

UNOSAT

Tropical Cyclone MOCHA - 23

Population Exposure Analysis

in Bangladesh and Myanmar

13 May 2023



Population Exposure Analysis
13 May 2023
Geneva, Switzerland

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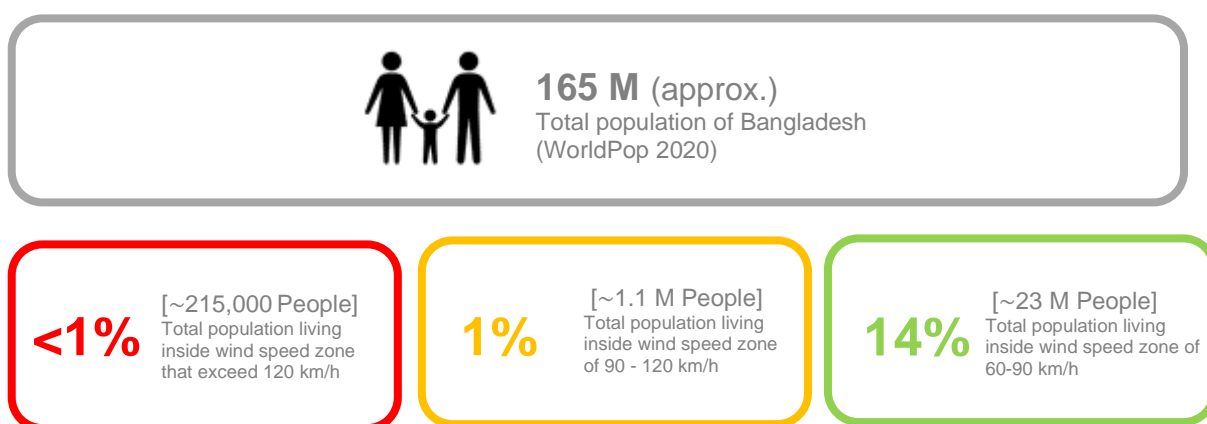
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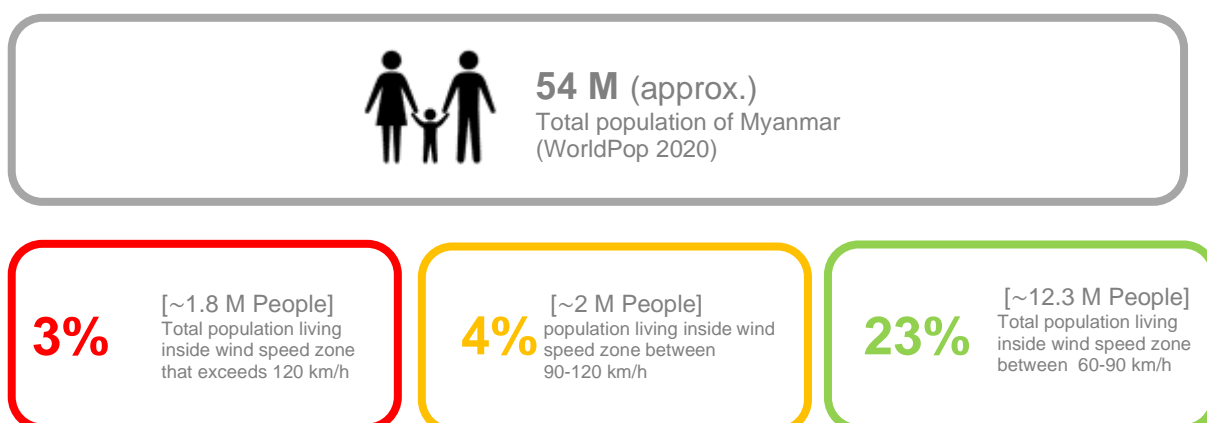
Overview

Tropical Cyclone MOCHA formed over the southern Bay of Bengal on 11 May 2023 and has since then continued to move towards western Myanmar and southern Bangladesh. On 13 May 2023 06:00 UTC, the centre of the cyclone was located over the sea close to Sittwe City (the capital of Rakhine State, western Myanmar, south-eastern Bangladesh), with maximum sustained winds of 231 km/h. According to the forecast by GDACS, tropical cyclone MOCHA can have a high humanitarian impact based on the maximum sustained wind speed, exposed population, and vulnerability.

Population Exposure in Bangladesh as of 13 May 2023



Population Exposure in Myanmar as of 13 May 2023



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

Bangladesh Population Exposed to Sustained Wind Speed Zones of TC MOCHA (13 May 2023, 12:00 Local Time)

Division/District	Population			Total Population Exposed
	Wind Speed Zones			
	60-90 km/h	90-120 km/h	>120 km/h	
Bangladesh	23,035,461	1,103,487	212,759	24,351,707
Barishal	4,892,334	-	-	4,892,334
Barguna	899,622			899,622
Barishal	350,098			350,098
Bhola	1,789,070			1,789,070
Jhalokati	98,612			98,612
Patuakhali	1,630,278			1,630,278
Pirojpur	124,656			124,656
Chattogram	18,098,550	1,103,487	212,759	19,414,796
Bandarban	317,369	212,667	2,981	533,017
Chattogram	8,536,923			8,536,923
Cumilla	373,127			373,127
Cox's Bazar	1,679,757	888,518	209,778	2,778,053
Feni	1,612,938			1,612,938
Khagrachhari	723,536			723,536
Lakshmipur	951,198			951,198
Noakhali	3,196,817			3,196,817
Rangamati	706,885	2,302		709,187
Khulna	44,577	-	-	44,577
Bagerhat	44,577			44,577

Sources:

Cyclone track: Joint Typhoon Warning Centers as of 13 May 2023 06:00 UTC or 12:00 Local time

Wind speed zones: Global Disaster Alert and Coordination System (GDACS) as of 13 May 2023 06:00 UTC or 12:00 Local time

Administrative Levels: Bangladesh Bureau of Statistics (BBS)

Spatial Demographic Data: Worldpop unconstrained [2020]), 100 m spatial resolution

Analysis: The United Nations Satellite Centre (UNOSAT)

Myanmar Population Exposed to Sustained Wind Speed Zones of TC MOCHA (13 May 2023, 12:30 Local Time)

Region or State / District	Population Wind Speed Zones			Total Population Exposed
	60-90 km/h	90-120 km/h	>120 km/h	
Myanmar	12,308,600	1,979,501	1,751,284	16,039,385
Ayeyarwady	86,719	-	-	86,719
Hinthada	75,283			75,283
Patheingyi	11,437			11,437
Bago (West)	650,231	-	-	650,231
Pyaw	650,231			650,231
Chin	108,259	176,957	240,293	525,508
Falam	93,809	74,475	15,544	183,828
Hakha	13,840	35,260	59,344	108,444
Matupi		30,038	132,600	162,638
Mindat	610	37,184	32,805	70,598
Kachin	603,932	470,760	-	1,074,691
Bhamo	71,530			71,530
Mohnyin	357,204	470,299		827,502
Myittha	175,191	461		175,652
Putao	7			7
Magway	3,668,588	118,629	132,346	3,919,564
Gangaw	15,786	103,753	132,346	251,886
Magway	1,238,095			1,238,095
Minbu	688,260	2,134		690,394
Pakokku	996,964	12,742		1,009,706
Thayet	729,484			729,484
Mandalay	2,181,176	-	-	2,181,176
Kyaukse	101,712			101,712
Meiktila	407,913			407,913
Myingyan	814,960			814,960
Nyaung-U	518,467			518,467
Pyin Oolwin	274,481			274,481
Yamethin	63,644			63,644
Nay Pyi Taw	1,214	-	-	1,214
Det Khat Na	88			88
Oke Ta Ra	1,126			1,126
Rakhine	767,813	184,449	996,076	1,948,338
Kyaukpadaung	401,775	4,937		406,712
Maungdaw		10,458	80,070	90,528

Mrauk-U	33,631	161,404	429,330	624,365
Sittwe		7,650	486,676	494,327
Thandwe	332,407			332,407
Sagaing	4,214,665	1,028,706	382,569	5,625,940
Hkamti	210,325	116,412		326,737
Kale		174,924	378,685	553,609
Kanbalu	349,554	84,766		434,320
Katha	447,905	129,231		577,136
Kawlin	167,096	192,288		359,385
Mawlaik	10,386	167,865		178,252
Monywa	823,078			823,078
Naga Self-Administered Zone	16,436			16,436
Sagaing	522,727			522,727
Shwebo	1,078,877	44,531		1,123,408
Tamu	107,335	14,638		121,973
Yinmarbin	480,946	104,051	3,884	588,881
Shan (North)	26,002	-	-	26,002
Mongmit	26,002			26,002

Sources:

Cyclone track: Joint Typhoon Warning Center as of 13 May 2023 06:00 UTC or 12:30 Local time

Wind speed zones: Global Disaster Alert and Coordination System (GDACS) as of 13 May 2023 06:00 UTC or 12:30 Local time

Administrative Levels: Myanmar Information Management Unit (MIMU)

Spatial Demographic Data: Worldpop unconstrained UN adjust [2020]), 100 m spatial resolution.

Analysis: The United Nations Satellite Centre (UNOSAT)

BANGLADESH & MYANMAR

IMAGERY ANALYSIS: 13/05/2023 PUBLISHED 13/05/2023 V1.



TROPICAL CYCLONE

TC20230510BGD
TC20230509MMR



Tropical Cyclone MOCHA: Path and Wind speed zones

This map illustrates the tropical cyclones paths for MOCHA-23 in the Myanmar and Bangladesh with observed and predicted wind speed zones between the 11th the 15th of May 2023. The tropical storms paths and wind speed zones were derived from the Joint Typhoon Warning Center (JTWC) of the 13th of May 2023 at 06:00 UTC.

This is a preliminary analysis and has not yet been validated in the field. Please send ground feedback to United Nations Satellite Centre (UNOSAT).

Legend

- ★ Capital
- City
- International boundary
- State/Region boundary
- District boundary

Cyclone location

- ◻ Previous location
- ◻ Predict location

Cyclone track

- Previous track
- Predict track

Wind speed zone

- High (>120 km/h)
- Midium (90-120 km/h)
- Low (60-90 km/h)



Spatial Reference: Name: GCS WGS 1984, GCS: GCS WGS 1984, Datum: WGS 1984, Map Units: Degree
Wind Speed Data: Joint Typhoon Warning Center (JTWC), Tropical Storm Data Series: 11 - 15 May 2023, Issued Date: 13 May 2023 at 06:00 UTC
Boundary data: Myanmar Information Management Unit (MIMU) and Bangladesh Bureau of Statistics (BBS), Populated place: OpenStreetMap, Population data: World pop Unconstrained [2020]
Background: ESRI basemap
Analysis: United Nations Satellite Centre (UNOSAT), Production: United Nations Satellite Centre (UNOSAT)
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Map1: Tropical cyclone MOCHA track with wind speed zones. Download PDF map [Click](#)