UNOSAT
Tropical Cyclone GONI
Population Exposure Analysis in Philippines
1 November 2020

Population Exposure Analysis
1 November 2020

Geneva, Switzerland

UNOSAT Contact:
Email: unosat@unitar.org
T: +41 22 767 4020 (UNOSAT Operations)
24/7 hotline: +41 75 411 4998

Postal Address:
UNITAR – UNOSAT, IEH
Chemin des Anémones 11,
CH-1219, Genève, Suisse

Overview

Tropical cyclone GONI formed on 28 October 2020 over the Philippine Sea east of Catanduanes Island with the maximum sustained winds up to 102 km/h. The category 3 Tropical Storm GONI is forecast to reach the coastal of Philippines in the early morning of 1 November, with sustained winds up to 120 km/h and then heading to Viet Nam in the early morning of 5th November. According to GDACS, Tropical Cyclone GONI can have a high humanitarian impact based on the maximum sustained wind speed, exposed population, and vulnerability.

Based on data of the forecasted tropical cyclone path of wind speeds zones from Joint Research Centre (Issued on 1 November 2020 08:00 local time), and population data from WorldPop 2020, UNITAR-UNOSAT has prepared a population exposure analysis for the Philippines. About 10% of population of the Philippines living inside wind speed zone exceed 120 km/h, 6% living inside wind speed zone of 60-120 km/h and 32% living inside wind speed zone below 60 km/h

Population Exposure in Philippines as of 1 November 2020

106 Million
Total population of Philippines (WorldPop 2020)

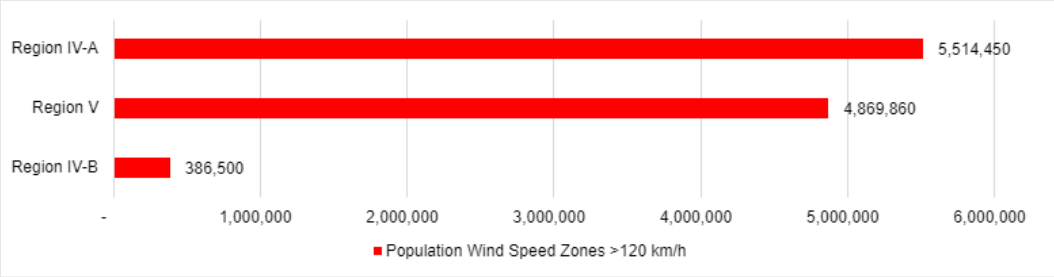
10% [10 million people]
Total population living living inside wind speed zone exceed 120 km/h (WorldPop 2020)

6% [6.5 million people]
Total population living inside wind speed zone of 60-120 km/h (WorldPop 2020)

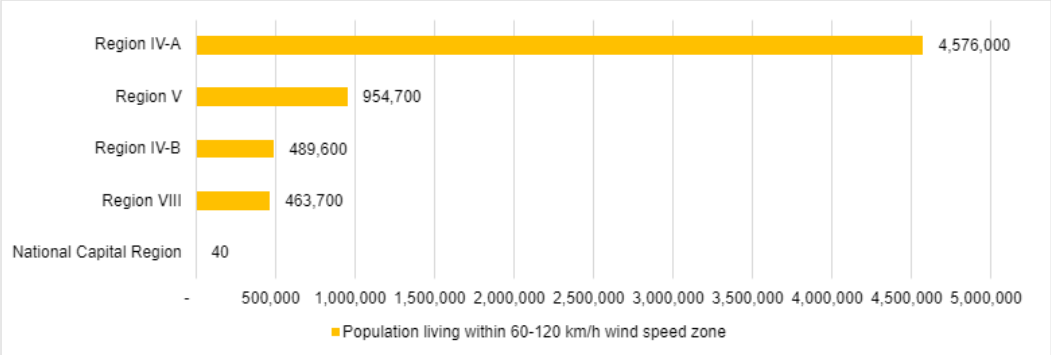
32% [34 million people]
Total population living inside wind speed zone below 60 km/h (WorldPop 2020)

The population exposure has been calculated using a 100m resolution WorldPoP dataset.
This is a preliminary analysis & has not yet been validated in the field.

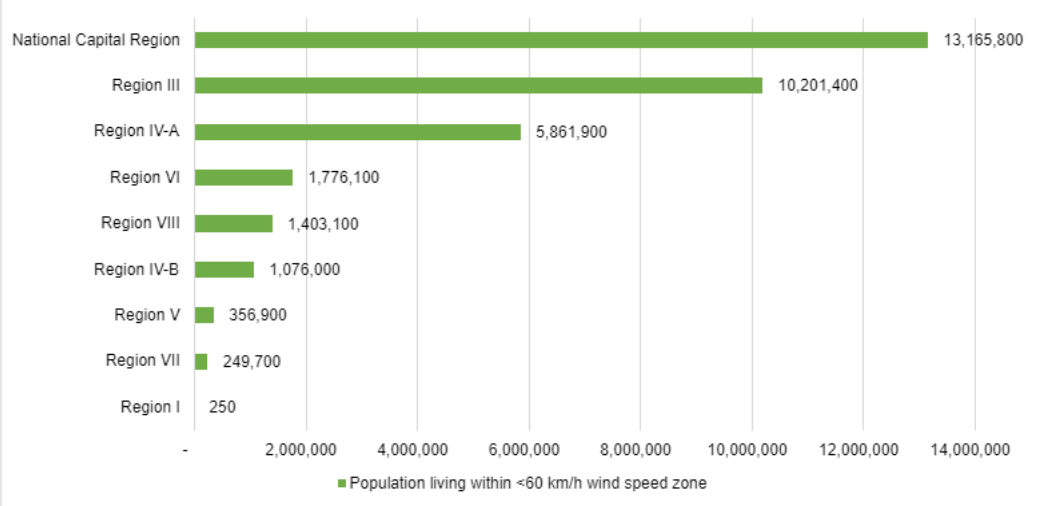
The Philippines population living within the wind speed zone exceed 120 km/h in each region.
1 November 2020 at 08:00 local time



The Philippines population living within 60-120 km/h wind speed zone in each region.
1 November 2020 at 08:00 local time



Philippines population living within the wind speed zone below 60 km/h in each region.
1 November 2020 at 08:00 local time

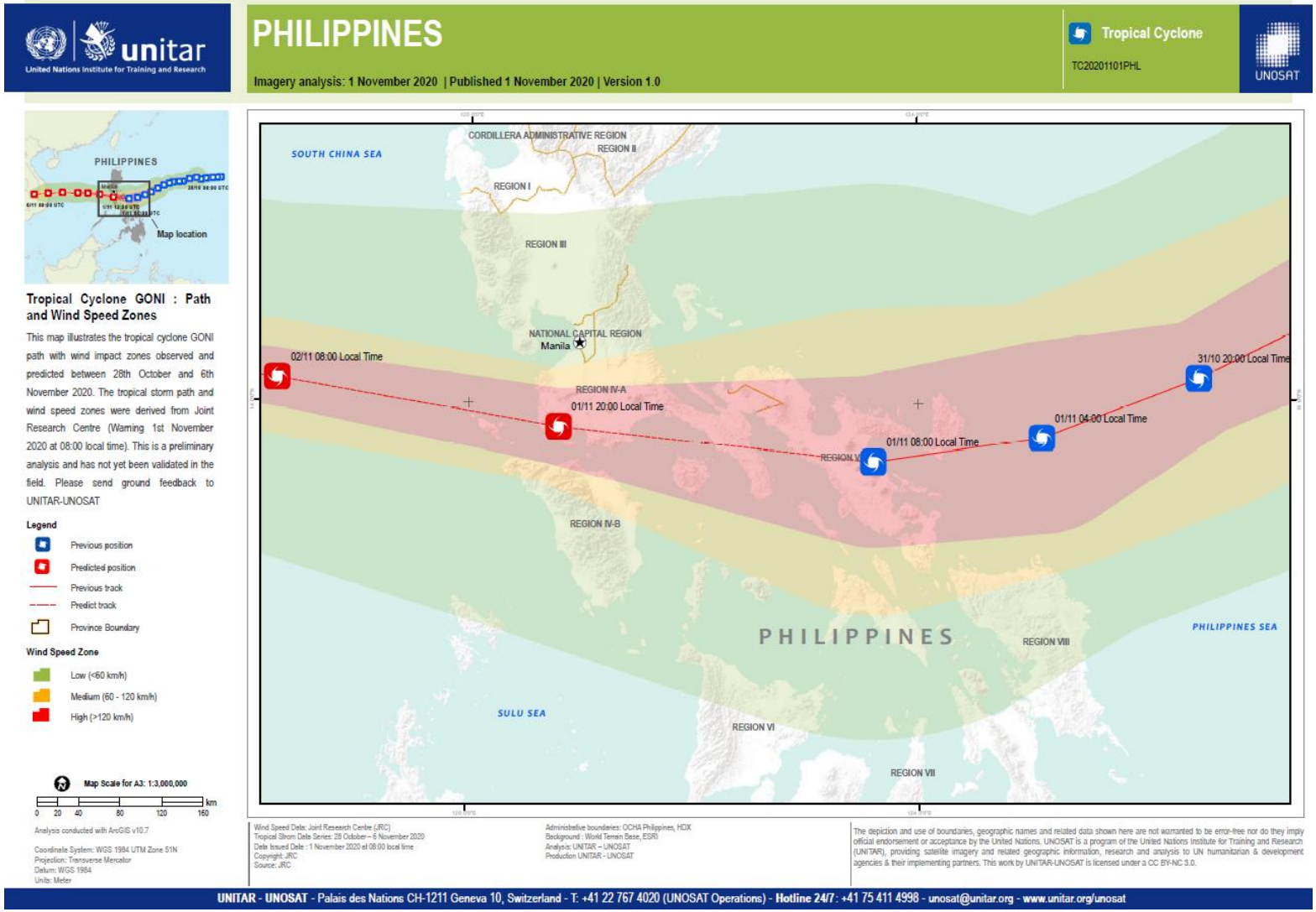


Philippines Population Exposed to Sustained Wind Speed Zones Tropical Cyclone Goni (1 November 2020, 08:00 Local Time)

Region/Province	Population			Total Population
	Wind Speed Zones			
	<60 km/h	60 - 120 km/h	>120 km/h	
Philippines	**34,091,052**	**6,484,138**	**10,770,771**	**51,345,961**
National Capital Region	**13,165,821**	**44**		**13,165,865**
NCR, City of Manila, First District	1,725,296			1,725,296
NCR, Fourth District	3,373,574	44		3,373,619
NCR, Second District	5,032,769			5,032,769
NCR, Third District	3,034,181			3,034,181
Region I	**252**			**252**
Pangasinan	252			252
Region III	**10,201,374**			**10,201,374**
Aurora	50,454			50,454
Bataan	755,768			755,768
Bulacan	3,233,408			3,233,408
Nueva Ecija	1,675,109			1,675,109
Pampanga	2,637,218			2,637,218
Tarlac	1,047,291			1,047,291
Zambales	802,126			802,126
Region IV-A	**5,861,887**	**4,576,044**	**5,514,447**	**15,952,379**
Batangas		13,243	2,814,293	2,827,536
Cavite	2,322,466	1,677,157	137,380	4,137,003
Laguna	195,498	2,726,298	599,455	3,521,252
Quezon	220,015	74,697	1,963,319	2,258,031
Rizal	3,123,908	84,648		3,208,557
Region IV-B	**1,076,003**	**489,638**	**386,465**	**1,952,106**
Marinduque			202,228	202,228
Occidental Mindoro	469,260	59,750	19,417	548,427
Oriental Mindoro	356,358	413,235	164,820	934,413
Palawan	21,541			21,541
Romblon	228,844	16,653		245,497
Region V	**356,873**	**954,698**	**4,869,859**	**6,181,429**
Albay			1,332,125	1,332,125
Camarines Norte		200,369	419,038	619,406
Camarines Sur			2,255,919	2,255,919
Catanduanes			259,294	259,294
Masbate	356,873	520,158	67,110	944,141
Sorsogon		234,171	536,372	770,543
Region VI	**1,776,053**			**1,776,053**
Aklan	608,574			608,574
Antique	110,132			110,132
Capiz	717,746			717,746
Iloilo	339,602			339,602
Region VII	**249,676**			**249,676**
Cebu	249,676			249,676
Region VIII	**1,403,112**	**463,714**		**1,866,825**
Biliran	184,037			184,037
Eastern Samar	186,151			186,151
Leyte	161,063			161,063
Northern Samar	212,346	463,714		676,059
Samar	659,515			659,515

Download full excel table here.

Sources:
Cyclone track: Joint Research Centre (JRC) as of 1 November 2020
Wind speed zones: Joint Research Centre (JRC) as of 1 November 2020 as of 00:00 UTC or 08:00 Local time
Administrative Levels: OCHA ROAP, HDX
Spatial Demographic Data: WorldPoP (2020), 100 m spatial resolution
Analysis: UNITAR-UNOSAT (1 November 2020)



Map1: Tropical cyclone GONI track with wind speed zones. Download PDF map here.