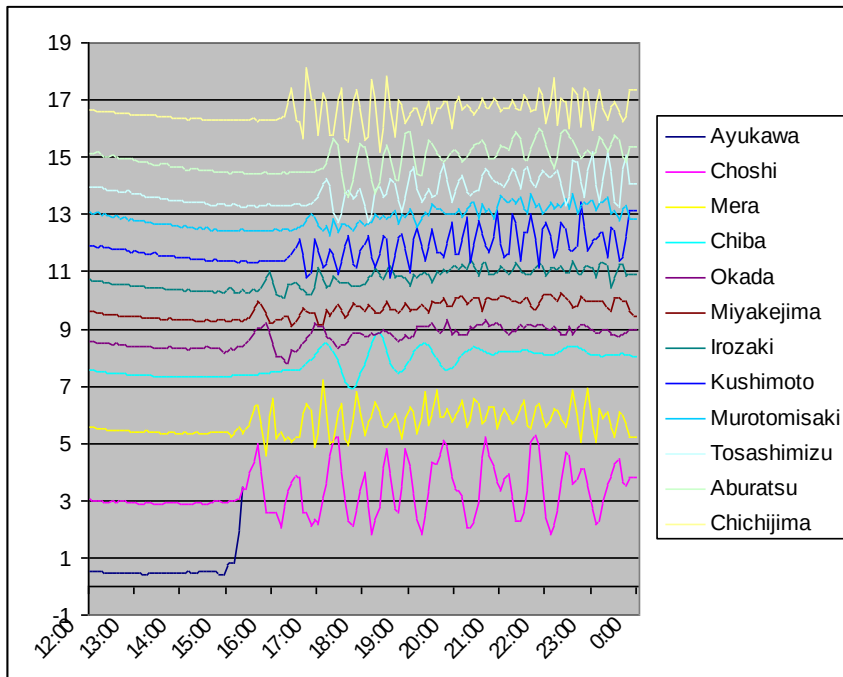
Tsunami records at Japanese stations (Local time)

(Data are taken from here; sampling interval is 5 minutes.)

http://www1.kaiho.mlit.go.jp/KANKYO/TIDE/real_time_tide/sel/index.htm



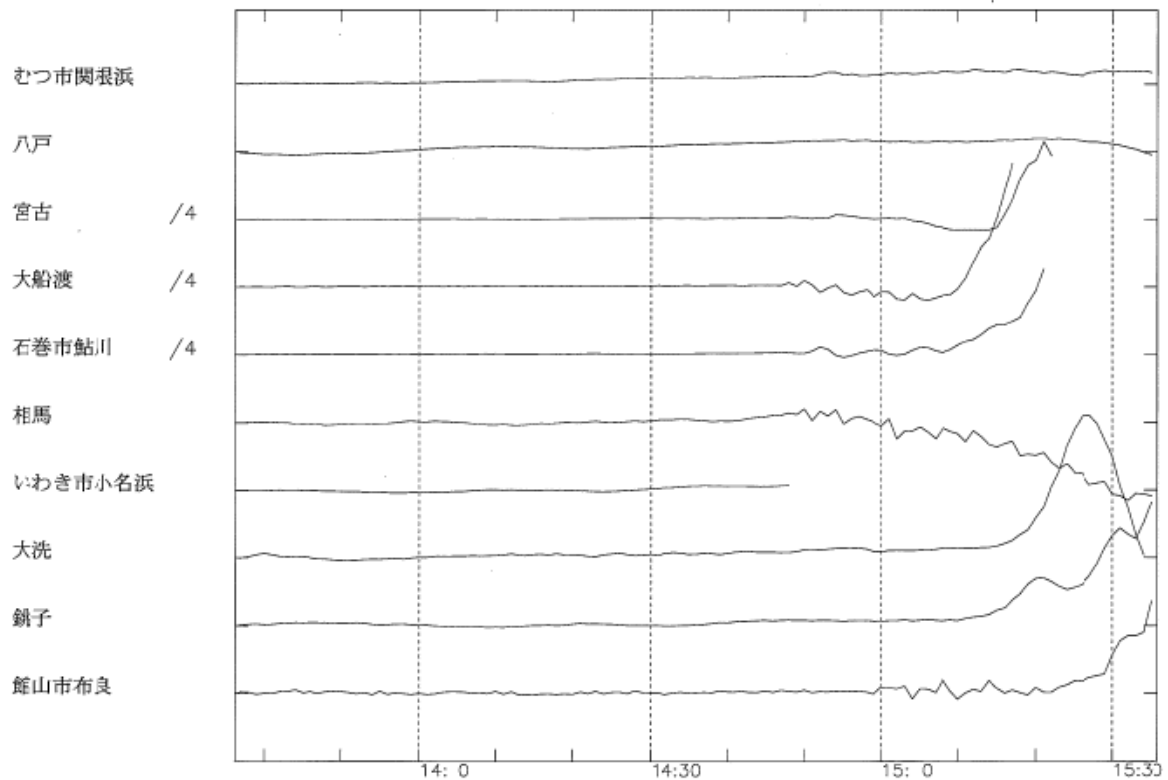
Eastern stations from Ofunato, Iwate Pref.



Western stations from Ayukawa, Miyagi Pref.

東北太平洋沿岸～房総（情報名称・巨大津波計表示）

< 2011/ 3/11 13:36 -- 2011/ 3/11 15:36 >



Record period: From 13:36 11 Mar 2011 to 15:36 (JST) (*Taken from JMA press release*)

From Top;

Mutsu-shi Sekinehama, Hachinohe, Miyako, Ofunato, Ishinomaki-shi Ayukawa, Soma,
Iwakishi Onahama, oarai, Choshi, Tateyama-shi Mera

Scale: Bar length upper right side is 1 meter. But 4 meter for Miyako, Ofunato and
Ishinomaki Ayukawa.

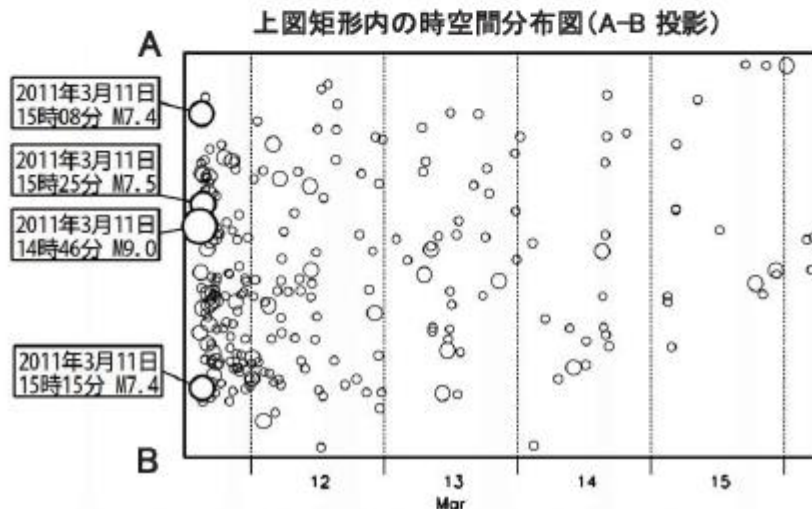
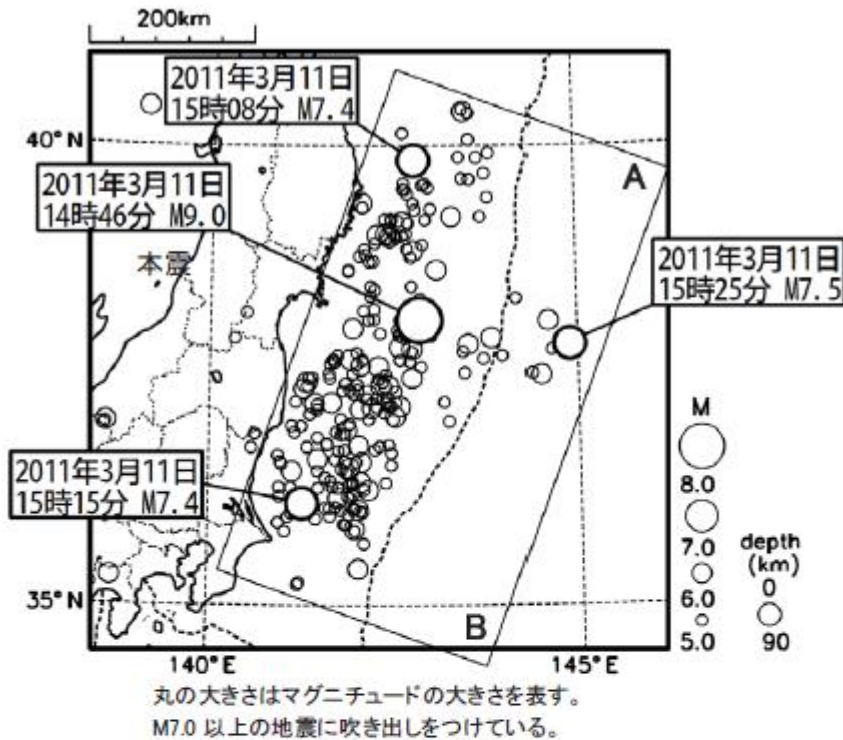
Although the first tsunami arrival times for all stations are not clear, main tsunami waves are arriving after 15:10 JST (06:10 GMT).

Observed tsunami height; **(After National Geophysical Data Center, NOAA)**

Station Name	Height (m)	Distance (km)	Country
OFUNATO	3.25	94	JAPAN
BOSO	0.75	416	JAPAN
D21418 BPR, NE TOKYO, JAPAN	1.08	550	JAPAN
OMAEZAKI	1.42	555	JAPAN
HANASAKI	2.79	614	JAPAN
TOKAI	0.23	661	JAPAN
YUZHNO-KURIL'SK, KUNASHIR ISLAND	1.99	699	RUSSIA
MALOKURIL'SKAYA BAY, SHIKOTAN	3.00	720	RUSSIA
BUREVESTNIK, ITURUP I., KURILSKIYE	2.00	847	RUSSIA
CAPE KRILON	0.19	850	RUSSIA
RUDNAYA	0.32	859	RUSSIA
KORSAKOV, SAKHALIN	0.23	924	RUSSIA
NEVELSK, SAKHALIN	0.06	931	RUSSIA
KHOLMSK	0.07	969	RUSSIA
D21401 BPR, 250NM SE of ITIRUP IS	0.67	987	RUSSIA
STARODUBSKOE	0.16	1,012	RUSSIA
TOSA-SHIMIZU	0.94	1,049	JAPAN
ITURUP, KURILSKIYE	0.53	1,102	RUSSIA
PORONAYSK	0.20	1,213	RUSSIA
D21413, SE TOKYO, JAPAN	0.76	1,242	JAPAN
D21419 BPR, 209 NM S of KURIL IS	0.40	1,305	RUSSIA
NAHA	0.25	1,925	JAPAN
PETROPAVLOVSK, KAMCHATKA	0.18	2,064	RUSSIA
SEMJACHIK, KAMCHATKA	0.68	2,064	RUSSIA
NIKOLSKOE, BERING IS.	0.24	2,575	RUSSIA
SAIPAN, NORTHERN MARIANA ISLANDS	0.65	2,589	USA TERRITORY
D21415 BPR, 175 NM S of ATTU, AK	0.27	2,667	USA
SHEMYA ISLAND, AK	1.56	2,910	USA
WAKE ISLAND	0.39	3,155	USA TERRITORY
D52402 BPR - 790 NM NW OF KWAJALEIN	0.29	3,213	USA TERRITORY
YAP ISLAND, CAROLINE ISLANDS	0.15	3,232	MICRONESIA, FED. STATES OF
LEGASPI	0.25	3,349	PHILIPPINES
SUBIC BAY	0.07	3,396	PHILIPPINES
ADAK, SWEEPER COVE, AK	0.35	3,495	USA
MIDWAY ISLANDS	1.27	3,878	USA TERRITORY
ST. PAUL ISLAND, AK	0.61	4,001	USA
NIKOLSKI, AK	0.27	4,031	USA
KWAJALEIN, MARSHALL ISLANDS	0.55	4,155	USA TERRITORY
UNALASKA, DUTCH HARBOR, AK	0.51	4,192	USA
KING COVE, AK	0.64	4,470	USA
LOMBRUM, ADMIRALTY ISLANDS	1.04	4,515	PAPUA NEW GUINEA
MANUS ISLAND, ADMIRALTY ISLANDS	0.93	4,515	PAPUA NEW GUINEA
BITUNG	0.26	4,568	INDONESIA
SAND POINT, AK	0.38	4,585	USA
D46403 BPR, SE OF SHUMAGIN IS, AK	0.09	4,833	USA

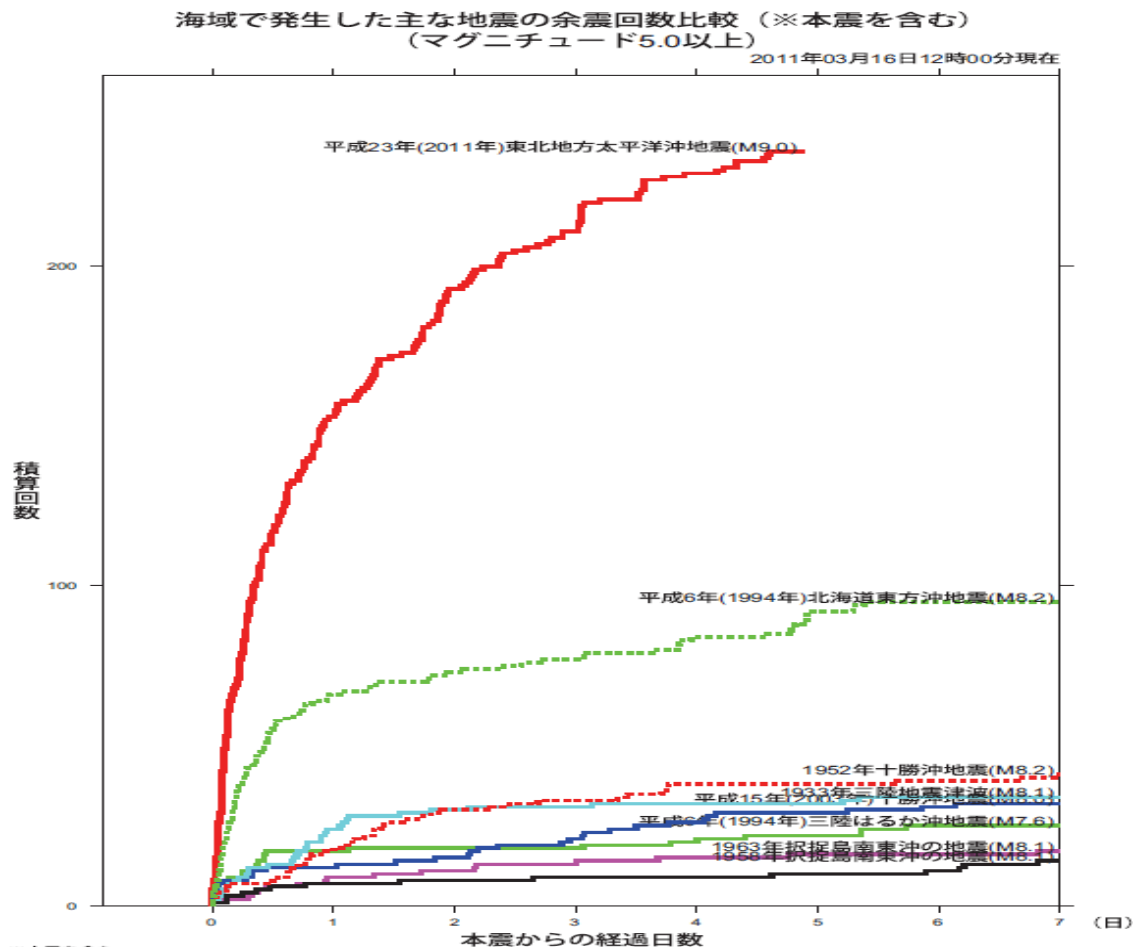
NAURU	0.20	4,998	NAURU
FRENCH FRIGATE SHOALS, HI	0.38	5,078	USA
BETIO, TARAWA	0.21	5,156	KIRIBATI
JOHNSTON ISLAND	0.20	5,243	USA TERRITORY
HONIARA, GUADALCANAL	0.26	5,616	SOLOMON ISLANDS
NAWILIWILI, KAUAI, HI	0.76	5,792	USA
BARBERS POINT, OAHU, HI	0.70	5,942	USA
HONOLULU, OAHU, HI	0.71	5,962	USA
KAUMALAPAU, LANAI, HI	0.91	6,071	USA
KAHULUI, MAUI, HI	1.74	6,108	USA
PORT ALEXANDER, AK	0.32	6,155	USA
D51407 BPR, SE OF HONOLULU, HI	0.15	6,182	USA
KAWAIHAE, HAWAII, HI	1.22	6,217	USA
HILO, HAWAII, HI	1.41	6,302	USA
LANGARA ISLAND	0.23	6,326	CANADA
VANUATU ISLANDS	0.69	6,403	VANUATU
LUGANVILLE	0.54	6,523	VANUATU
KANTON ISLAND, PHOENIX ISLANDS	0.05	6,565	KIRIBATI
WINTER HARBOR, BRITISH COLUMBIA	0.47	6,805	CANADA
NEAH BAY, WA	0.17	7,135	USA
LA PUSH, WA	0.53	7,159	USA
LAUTOKA	0.33	7,216	FIJI
WESTPORT, WA	0.26	7,249	USA
CHRISTMAS ISLAND, LINE ISLANDS	0.56	7,307	KIRIBATI
SOUTH BEACH, OR	0.22	7,383	USA
CHARLESTON, OR	0.49	7,447	USA
PORT ORFORD, OR	0.52	7,462	USA
CRESCENT CITY, CA	2.02	7,542	USA
NORTH SPIT, HUMBOLDT BAY, CA	0.54	7,598	USA
PAGO BAY, GUAM	0.34	7,622	USA TERRITORY
PAGO PAGO, AMERICAN SAMOA	0.34	7,623	USA TERRITORY
ARENA COVE, CA	0.82	7,747	USA
SAN FRANCISCO, CA	0.49	7,906	USA
MONTEREY, CA	0.72	8,024	USA
PORT SAN LUIS, CA	1.88	8,194	USA
SANTA BARBARA, CA	0.76	8,328	USA
RAOUL ISLAND, BOAT COVE	0.09	8,579	NEW ZEALAND
NORTH CAPE	0.23	8,684	NEW ZEALAND
RAROTONGA	0.29	8,953	COOK ISLANDS
LOTTIN PT	0.23	9,208	NEW ZEALAND
PAPEETE, TAHITI	0.39	9,414	FRENCH POLYNESIA
NUKU HIVA ISLAND, MARQUESAS ISLANDS	1.48	9,555	FRENCH POLYNESIA
NUKUALOFA (NUKU'ALOFA)	0.37	9,555	TONGA
CABO SAN LUCAS	0.22	9,875	MEXICO
MANZANILLO	0.76	10,589	MEXICO
RIKITEA, MANGAREVA ISLAND	0.21	10,975	FRENCH POLYNESIA
ACAPULCO	0.65	11,101	MEXICO

震央分布図（暫定値）
 (2011年3月11日12時00分～16日06時00分、深さ90km以浅、 $M \geq 5.0$)



Distribution of aftershocks; 500 km x 200 km

(Taken from JMA press release)



Cumulative number of aftershocks (magnitude: more than 5.0)

(Taken from JMA press release)

(Aftershock activity is very high (red line is this event); other lines show the past events in Japan.)

Links;

<http://www.gsi.go.jp/common/000059033.pdf>

<http://www.gsi.go.jp/common/000059037.pdf>

<https://picasaweb.google.com/118079222830783600944/Japan#>

http://outreach.eri.u-tokyo.ac.jp/eqvolc/201103_tohoku/eng

<http://www.jma.go.jp/en/tsunami/>

(If click “Past Tsunami Warnings/Advisories”, you can see all messages issued by JMA)

<http://www.ajiko.co.jp/bousai/touhoku2011/touhoku.htm>