



THE PHILIPPINES:

**The most uninhabitable place in
the world?**





The World Risk Index, 2012

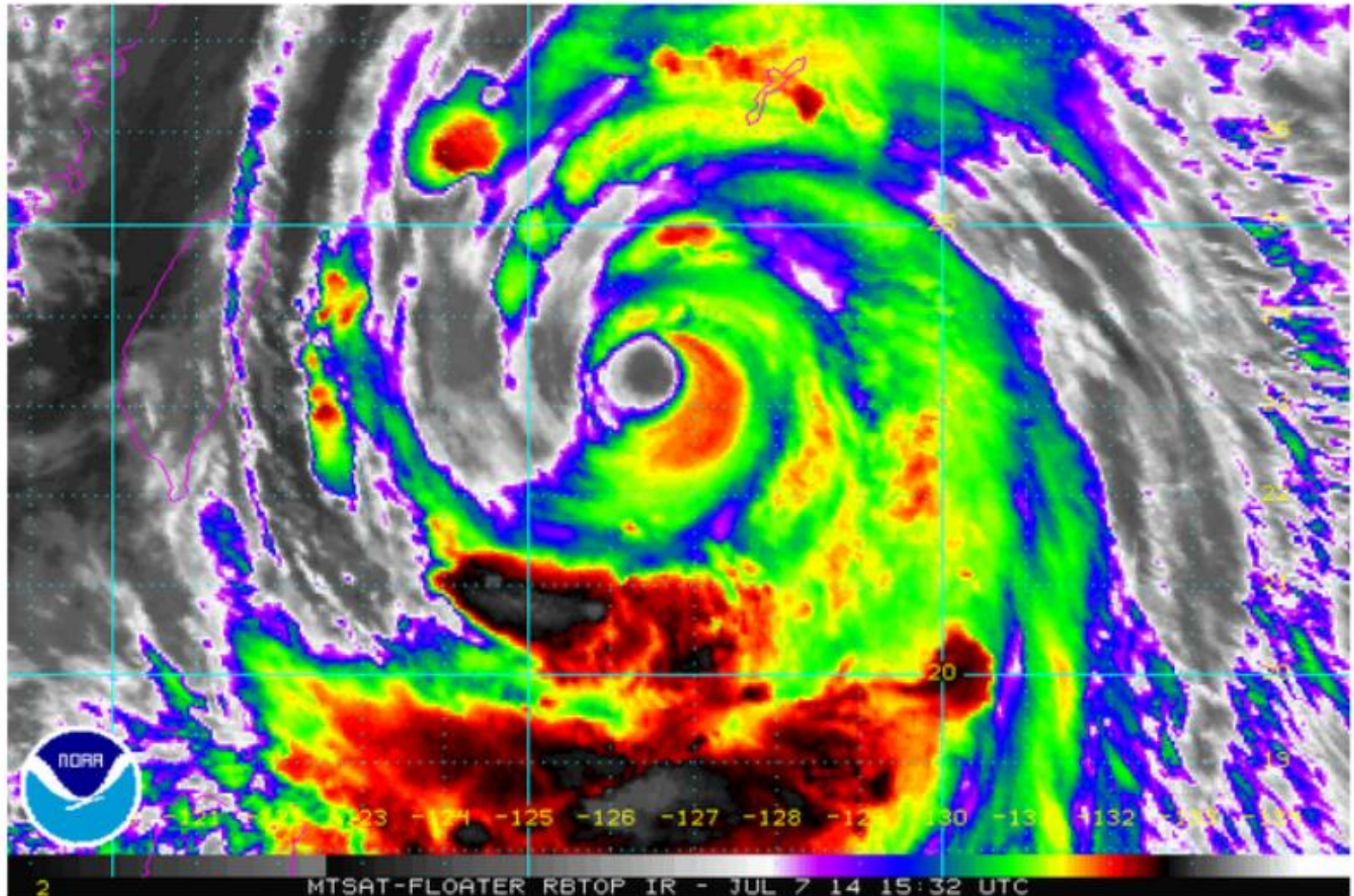
Rank	Country	World Risk Index (%)	Exposure (%)	Vulnerability (%)
1	Vanuatu	36.31	63.66	57.04
2	Tonga	28.62	55.27	51.78
3	Philippines	27.98	52.46	53.35
4	Guatemala	20.75	36.3	57.16
5	Bangladesh	20.22	31.7	63.78
6	Solomon Islands	18.15	29.98	60.55
7	Costa Rica	17.38	42.61	40.8
8	Cambodia	17.17	27.65	62.07
9	Timor-Leste	17.13	25.73	66.59
10	El Salvador	16.89	32.6	51.82



Bougainville trench

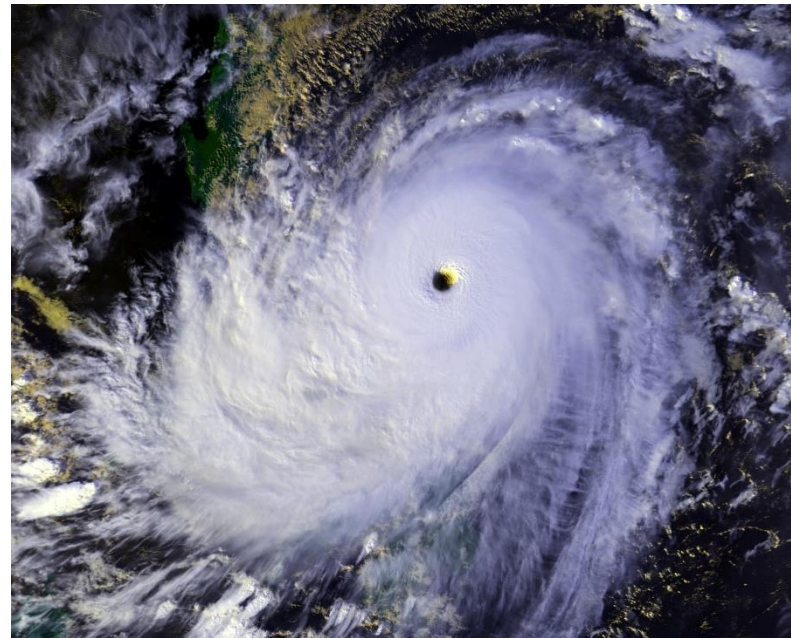
Enormous super typhoon Neoguri lashing Okinawa and targeting Japan

BY JASON SAMENOW  July 7 at 1:31 pm





There is no such thing as natural disasters.



$$\text{DISASTERS} = \frac{\text{Hazards} + \text{Exposure}}{\text{Capacity}}$$

NATURA HAZARD



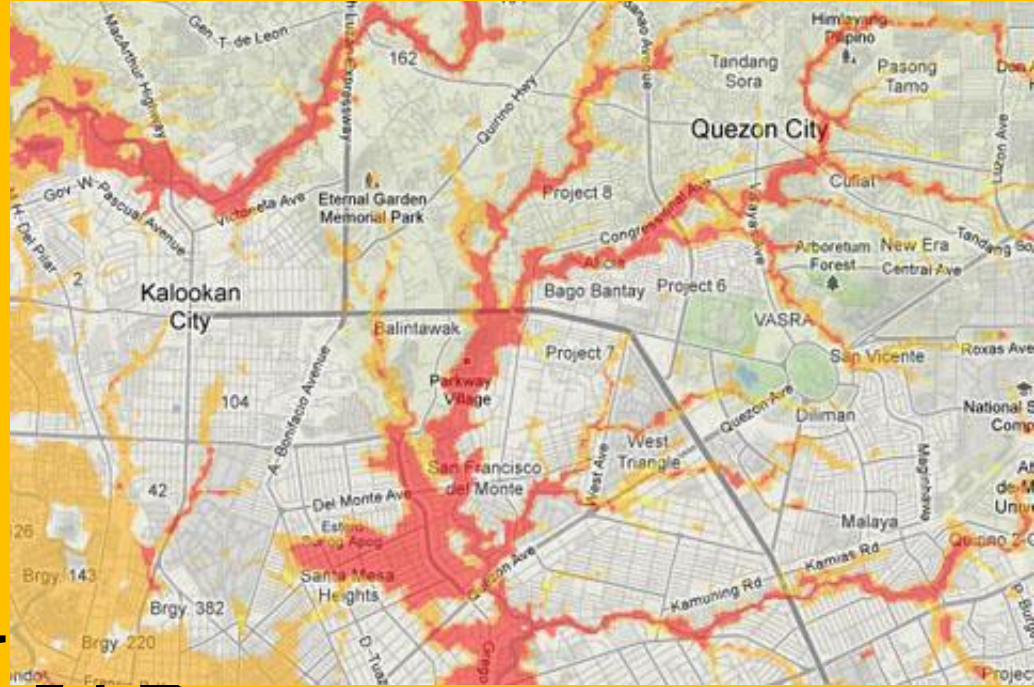
Exposure



Exposure



CAPACITIES



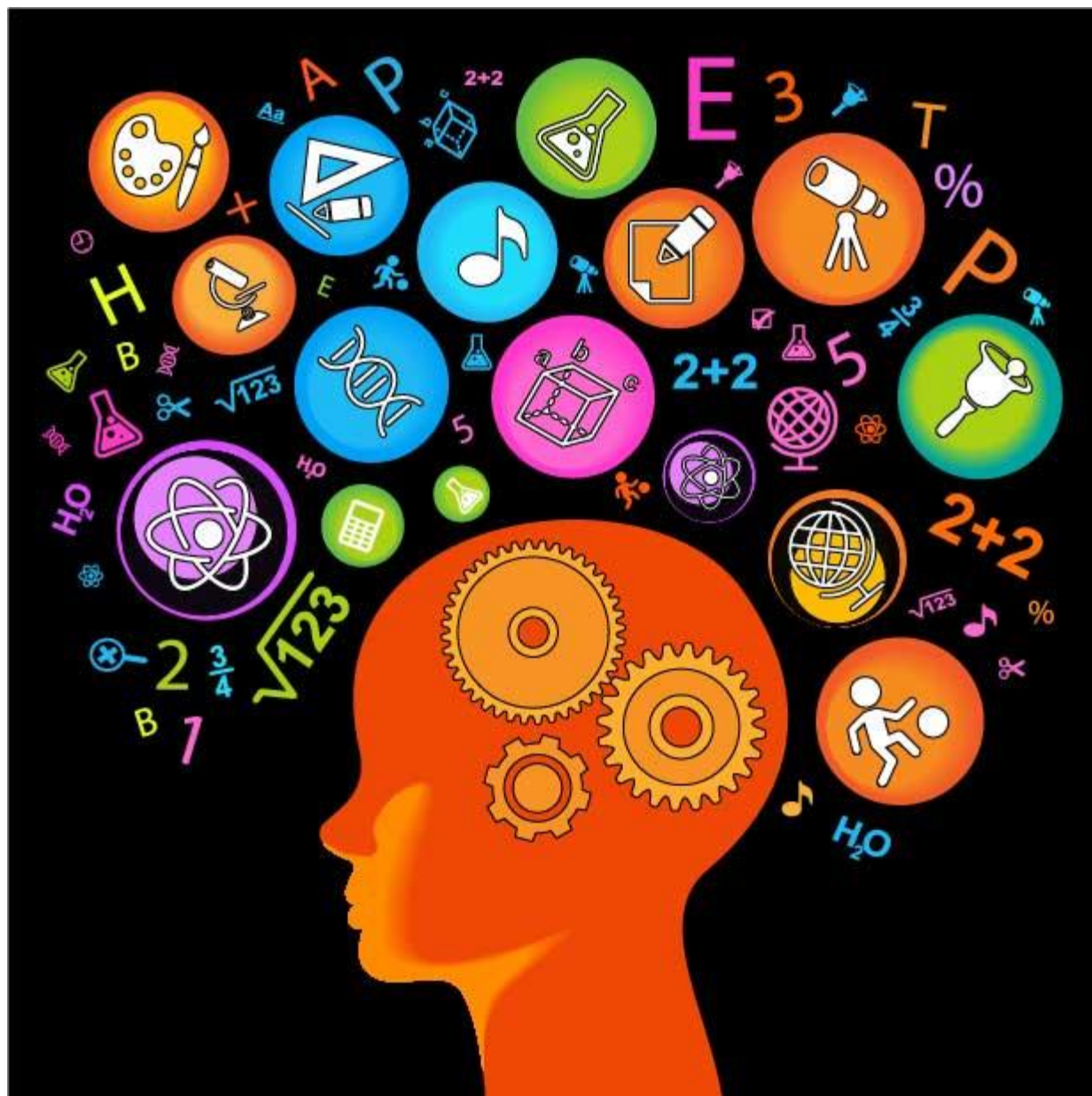




**DISASTER
PREVENTION,
MITIGATION,
and
PREPAREDNESS**

- Knowledge on Potential Hazards in your area
- Proper Land Use Planning
- The Right Engineering Interventions
- Proper Preparedness

Use S&T as basis for policy-making



Components ng Project NOAH

- LiDAR
- Flood Hazard Mapping and Modeling
- Storm Surge Mapping and Modeling
- Landslide Hazard Mapping Enhancement
- Hydromet Sensors Development
- NOAH Web GIS









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Weather

Possible super typhoon may hit PHL on Thursday

By EARL VICTOR L. ROSERO, GMA News November 5, 2013 7:25am

Recommend 10k Share 39.7K Tweet 695 Email 76 ShareThis 58.3K +1 9

Weather forecasters have advised residents of the Bicol and Eastern Visayas regions to prepare for a cyclone approaching from the east that may have the makings of a super typhoon.

The US National Oceanic and Atmospheric Administration (NOAA) defines a "super typhoon" as having maximum sustained winds of 234 kph



Dangerous Yolanda heads for Visayas

(UPDATED) Typhoon Yolanda is an 'extremely catastrophic super typhoon,' one of the planet's strongest, most violent this year



KD Suarez

ed 11:51 AM, Nov 07, 2013

6:01 PM, Nov 07, 2013

The latest update on Typhoon Yolanda (5pm Thursday, November 7, 2013) is here.



HEADLINES

Your dream destination awaits! All these at Philstar.com Travell

myHome ID Your key to exciting entertainment for the fam

myproperty.ph Your place in finding your new space

Monster typhoon roars toward Visayas

By Helen Flores (The Philippine Star) | Updated November 7, 2013 - 12:00am

Tweet 3 Share 1261 googleplus 3 Email 7 Like 786



**November 6
(Wednesday)**

9:37PM

Dr. Lagmay's
tweet showing
storm surge
forecast
animation.

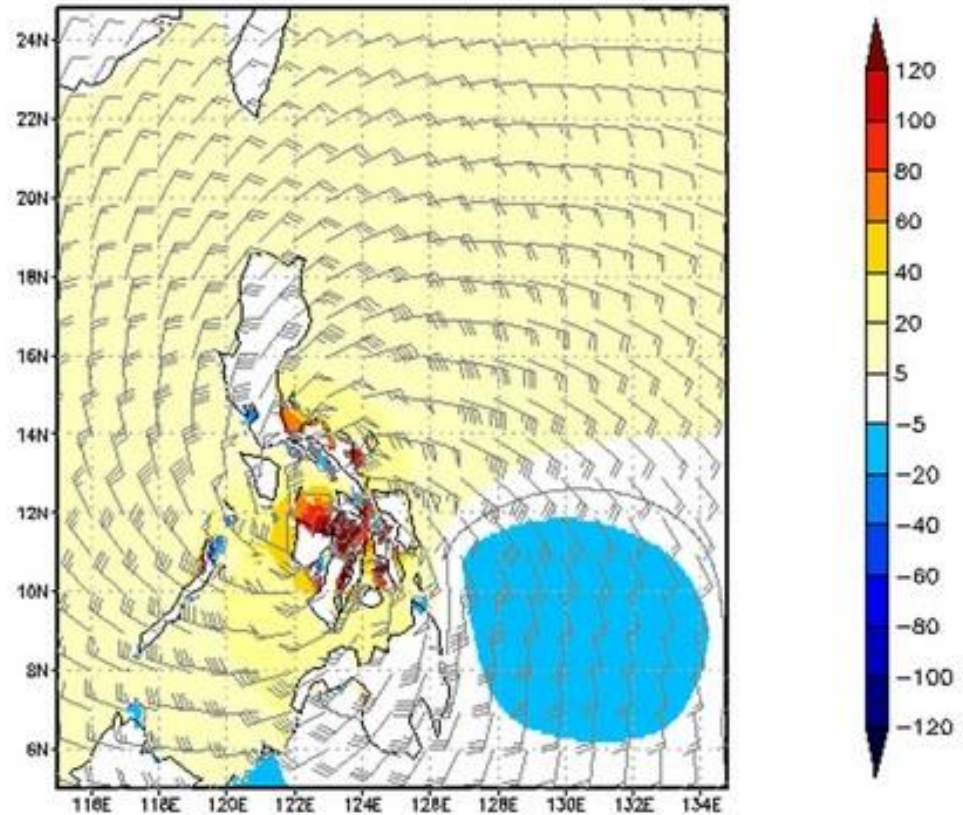


Mahar Lagmay @nababaha

6 Nov

Check out the storm surge scenario for #YolandaPH . Visit noah.dost.gov.ph & click the storm tide forecast tab. pic.twitter.com/xFxUTQAdyU

08Z08NOV2013



26

RETWEETS

3

FAVORITES



9:37 PM - 6 Nov 13 - Details

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Mahar Lagmay @nababaha 6 Nov
 Predicted storm surge height for coastal areas of Ormoc City on 8 November 2013. #YolandaPH pic.twitter.com/cZ5bKGa0NA



87 RETWEETS 13 FAVORITES

10:03 PM - 6 Nov 13 · Details Flag media
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Reply to @nababaha

jyn burn @jyn_ 6 Nov
 @nababaha #YolandaPH san sya galing before it hits us? How's the impact sa nadaanan nya?
 Expand Reply Retweet Favorite More

Twitter Philippines @twitter_ph 6 Nov
 @nababaha Does this mean that by Nov. 8, water on coasts of Ormoc, Leyte is expected to be 5m higher (taller than 1-story) than sea level?
 Expand Reply Retweet Favorite More

Mahar Lagmay @nababaha 6 Nov
 @twitter_ph that is what the model says kaya mag-ingat po ang mga nasa coastal areas of Ormoc. Please look at the other areas as well.
 Expand Reply Retweet Favorite More

November 6 (Wednesday) 10:03PM

Dr. Lagmay's tweet showing predicted storm tide level for Ormoc at 5 meters by 2:30pm on Nov.8

November 7 (Thursday)

List of areas alerted for storm surge picked-up and posted by Interaksyon at 11:25PM



Signal No. 4 up over 12 Visayas areas; alert raised for storm surges

By: Jaime Sinapit, InterAksyon.com | Philippines News Agency | Agence France-Presse
November 7, 2013 5:38 AM



Satellite image of Typhoon Yolanda (Haiyan) as of 12:30 a.m. November 8, 2013. DOST-PAGASA

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InterAksyon.com
The online news portal of TV5

MANILA, Philippines -- (UPDATE 8 - 11:25 p.m.) Public storm warning Signal No. 4 has been raised over 12 areas in Eastern and Western Visayas as typhoon 'Yolanda' (international codename: Haiyan) accelerated and strengthened further as it maintained its course towards landfall in Leyte or Eastern Samar early Friday.

As of 10 p.m., the storm was last tracked 290 kilometers southeast of Guiuan, Eastern Samar, packing maximum sustained winds of 225 kilometers per hour near the center with gusts of up to 260 kph as it moved west-northwest at 39 kph, the Philippine Atmospheric, Geophysical and Astronomical Services Administration said late Thursday evening.

It is forecast to hit Guiuan or Abuyog, Leyte then cut through Biliran, northern Cebu, Iloilo, Capiz, Aklan, Romblon, Semirara Island, southern Mindoro and Busuanga before heading towards the West Philippine Sea Friday night, but it is expected to exit the Philippine area of responsibility on Saturday evening.

Authorities warned more than 12 million people are at risk from Yolanda, which had earlier been classified as a 'super typhoon' and category 5 hurricane in the United States' National Hurricane Center's Saffir-Simpson wind scale -- meaning it has a wind speed of 250 kilometers per hour or higher, the strongest storm in the world this year.

The US Nav's Joint Typhoon Warning Center said Yolanda had maximum

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ANIMATION | See the projected path of Typhoon Yolanda

VIDEO | Typhoon Yolanda gains strength as it enters PAR

Death toll from super typhoon 'Yolanda' rises to 3,633 --NDRRMC

Forensics experts to start identifying 'Yolanda' bodies on Saturday, health dept says

Judges, court workers in more than 10 'Yolanda'-hit regions to get salaries ahead of time

Govt eases procurement rules for more responsive 'Yolanda' relief, rehab efforts

Govt should also provide contraceptives in 'Yolanda' evacuation centers, former solon says

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As 'Yolanda' victims' health woes mount, advocates urge Philhealth to use sin tax bonanza

DepEd allows 'emergency transfers' from 'Yolanda'-stricken schools

BREAKING NEWS

PAYING IT FORWARD | Carpenter-soldiers off to Leyte, bringing goods from 'Pablo' victims

Death toll from super typhoon 'Yolanda' rises to 3,633 --NDRRMC

Philippine organization launches global campaign for donations via mobile load

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National



Law and order prevailing in typhoon-hit areas amid chaos

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related Hong Kong adds \$5.18 million in funds for Philippines aid

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VIDEO | American shelters 100 neighbors in Leyte hom at height of 'Yolanda'

National



PHOTO | Empire State Building lights up for the Philippines



related Hong Kong adds \$5.18 million in funds for Philippines aid

related ANALYSIS | Hero to zero? Aquino feels typhoon backlash

related Foreign aid to 'Yolanda' victims reaches P5.45 billion

next 12 hours or more, has been raised over Masbate, northern Samar, Eastern Samar, Samar, Leyte, Southern Leyte, Biliran Province, extreme northern Cebu, Bantayan Island, Capiz, Aklan, and northern Antique.

Signal No. 3 (101-185 kph winds over 18 hours) is up over Ticao Island, Sorsogon, Romblon, Calamian Group of Islands, the rest of Antique, the rest of Iloilo, Guimaras, northern Negros Occidental, northern Negros Oriental, Bohol, northern Cebu, Cebu City, Camotes Island, Siargao Island, and Dinagat Province.

Signal No. 2 (61-100 kph winds over 24 hours) is hoisted over Mindoro provinces, Marinduque, Albay, extreme northern Palawan, Burias islands, the rest of Negros Occidental, the rest of Negros Oriental, Siquijor, the rest of Cebu, Camiguin, Surigao Del Norte, Surigao Del Sur, and Agusan Del Norte.

Signal No. 1 (winds of 30-60 kph over 36 hours) is raised over Metro Manila, Bataan, Camarines Norte, Camarines Sur, Catanduanes, southern Quezon, Laguna, Rizal, Cavite, Batangas, Lubang Island, the rest of northern Palawan, Puerto Princesa, Misamis Oriental and Agusan del Sur.

PAGASA said heavy to intense rainfall of 10.0-30.0 mm per hour should be expected within Yolanda's 600-km diameter.

Storm surges

The Department of Science and Technology's Nationwide Operational Assessment of Hazards, or Project NOAH, also warned of dangerous storm surges of as high as five meters in coastal areas along Yolanda's path.

Project NOAH's list of areas forecast to experience storm surges (click image to enlarge)

Province	Location	Storm Surge + Tide (m)	Date and Time of Peak Height
Eastern Samar	Mactanis Bay	5.3	11-08-2013 09:50
Biliran	Poro Island, Biliran Str	4.7	11-08-2013 12:10
Leyte	Tacloban, San Juanico Str	4.5	11-08-2013 11:00
Quezon	Pert Pusgo	4.4	11-09-2013 02:20
Eastern Samar	Andis Island, Port Borongan	4.3	11-08-2013 09:30
Quezon	Santa Cruz Harbor	4.2	11-09-2013 02:20
Palawan	Port Barton	3.9	11-09-2013 02:00
Iloilo	Banate	3.9	11-09-2013 02:10
Leyte	Palompon	3.9	11-08-2013 12:40
Leyte	Ormoc	3.8	11-08-2013 13:20
Northern Samar	Heim Harbor, Gamay Bay	3.7	11-08-2013 09:10
Cebu	Tuburan	3.2	11-08-2013 12:20
Negros Occidental	Himugaan River Entr	3.1	11-08-2013 14:00
Negros Occidental	Cadiz	3.0	11-08-2013 03:10
Masbate	Blago Bay	3.0	11-08-2013 12:50
Camarines Sur	Cabagan Island, San Miguel Bay	2.9	11-08-2013 08:10
Camarines Norte	Lamon Bay; Apat Bay	2.9	11-08-2013 09:00
Oriental Mindoro	Port Concepcion, Maestre de Campo I	2.8	11-09-2013 01:20
Palawan	Uguan Bay	2.8	11-09-2013 01:30
Samar	Taliora	2.8	11-08-2013 12:00
Albay	Tabaco, Tabaco Bay	2.7	11-08-2013 09:20
Masbate	Masbate	2.7	11-08-2013 13:10
Oriental Mindoro	Calanan Rav	2.7	11-09-2013 01:30

151,413 people like Interaksyon.

November 7 (Thursday) 10:58PM

- An updated list of an earlier model run with more than 100 specified localities with storm surge + tide values was placed on the website and blog. Updates to the simulation runs are made every 6 hours and details of the storm surge + tide heights can be seen in the [Project NOAH website](#) under the Weather Stations tab labeled YolandaPH Storm Tide Level.
- A total of 68 localities were included in the list. The updated model shows Ormoc, Leyte on top of the list with 5.2 meters predicted storm surge and tide level.
- Storm tide prediction was generated using Japan Meteorological Agency (JMA) Storm Surge Model results using 11:00 No PST JMA forecast data and WXTide results, both from 6 November 2013 – 10 November 2013.

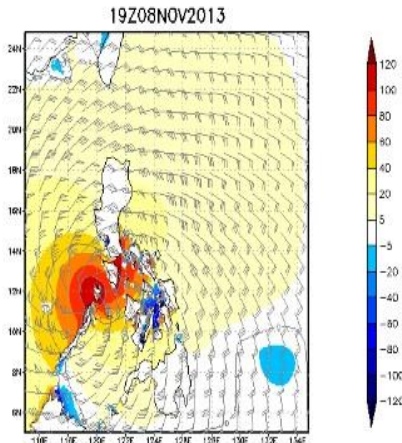


Update: Typhoon Yolanda highest predicted storm surge and tide

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The model covers 12:00mn of 8 November 2013 to 12:00mn of 10 November 2013 (UTC).

This update is based on the 5:00pm simulation. The next update is for the 11:00pm simulation.



This list is an update of today's earlier model run with more than 100 specified localities with storm surge + tide values.

Updates to the simulation runs are made every 6 hours and details of the storm surge + tide heights can be seen in the [Project NOAH website](#) under the Weather Stations tab labeled YolandaPH Storm Tide Level.

Total of 68 localities

PROVINCE	LOCATION	STORM TIDE	DATE & TIME OF PEAK HEIGHT
Leyte	Ormoc	5.2	11-08-2013 14:00
Eastern Samar	Matarinao Bay	4.7	11-08-2013 08:00
Quezon	Port Puzo	4.6	11-09-2013 02:10
Quezon	Santa Cruz Harbor	4.3	11-09-2013 02:10
Biliran	Poro Island, Biliran Str	4.3	11-08-2013 12:30
Iloilo	Banate	4.1	11-09-2013 02:00

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- [Pagkakaiba ng storm surge at tsunami, alamin \(ABS-CBN News\)](#)
- [PAGASA: #ZoraidaPH made landfall in Caraga, Davao Oriental at 9 a.m.](#)
- [Forced evacuation ordered in Butuan's coastal, riverside areas](#)
- [Official list of localities: Typhoon Yolanda highest predicted storm surge and tide](#)

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November 2013

M	T	W	T	F	S	S
					1	2 3
4	5	6	7	8	9	10
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18	19	20	21	22	23	24
25	26	27	28	29	30	

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Communicate the risk effectively



Tweets

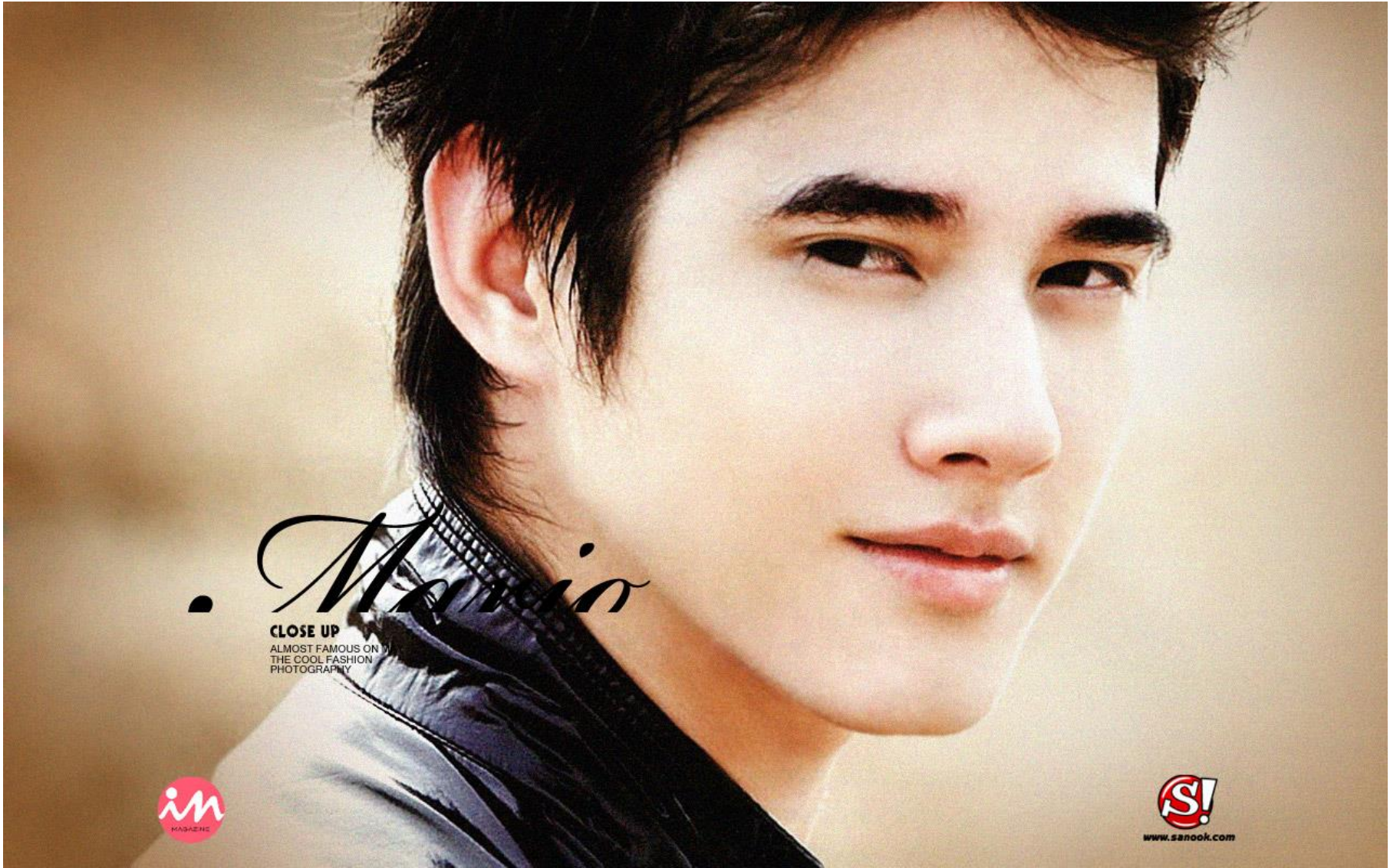


mario @ohohmario

3h

Good after noon po

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News+Features | Tweets of the Week
Tweets of the Week: The Twitterati on the Million People March, tropical storm Maring + more

Who tweeted what and when.

Published on: Aug 27, 2013 - 11:00am

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Tweets of the Week: 19 of 30
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Mahar Lagmay @nababana Following

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1:55 PM - 22 Aug 13 from location



GMA News @gmanews

22 Aug

"Ang love parang **bagyo**, 'yan eh. Mahirap i-predict kahit may PAGASA." - Anonymous | via [@nababaha](#)

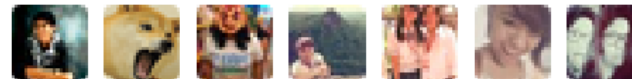
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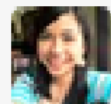
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charlene opada @charleneopada

24 Aug

"[@gmanews](#): "Ang love parang bagyo, 'yan eh. Mahirap i-predict kahit may PAGASA." - Anonymous | via [@nababaha](#)"

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Mahar Lagmay

@nababaha

Forecast track & satellite image of typhoon #SantiPH . Paki share din po ito sa inyong mga kaibigan at mga kababayan pic.twitter.com/75VuzARmtb

10/11/13, 8:06 AM



29 RETWEETS 2 FAVORITES



Mahar Lagmay

@nababaha

Forecast track & satellite image of typhoon #SantiPH. Ang mag-retweet nito ay gaganda ang love life. pic.twitter.com/VEqIvZrJsm

10/11/13, 8:21 AM



90 RETWEETS 12 FAVORITES



Wowowillie

USEC EDUARDO D DEL ROSARIO
Executive Director, NDRRMC and Administrator, OCD-DN

HOT

MAHAR LAGMAY

Empower Local Leaders



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RED ALERT
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SEMINARS & TRAINING ACTIVITIES

- Earthquake Survival
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- On site and Roving Medic

DZMM **ABS-CBN NEWS**

IMAHÉ KUHA MULA SA SATELLITE

RESCUE 5

MNP POLL WHO'S YOUR MOST RELIABLE WEATHERPERSON?

GMA WEATHER

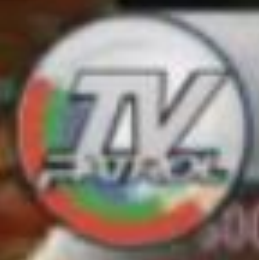
K.

NATHANIEL CRUZ 13,717 votes / 53.93%	KAREN CARDENAS 10,139 votes / 39.86%
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JERICHO ROSALES
MAJA SALVADOR
JC DE VERA
AND ANGEL LOCSIN

THE LEGAL
Wife



**NBI: MGA NAGLAKAS-LOOB NA KASUHAN ANG ASAWANG
MAY KABIT, DUMAMI DAHIL SA "THE LEGAL WIFE"**

SOCIAL MEDIA |

TV Patrol email: typatrol@abs-cbn.com

TV Pa



Results

Minimum estimate of informal settlers at risk from storm surges	31,478
2010 Population of Tacloban City	221,174
Number of dead in Tacloban City according to NDRRMC as of Nov. 25	1,725
Percentage of deaths relative to informal settlers in Tacloban City at risk from storm surges	5.5%
<i>Percentage of deaths relative to entire population of Tacloban City</i>	0.8%

1912 reports on Tacloban storm 'killing' 15,000 resurface

By Camille Diola (philstar.com) | Updated November 19, 2013 - 12:52pm

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The Washington Herald issued on October 22 published an article about a powerful typhoon that pounded on Tacloban and Cebu. The newspaper Daily Ardmoreite also ran an October 1912 story of a storm that damaged Tacloban and surrounding areas.

TYPHOON AND TIDAL WAVE IN THE PHILLIPINES.

7000 Lives Lost.

MAT. advices, brought by the steamer Gaelic from Chicago and other ports in the Far East, contain details of the fearful destruction wrought in the Philippine Islands by the typhoon and tidal wave during October. It is estimated that 400 Europeans and 6000 natives lost their lives, many being drowned by the rush of water, while others were killed by the violence of the wind. Several towns have been swept or blown away. The hurricane first struck the Bay of Santa Paula, and devastated the district lying to the south of it. No communication with the neighborhood was possible for two days. The hurricane reached Leyte on October 12, and striking Tacloban, the capital, with terrific force, reduced it to ruins in less than half an hour. The bodies of 126 Europeans have been recovered from the fallen buildings. Four hundred natives were buried in the ruins. A score of small trading vessels and two Sydney traders were wrecked on the southern coast, and their crews drowned. At Gamoa the sea swept inland for a mile, destroying property worth seven million dollars, and many natives lost their lives. The Government prison at Tacloban was wrecked, and of the 200 rebels therein half succeeded in making their escape. The town of Hernia was swept away by flood, and its 5000 inhabitants are missing. The small station of Weera, near Loog, is also gone, while in Loog itself only three houses are left standing. Thousands of natives are roaming about the devastated province seeking food and medical attendance. In many cases the corpses were mutilated as though they had fallen in battle, and the expressions of their faces were most agonizing.

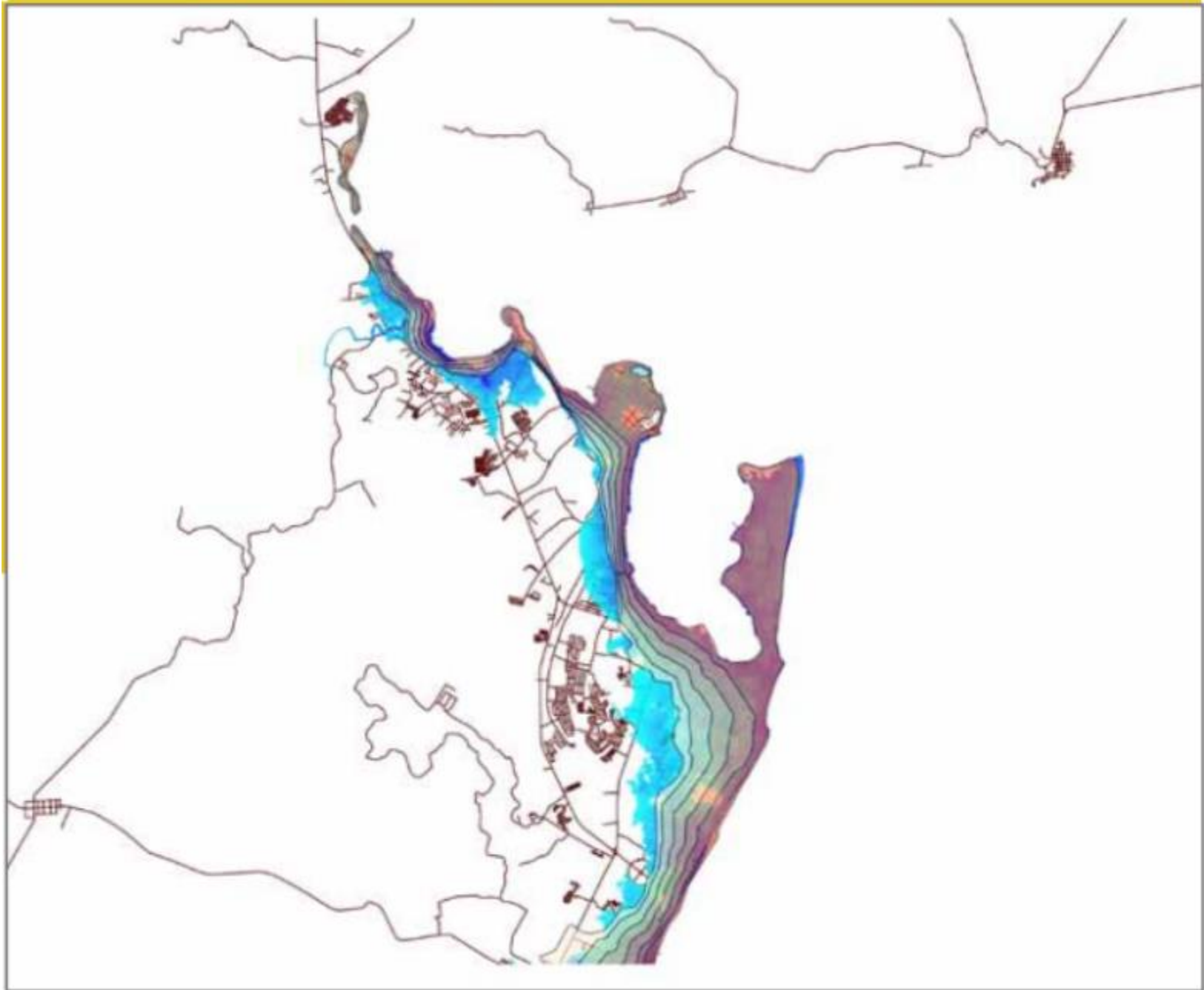
Gentlemen's lace boots, in the fashionable shades of tan, at H. H. Hart's.

Little Ethel: "Maggie Rex and I is goin' to be married when we grow up." Nurse: "I thought you didn't like Maggie." Little Ethel: "I don't; but married men is never

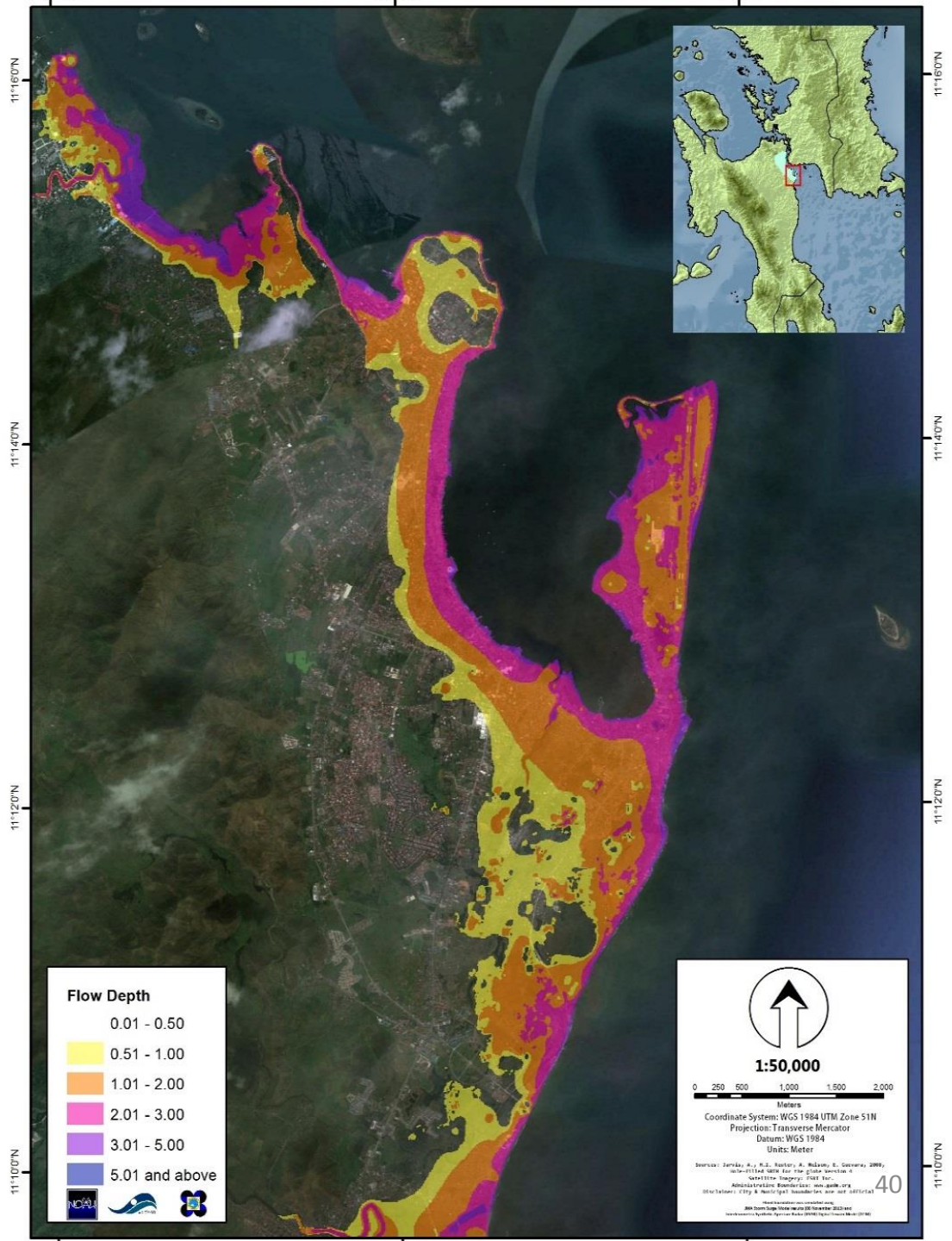
MANILA, Philippines - An old front page of the defunct Washington Herald resurfaced online running a

story headlined "15 000 die in Philippine storm" and citing flattened out cities

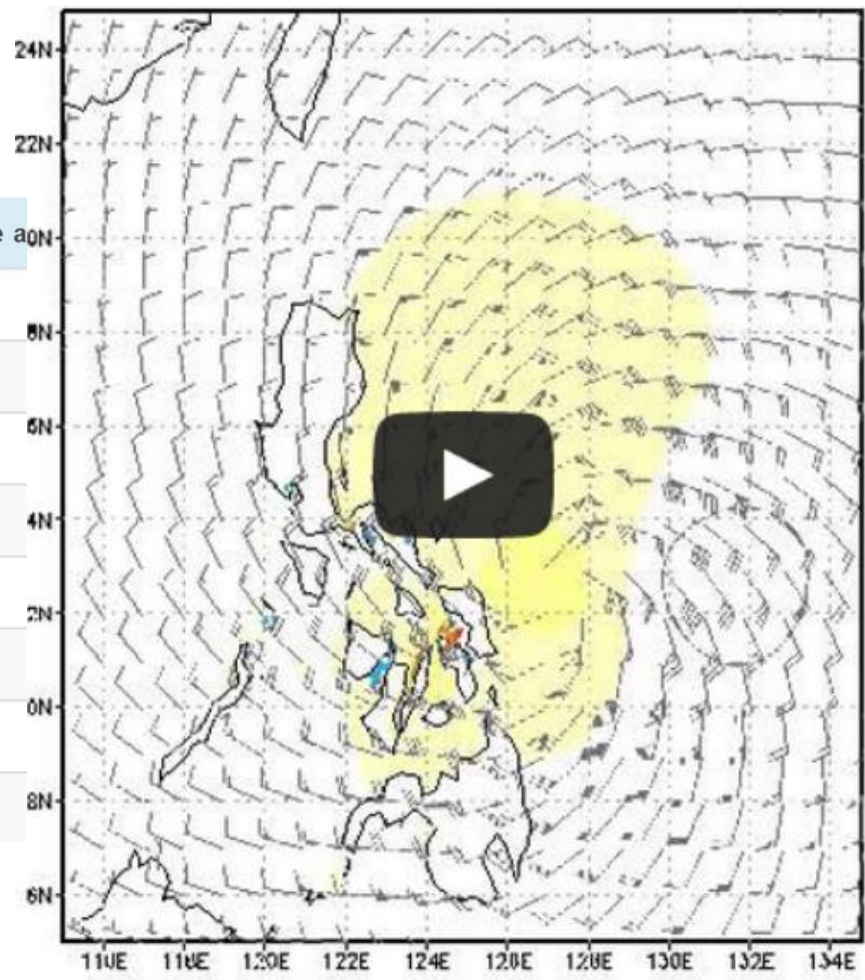
Map 4: Storm Surge Inundation Area in Southern Tacloban City



Storm Surge Inundation map



Municipality	Province	Predicted surge
Abucay	Bataan	2.51 - 3.00
San Jose	Camarines Sur	2.51 - 3.00
Tigaon	Camarines Sur	2.51 - 3.00
Lagonoy	Camarines Sur	2.51 - 3.00
Sagnay	Camarines Sur	2.51 - 3.00
Presentacion	Camarines Sur	2.51 - 3.00
Ragay	Camarines Sur	2.51 - 3.00
Del Gallego	Camarines Sur	2.51 - 3.00



Recap

- Difference between hazards and disasters
- The Culture of Safety
- Communicating Risks



Tamang impormasyon sa tamang panahon!

Maraming Salamat!