



UNOSAT

Tropical Cyclone IDAI 19

Population Exposure Analysis in Mozambique

12 March 2019

Population Exposure Analysis
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Overview

Tropical Storm "IDAI 19" formed in the Mozambique Channel on March 9, 2019 as the 10th named storm of the 2018/19 Southwest Indian Ocean cyclone season. The cyclone is expected to reach Category 4 hurricane equivalent and make landfall over Mozambique coastlines Thursday, March 14. Tropical Cyclone IDAI is moving south-southwest over the northern Mozambique Channel, strengthening. As of 11 March its centre was located approximately 120 km north-west of Maintirano (Mahajanga Province, western Madagascar) with maximum sustained winds of 167 km/h. IDAI is now at such an intensity that she can have a high humanitarian impact as by GDACS assessment. This is based on the maximum sustained wind speed, exposed population and vulnerability.

Based on data of the expected tropical cyclone path IDAI, wind speeds zones from Joint Research Centre (Issued on 12 March 2019 00:00 UTC), and population data from WorldPop 2015, UNITAR-UNOSAT conducted a population exposure analysis for Mozambique. About 6%, 3% and 10% of population of Mozambique living inside wind speed zone of 120 km/h, 90 km/h and 60 km/h accordingly.

Population Exposure in Mozambique (TC IDAI)



26,161,806

Total population of Mozambique
(*WorldPop 2015)

5,048,610

Total population living within cyclone's wind speed zones

2,592,876

Total population living within
60km/h wind speed zones

886,030

Total population living within
90km/h wind speed zones

1,569,704

Total population living within
120km/h wind speed zones

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.

**Mozambique Population Exposed to sustained wind speed zones:
Tropical Cyclone IDAI 19 (12/03/2019, 00:00 UTC)**

| Province/Municipality | Population | | | Total Population |
|-----------------------|------------------|---------|----------|------------------|
| | Wind Speed Zones | | | |
| | 60 km/h | 90 km/h | 120 km/h | |
| Mozambique | | | | |
| Inhambane | | | | |
| Govuro | 23,661 | | | 23,661 |
| Inhassoro | 64 | | | 64 |
| Manica | | | | |
| Barue | 21,751 | 32,576 | 152,024 | 206,351 |
| Gondola | 60,904 | 467,483 | 137,019 | 665,406 |
| Guro | 45,187 | | | 45,187 |
| Machaze | 5,644 | | | 5,644 |
| Macossa | 16,297 | 11,329 | 13,966 | 41,592 |
| Manica | 136,962 | 75,239 | 71,992 | 284,193 |
| Mossurize | 20,709 | | | 20,709 |
| Sussundenga | 165,401 | | | 165,401 |
| Tambara | 15,363 | | | 15,363 |
| Nampula | | | | |
| Angoche | 211,125 | | | 211,125 |
| Moma | 163,223 | | | 163,223 |
| Sofala | | | | |
| Buzi | 107,818 | 83,611 | 5,261 | 196,690 |
| Caia | 145,855 | 2,823 | | 148,679 |
| Chemba | 46,665 | | | 46,665 |
| Cheringoma | 6,739 | 20,382 | 27,087 | 54,208 |
| Chibabava | 130,510 | | | 130,510 |
| Dondo | | | 696,816 | 696,816 |
| Gorongosa | | 32 | 157,994 | 158,026 |
| Machanga | 54,688 | | | 54,688 |
| Maringue | 66,368 | 25,406 | 3,206 | 94,980 |
| Marromeu | 52,911 | 80,030 | 31,795 | 164,737 |
| Muanza | | | 35,369 | 35,369 |
| Nhamatanda | | 43,246 | 235,645 | 278,891 |
| Tete | | | | |
| Changara | 18,124 | | | 18,124 |
| Mutarara | 53,882 | | | 53,882 |

| | | | | |
|------------------|------------------|----------------|------------------|------------------|
| Zambezia | | | | |
| Chinde | 96,482 | 43,872 | 1,529 | 141,883 |
| Inhassunge | 106,996 | | | 106,996 |
| Maganja da Costa | 2,753 | | | 2,753 |
| Mopeia | 154,431 | | | 154,431 |
| Morrumbala | 92,645 | | | 92,645 |
| Namacurra | 80,002 | | | 80,002 |
| Nicoadala | 489,713 | | | 489,713 |
| Total | 2,592,876 | 886,030 | 1,569,704 | 5,048,610 |

Download full excel table from [here](#).

Sources:

Cyclone track: Joint Research Centre (JRC) as of 12/03/2019

Wind speed zones: Joint Research Centre (JRC) as of 12/03/2019, 00:00 UTC

Administrative Levels: Global Administrative Areas (GADM)

Spatial Demographic Data: WorldPop (2015), 100 m spatial resolution

Analysis: UNITAR-UNOSAT (12/03/2019)



MOZAMBIQUE

Imagery analysis: 12 - 17 March 2019 | Published 12 March 2019 | Version 1.0



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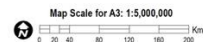


Tropical Cyclone IDAI : Path and Wind Speed Zone

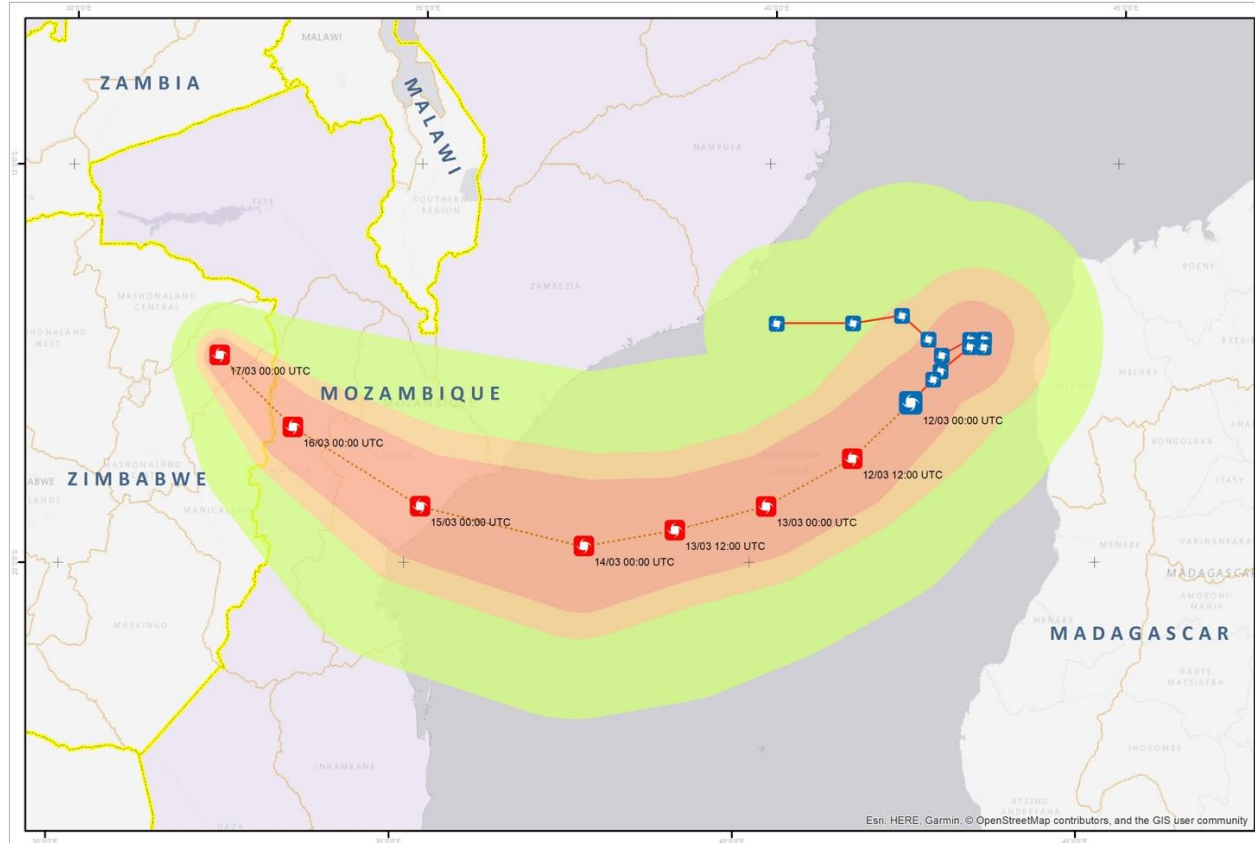
This map illustrates the tropical cyclone IDAI path with wind impact zones observed and predicted between 12-17 March 2019. The tropical cyclone path and wind speed zones were derived from Joint Research Centre data (issued the 12 March 2019 at 00:00 UTC). This is a preliminary analysis and has not yet been validated in the field. Please send ground feedback to UNITAR - UNOSAT.

Legend

- Previous position
 - Predicted position
 - Previous track
 - Predicted track
- Wind Speed Zone**
- Low (60 km/h)
 - Medium (90 km/h)
 - High (120 km/h)



Analysis conducted with ArcGIS v10.6.1
 Coordinate System: World Robinson
 Projection: Robinson
 Datum: WGS 1984
 Units: Meter



Wind Speed Data: Joint Research Centre
 Date Series: 12 - 17 March 2019
 Administrative boundaries: GADM
 Copyright: JRC
 Source: JRC

Baseline Data: ESRI
 Analysis: UNITAR - UNOSAT
 Production: UNITAR - UNOSAT

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Map1: Tropical cyclone IDAI track with low, medium and strong wind speed zones. Download PDF map [here](#).