



EXERCISE PACIFIC WAVE 2011 – FOR EXERCISE PURPOSE ONLY

NDRRMC UPDATE

SitRep No. **04** on **TSUNAMI**

Releasing Officer


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DATE : 10 November, 2:30 PM

Sources: PHIVOLCS-DOST, OCDRCs II, III, IV-A, VIII, X, XI, CARAGA

A. SITUATION OVERVIEW

A strong distant earthquake occurred in Mindanao, Philippines at 8:00 AM located at 9.5 N, 126.6 E with depth of 20 km and a magnitude of 8.4. The Pacific Tsunami Warning Center sea level monitoring stations confirmed the occurrences of tsunami with life threatening wave amplitudes

B. TSUNAMI BULLETIN/S

❖ **TSUNAMI BULLETIN NO. 1 (10 November 2011, 8:16 AM)**

ALERT LEVEL # 3: IMMEDIATE EVACUATION

- ❖ People in threatened coastal areas are **STRONGLY ADVISED TO IMMEDIATELY EVACUATE** to higher grounds or go far inland. Damaging waves may continue for hours
- ❖ Boats at sea are advised to stay in the deeper parts of the open seas until the threat has passed. If there is sufficient time, boats in harbours and enclosed bays are advised to go to the deeper parts of the open seas until the threat has passed.
- ❖ Coastal areas fronting the Pacific Ocean of the following provinces should evacuate immediately.

Batanes Group of Islands	Sorsogon
Cagayan	Northern Samar
Ilocos Norte	Eastern Samar
Isabela	Leyte
Quezon	Southern Leyte
Aurora	Surigao del Norte
Camarines Norte	Surigao del Sur
Camarines Sur	Davao Oriental
Albay	Davao del Sur
Catanduanes	

❖ **TSUNAMI BULLETIN NO. 2 (10 November 2011, 9:10 AM)**

ALERT LEVEL # 3: IMMEDIATE EVACUATION

- A strong local distant earthquake occurred in Mindanao, Philippines at 8:00 AM located at 9.5 N, 126.6 E with depth of 20 km and a magnitude of 8.7. Reports by the Local Government Units have confirmed reports of tsunami in the following places:

Locality	Estimated Maximum Wave Height (in meters)	Time of Observation (Philippine Time)
Surigao del Norte	11.0 m	8:10 AM
Eastern Samar	10.0 m	8:30 AM
Dinagat Island	10.0 m	8:30 AM
Surigao del Sur	10.0 m	8:30 AM
Northern Samar	7.0 m	8:30 AM
Leyte	no estimate	8:30 AM
Southern Leyte	7.0 m	8:30 AM
Davao Oriental	7.0 m	8:30 AM
Davao del Sur and Catanduanes	Unusual sea waves	8:40 AM

- ❖ The Northwest Pacific Tsunami Advisory Center (NWPTAC) forecasts arrival of the tsunami in the following places:

Locality	Estimated Maximum Wave Height (in meters)	Time of Observation (Philippine Time)
Madrid, Surigao del Sur	over 10 m	8:04 AM
Laoang, Northern Samar	over 10 m	8:21 AM
Legaspi, Albay	over 10 m	8:30 AM
Palanan, Isabela	3 m	9:00 AM
Zamboanga	2 m	9:25 AM
Basco, Batanes	6 m	9:32 AM
Laoag, Ilocos Norte	2 m	10:00 AM

- ❖ Boats at sea are advised to stay in the deeper parts of the open seas until the threat has passed. If there is sufficient time, boats in harbours and enclosed bays are advised to go to the deeper parts of the open seas until the threat has passed.
- ❖ Coastal areas fronting the Pacific Ocean of the following provinces should evacuate immediately:

Batanes Group of Islands	Sorsogon
Cagayan	Northern Samar
Ilocos Norte	Eastern Samar
Isabela	Leyte
Quezon	Southern Leyte
Aurora	Surigao del Norte
Camarines Norte	Surigao del Sur
Camarines Sur	Davao Oriental
Albay	Davao del Sur
Catanduanes	Zamboanga City
Sarangani	Lanao del Norte
Lanao del Sur	Sultan Kudarat
Maguindanao	Basilan
General Santos City	Zamboanga del Sur

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❖ **TSUNAMI BULLETIN NO. 3 (10 November 2011, 10:32 AM)**

ALERT LEVEL # 3: IMMEDIATE EVACUATION

- A strong local earthquake occurred near Mindanao, Philippines at 8:00 AM located at 9.5 N, 126.6 E with depth of 20 km and a magnitude of 9.0. Reports by the Local Government Units have confirmed reports of tsunami in the following places:

Locality	Estimated Maximum Wave Height (in meters)	Time of Observation (Philippine Time)
Surigao del Norte	11.0 m	8:10 AM
Eastern Samar	10.0 m	8:30 AM
Dinagat Island	10.0 m	8:30 AM
Surigao del Sur	10.0 m	8:30 AM
Northern Samar	7.0 m	8:30 AM
Leyte	no estimate	8:30 AM
Southern Leyte	7.0 m	8:30 AM
Davao Oriental	6.0 m	8:30 AM
Davao del Sur and Catanduanes	unusual sea waves	8:40 AM
Virac	3.0 m	9:20 AM
San Jose, Northern Samar	3.0 m	9:35 AM
Mati	4.75 m	9:35 AM
Davao City	4.25 m	9:35 AM
Baler	2.0 m	9:35 AM
Real	2.0 m	9:35 AM
Santa Ana, Cagayan	1.5 m	9:35 AM
Basco	1.0 m	9:35 AM
Tandag City	6.0 m	9:35 AM

❖ **TSUNAMI BULLETIN NO. 4 (10 November 2011, 11:31 AM)**

ALERT LEVEL # 3: IMMEDIATE EVACUATION

- A strong local earthquake occurred near Mindanao, Philippines at 8:00 AM located at 9.5 N, 126.6 E with depth of 20 km and a magnitude of 9.0. Reports by the Local Government Units have confirmed reports of tsunami in the following places:
- ❖ The Northwest Pacific Tsunami Advisory Center (NWPTAC) forecasts arrival of the tsunami in the following places:

Locality	Estimated Maximum Wave Height (in meters)	Time of Observation (Philippine Time)
Madrid, Surigao del Sur	over 10 m	8:04 AM
Laoang, Northern Samar	over 10 m	8:21 AM
Legaspi, Albay	over 10 m	8:30 AM
Palanan, Isabela	3.0 m	9:00 AM
Zamboanga	2.0 m	9:25 AM
Basco, Batanes	6.0 m	9:32 AM
Laoag, Ilocos Norte	2.0 m	10:00 AM
San Fernando, La Union	1.0 m	10:26 AM
Manila	0.5 m	11:04 AM
Davao	6.0 m	8:45 AM
Puerto Prinsesa	0.5 m	12:37 PM

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- The observed sea-level data associated with the earthquake-induced tsunami is shown in the following table: (Sea-level changes may persist along the Pacific coast)

<u>Tsunami Information received as of 10:00 AM</u>		
Station Name (NAMRIA)	Estimated Maximum Wave Height (in meters)	Time of Observation (Philippine Time)
Guiuan, Eastern Samar	3.5	9:45 AM
Surigao City	3.5	9:45 AM
Tandag, Surigao del Sur	6.0	9:45 AM
Virac, Catanduanes	3.5	9:45 AM
San Jose, Northern Samar	3.0	9:45 AM
Mati, Davao Oriental	4.75	9:45 AM
Davao City	4.25	9:45 AM
Baler, Aurora	2.0	9:45 AM
Sta. Ana, Cagayan	1.2	9:45 AM
Surigao City	3.25	9:20 AM
Tandag City	6.0	9:45 AM
General Santos City	3.0	9:45 AM
Tacloban City	2.5	9:45 AM
Camiguin	2.5	9:45 AM
Cagayan De Oro	2.0	9:45 AM
Zamboanga	1.5	9:45 AM
San Jose, Antique	0.75	9:45 AM
Real, Quezon	2.0	9:55 AM
Basco, Batanes	1.0	9:55 AM

- ❖ Coastal areas fronting the Pacific Ocean of the following provinces should evacuate immediately:

Batanes Group of Islands	Sorsogon
Cagayan	Northern Samar
Ilocos Norte	Eastern Samar
Isabela	Leyte
Quezon	Southern Leyte
Aurora	Surigao del Norte
Camarines Norte	Surigao del Sur
Camarines Sur	Davao Oriental
Albay	Davao del Sur
Catanduanes	Zamboanga City
Sarangani	Lanao del Norte
Lanao del Sur	Sultan Kudarat
Maguindanao	Basilan
General Santos City	Zamboanga del Sur
La Union	Puerto Prinsesa

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❖ **TSUNAMI BULLETIN NO. 5 (10 November 2011, 12:00 PM)**

A strong local earthquake occurred near Mindanao, Philippines at 8:00 AM located at 9.5 N, 126.6 E with depth of 20 km and a magnitude of 9.0.

- ❖ The Northwest Pacific Tsunami Advisory Center (NWPTAC) forecasts arrival of the tsunami in the following places:

Locality	Estimated Maximum Wave Height (in meters)	Time of Observation (Philippine Time)
Madrid, Surigao del Sur	over 10 m	8:04 AM
Laoang, Northern Samar	over 10 m	8:21 AM
Legaspi, Albay	over 10 m	8:30 AM
Palanan, Isabela	3.0 m	9:00 AM
Zamboanga	2.0 m	9:25 AM
Basco, Batanes	6.0 m	9:32 AM
Laoag, Ilocos Norte	2.0 m	10:00 AM
San Fernando, La Union	1.0 m	10:26 AM
Manila	0.5 m	11:04 AM
Davao	6.0 m	8:45 AM
Puerto Prinsesa	0.5 m	12:37 PM
Currimao, Ilocos Norte	0.9 m	10:40 AM
Lubang, Occidental Mindoro	0.57 m	11:38 AM

- The observed sea-level data associated with the earthquake-induced tsunami is shown in the following table.

Tsunami Information received as of 11:00 AM		
Station Name (NAMRIA)	Estimated Maximum Wave Height (in meters)	Time of Observation (Philippine Time)
Guiuan, Eastern Samar	0.7	10:50 AM
Surigao City	0.8	9:45 AM
Tandag, Surigao del Sur	1.4	10:50 AM
Virac, Catanduanes	0.8	10:50 AM
San Jose, Northern Samar	3.0	9:45 AM
Mati, Davao Oriental	1.68	10:50 AM
Davao City	0.90	10:50 AM
Baler, Aurora	2.0	9:45 AM
Sta. Ana, Cagayan	1.5	9:45 AM
General Santos City	0.75	10:50 AM
Tacloban City	0.65	10:50 AM
Camiguin	2.5	9:45 AM
Cagayan De Oro	2.0	9:45 AM
Zamboanga	1.5	9:45 AM
San Jose, Antique	0.78	10:30 AM
Real, Quezon	2.0	9:55 AM
Basco, Batanes	1.0	9:55 AM

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C. ACTIONS TAKEN

NATIONAL SITUATION

- **NDRRMC Opcen** disseminated Earthquake information and Tsunami Bulletins/Alerts to RDRRMCs/OCD Regional Centers concerned through SMS and facsimile for further dissemination to their respective local disaster risk reduction and management councils from the provincial down to the municipal levels, especially to the coastal areas and communities fronting the Pacific Ocean
- **NDRRMC Opcen** activated to RED ALERT STATUS and the NDRRMC Emergency Operations Center was activated effective 8:00 AM, 10 November 2011 to ensure the continuous dissemination of Earthquake/ Tsunami bulletins to all Regional Centers and RDRRMCs, PDRRMCs and OCDRCs in II, III, IV-A, V, VIII, XI and CARAGA to closely monitor the preparedness measures being undertaken by NDRRMC and concerned RDRRMCs' member agencies relative to the Tsunami.
- **NDRRMC Opcen** set-up the Emergency Telecommunications equipment (back-up). Satellite based communication capabilities on voice, text messaging, fax and internet access that can be used when commercial telecommunications and power services are cut-off
- Likewise, Operations Centers of RDRRMCs concerned were advised to take all the following appropriate precautionary measures:
 - Alert all residents living in the coastal areas fronting the Pacific Ocean for possible evacuation
 - Effect the dissemination of the tsunami bulletins/advisories to the Local Chief Executives, Civil Defense Coordinators and RDRRMC Members through SMS, fax and other means of communication
 - Communicate with all local TV and Radio Stations to ensure widest public information dissemination of Tsunami Bulletins/Alerts
 - Undertake continuous monitoring in their respective area of responsibility (AOR)
 - Instruct to submit report on actions taken thereof
- **PHIVOLCS** issued Press Release on Earthquake Parameters and Observed Tsunami Data and Tsunami information received at 8:30 AM:

Locality	Estimated Maximum Wave Height (in meters)	Time of Observation (Philippine Time)
Surigao del Norte	11.0 m	8:10 AM
Eastern Samar	6.0 m	8:30 AM
Dinagat Island	6.0 m	8:30 AM
Surigao del Sur	6.0 m	8:30 AM
Northern Samar	no estimate	8:30 AM
Leyte	no estimate	8:30 AM
Southern Leyte	no estimate	8:30 AM
Davao Oriental	no estimate	8:30 AM

- **AFP conducted Aerial Investigation on Tsunami-impacted areas in the eastern seaboard. The results of aerial investigation are as follows:**
 - ❖ **There were no more crashing waves observed along these coastlines, but eddies and similar water features were observed in bays**
 - ❖ **Sea level remains higher than normal, and seawater is still flood low-lying towns of Siargao Provinces. Tsunami impacts occurred in the following towns:**
 - **Pilar, Siargao Island**
 - **General Luna, Siargao Island**

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- Surigao City
 - Taganaan, Bacuag to Gigaquit, Surigao del Norte
 - Placer, Surigao del Norte
 - Carrascal, Cantilan, Madrid, Carmen, Lanuza, Tandag, Tago, Bayabas and Hinatuan in Surigao del Sur
 - Bislig City
 - Other coastal areas of Surigao del Norte and Surigao del Sur
- ❖ Sea level remains higher than normal in Davao Oriental but perceptibly less than in Surigao Provinces. Impacts Evidence of tsunami impacts appear in the following towns:
- Cateel; 1 to 3 kms inland
 - Bangangfa to Caraga; less than 1 km inland
 - Mati and Lamigan Point; up to 1 km inland
 - Lupon; up to 2 kms inland
- ❖ Sea level remains higher than normal in Samar Island. Tsunami impact in the following towns:
- Catarman, Pambujan and Laoang, Northern Samar
 - Lavezares, Rosario, San Jose, Bobon, Mondragon, San Roque, Palapag, Gamay and Lapinig
 - Oras, Dolores, Canavid, Western Samar
 - Borongan, Llorente, Gen. Mac Arthur, Quinapondan, Eastern Samar
 - Other coastal towns of Northern Samar, Western Samar and Eastern Samar
- ❖ Sea level remains higher than normal in Samar Island. Tsunami impact in the following towns:
- Tacloban City; less than 1 km
 - Palo, Tanauan, Tolosa, Dulag, Mayorga, Mac Arthur, Abuyog in Leyte; 1 – 2 km inland
 - Hinungan, Hinundayan, St. Bernard in Sothern Leyte; 1 -2 kms inland
- ❖ Sea level remains higher than normal in Catnaduanes Island. Tsunami impacts occurred in the following towns:
- Panganiban; 1 to 5 kms inland
 - Bato, Virac, Calolbon; up to 1 km inland
- ❖ Debris of recent tsunami littered much of the shoreline showing the widespread devastation to the region
- ❖ Three (3) commercial vessels were also spotted 15-20 knots offshore of Visayas and Mindanao but seem unaffected by the passage of the tsunami

REGIONAL SITUATION

Region II

- OCDRC II continues to disseminate Tsunami Bulletins to all concerned agencies, LGUs, media and individuals and informed the same for immediate evacuation particularly those living at coastal areas
- OCDRC II conducted pre-emptive evacuation of 2,647 families/ 13,161 persons in 26 barangays at the following municipalities of Isabela: Maconan in 10 barangays with 797 families/3,985 persons; Divilacan in 7 barangays with 986 persons/ 4,930 families; Dinapigue in 2 barangays with 223 families/ 1,116 persons; and Palanan in 7 barangays with 641 persons/ 3,130 families

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- As of reporting time, all major roads and bridges in the Region are passable to all types of vehicles
- PCG Cagayan alerted all coastal Barangays in their AOR for immediate evacuation
- PDRRMC Isabela advised ISELCO II to make emergency power shut off
- PNP Palanan together with the local MDRRMC conducted evacuation of all Barangays along coastal areas where 3.0 wave height was reported/ observed

Region III

- RDRRMC/OCD III sent Tsunami Bulletins to PDRRMC as well as MDRRMCs of the Province of Aurora for immediate dissemination of warning to Barangays and communities within their area of responsibility
- RDRRMC/OCD III disseminated warning information to concerned RDRRMCs member line agencies as well as PIA, NOLCOM, PNP, DSWD and local radio/TV stations
- PDRRMC Aurora was advised to take immediate appropriate actions regarding the warning
- **PDRRMC Aurora conducted evacuation operations with the help of 48th Infantry Battalion and Aurora PPO**
- **Provincial government of Aurora provided relief assistance to people in evacuation sites**

Region IV-A

- PDRRMC General Nakar, Quezon evacuated 150 persons living in the coastal Barangays of Catabligan, Pamplona and Banglong to their respective barangay halls and likewise warned all other coastal towns for immediate evacuation
- Readied 707 families from the coastal Barangays of Talisoy (150), Casuguran (90), Apad (300), Bukal (87) and Gango (100), all in Jomalig, Quezon, to be at their designated pick-up points for immediate evacuation
- Thuraya Telecom Kit was prepared in case regular communication system bugs down
- OCDRC-IVA alerted all response agencies and LDRRMCs about the tsunami

Region VI

- RDRRMC/OCD VI activated its Communications and Warning Group (CWG) monitors the situation on the impact of the tectonic quake with Intensity III, with epicenter in San Jose, Antique
- Disseminated earthquake information and tsunami bulletins to affected areas thru tri-media
- CWG volunteers was tapped for the current situation
- PDRRMC in Aklan, Iloilo and Antique was activated

Region VIII

- RDRRMC/OCD VIII received a report from PHIVOLCS on the reported intensities in some areas in Region VIII
- RDRRMC/OCD VIII currently monitors the affected localities on the effects of the earthquake
- RDRRMC/OCD VIII together with the 8th Infantry Division utilizes all available communication equipment
- RDRRMC/OCD VIII sent Tsunami Bulletins to the provinces of Leyte, Southern Leyte and Eastern Samar and coordinated with the affected localities to ensure that no fishing boats and other seacrafts will venture out into the sea due to the tsunami alert
- PDRRMO Eastern Samar convened PDRRMC EXECOM for proper and immediate action specifically concerning the evacuation of people along coastal areas to their designated evacuation centers and in preparation of immediate relief and rescue operation.

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- RDRRMC/OCD VIII is continuously disseminating advisories to the affected LDRRMOs and advised the same to take appropriate actions.

Region X

- Region X sustained building and structural damages throughout the region and is currently experiencing power and communication loss in 80 percent of the area
- RDRRMC/OCD X disseminated TSUNAMI ALERT to LDRRMCS, tri-media, government and NGO Rescue Groups to continue in monitoring the evacuation of families along the coastal areas to ensure the provision for basic needs
- **RDRRMC/OCD X is experiencing loss of communication in various areas due to damaged cell sites**
- **RDRRMC/OCD X is currently conducting RDANA**
- **RDRRMC/OCD X and LDRRMC is preparing evacuation areas and provision of basic needs**
- **Sea vessels were advised to stay in deeper parts of the open sea until further notice**
- **All sea faring activities were cancelled at all ports of Region X until further notice**
- **LGUs and NGOs provided food assistance and basic needs to IDPs**
- **The responding agencies are as follows: OCD-X, AFP, PNP-PRO 10, DILG, DOH, DPWH, DSWD, NFA, PCG-CGDNM, PHIVOLCS, PIA, TOG-10 (PAF), PNP-Maritime and NGO Volunteers**

Location	Evacuated Population	Name of IDP Centers
Iligan City	Coastal areas of Iligan City, Linamon and Kauswagan	Balo-i Municipal Hall Grounds
Magsaysay, Lanao del Norte	Coastal areas of Bacolod, Maigo and Kolambugan	Magsaysay Municipal Grounds
Kapatagan, Lanao del Norte	Coastal areas of Tubod, Baroy, Lala	Kapatagan Municipal Grounds

Region XI

- RDRRMC/OCD XI disseminated advisories/ warnings to all concerned Local DRRMCs and ordered the immediate evacuation of families living in the coastal areas

CARAGA

- RDRRMC/OCD CARAGA sent the Tsunami Bulletins through fax and SMS to PDRRMCs Surigao Del Norte, Surigao Del Sur and RDRRMC member agencies
- LDRRMCs advised residents along coastal areas to immediately evacuate to higher grounds and go far inland
- Families from Bislig City, Madrid, Carrascal, Cantilan, Tandag, Cortes and Bayabas in Surigao del Sur have already evacuated
- Siargao Island in Surigao del Sur and Dinagat Island conducted an evacuation operation
- RDRRMC/OCD CARAGA continues to monitor the situation

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