

Population Exposure

Heavy Rains in Mozambique & Zimbabwe

January 2017

Prepared by

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Situation Overview

Torrential rains falling in central and southern Mozambique, from the 1st to the 18th of January, 2017, have resulted in flooding. Precipitation levels over the last seven days reached over 650 mm, which exceeds average precipitation levels of 209.3 mm according to [The World Bank Group](#). Around 5,000 people of Dondo district, Sofala province, are without road communication with the rest of Mozambique. Moving around the district is only possible by boats ([Club of Mozambique](#)). Rivers, such as the Buzi River in southern Mozambique, have overflowed.

In Zimbabwe, the Marimba River in Budiriro, near the capital Harare, overflowed from its banks after several days of heavy rain. Families were forced to evacuate their homes on the 13th of January, 2017 ([FloodList](#)).

This report provides a population per precipitation accumulation zone analysis over Mozambique and Zimbabwe. The analysis was conducted according to the estimated precipitation accumulation data derived from the Global Precipitation Measurement (GPM) dataset of the last seven days (12th to the 18th of January, 2017) at a spatial resolution of approximately 10km. The population data was derived from WorldPop.

According to our analysis approximately 600,000 people in Mozambique may be exposed to over 500 mm of precipitation and 1,000,000 people may be exposed to 300-500 mm of precipitation over the last seven days. Furthermore, for Zimbabwe, approximately 200,000 people may be exposed to 300-500 mm of precipitation over the last seven days from the 12th to the 18th of January, 2017.

Population per Precipitation Accumulation Zone for Mozambique

The following table provides a population per precipitation accumulation zone analysis over Mozambique according to the estimated precipitation accumulation data derived from the Global Precipitation Measurement (GPM) dataset at a spatial resolution of approximately 10km. The table presents data over the last seven days from the 12th to the 18th of January, 2017,

Province	Prec ≤ 40 mm	40 < Prec ≤ 100 mm	100 < Prec ≤ 200 mm	200 < Prec ≤ 300 mm	300 < Prec ≤ 500 mm	Prec > 500 mm	Grand Total
Cabo Delgado	1,961,551	8,068					1,969,619
Gaza	188,345	760,493	227,497	23,697	15,278	95	1,215,406
Inhambane		311	270,498	231,367	547,452	516,602	1,566,230
Manica		117,043	1,133,659	509,697	129,195	18,953	1,908,547
Maputo	1,221,714	314,342	149,141	1,999			1,687,196
Maputo City	1,308,794	153,351	111,653				1,573,798
Nampula	4,494,132	543,811	35,740				5,073,684
Niassa	213,641	849,715	524,234	34,274	1,556		1,623,419
Sofala		117,737	1,390,138	232,172	289,689	67,339	2,097,074
Tete		419,672	1,763,016	262,749			2,445,437
Zambezia	918,633	1,591,957	1,652,880	533,263	189,402		4,886,135
Grand Total	10,306,812	4,876,501	7,258,455	1,829,217	1,172,572	602,988	26,046,545

Sources:

Administrative Levels: OCHA, WFP

Precipitation data: NASA

Spatial demographic data: WorldPop (2015)

Analysis: UNITAR-UNOSAT (19/01/2017)

Population per Precipitation Accumulation Zone for Zimbabwe

The following table provides a population per precipitation accumulation zone analysis over Zimbabwe according to the estimated precipitation accumulation data derived from the Global Precipitation Measurement (GPM) dataset at a spatial resolution of approximately 10km. The table presents data over the last seven days from the 12th to the 18th of January, 2017,

Province	Prec ≤ 40 mm	40 < Prec ≤ 100 mm	100 < Prec ≤ 200 mm	200 < Prec ≤ 300 mm	300 < Prec ≤ 500 mm	Grand Total
Bulawayo		120,097	625,292			745,389
Harare			2,153,546	99,423		2,252,968
Manicaland		114,116	1,250,773	497,258	29,707	1,891,855
Mashonaland Central		131,886	688,688	391,678		1,212,253
Mashonaland East		4,019	707,215	578,703	149,448	1,439,385
Mashonaland West		161,867	1,111,993	295,908		1,569,768
Masvingo	83,788	888,025	619,619	3,050	1,468	1,595,950
Matabeleland North	37	74,415	480,308	212,060	9,460	776,279
Matabeleland South	278,153	333,172	119,418	8,789		739,532
Midlands	4,709	722,453	892,679	157,581		1,777,423
Grand Total	366,687	2,550,052	8,649,530	2,244,451	190,083	14,000,803

Sources:

Administrative Levels: OCHA, WFP

Precipitation data: NASA

Spatial demographic data: WorldPop (2015)

Analysis: UNITAR-UNOSAT (19/01/2017)



MOZAMBIQUE - ZIMBABWE



Precipitation Accumulation GPM Data: 12-18 January 2017 | Published 19 January 2017 | v.1

FL20170118MOZ



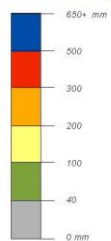
Estimated Precipitation Accumulation for Mozambique and Zimbabwe

This map illustrates the estimated total precipitation accumulation for Mozambique and Zimbabwe. The total estimate was derived from the Global Precipitation Measurement (GPM) dataset at a spatial resolution of approximately 10km, and covers the period from 12 to 18 January 2017. The average precipitation during January is usually 209 mm in Mozambique and 155 mm in Zimbabwe. It is possible that precipitation levels may have been underestimated for local areas, and are not a substitute for ground station measurements. Please send ground feedback to UNITAR - UNOSAT.

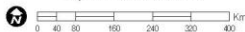
Legend

- City
- ⊕ Capital
- ▭ Mozambique boundary
- ▭ Province boundary

GPM Estimated Precipitation (mm) from (12 Jan - 18 Jan 2017)



Map Scale for A3: 1:8,500,000



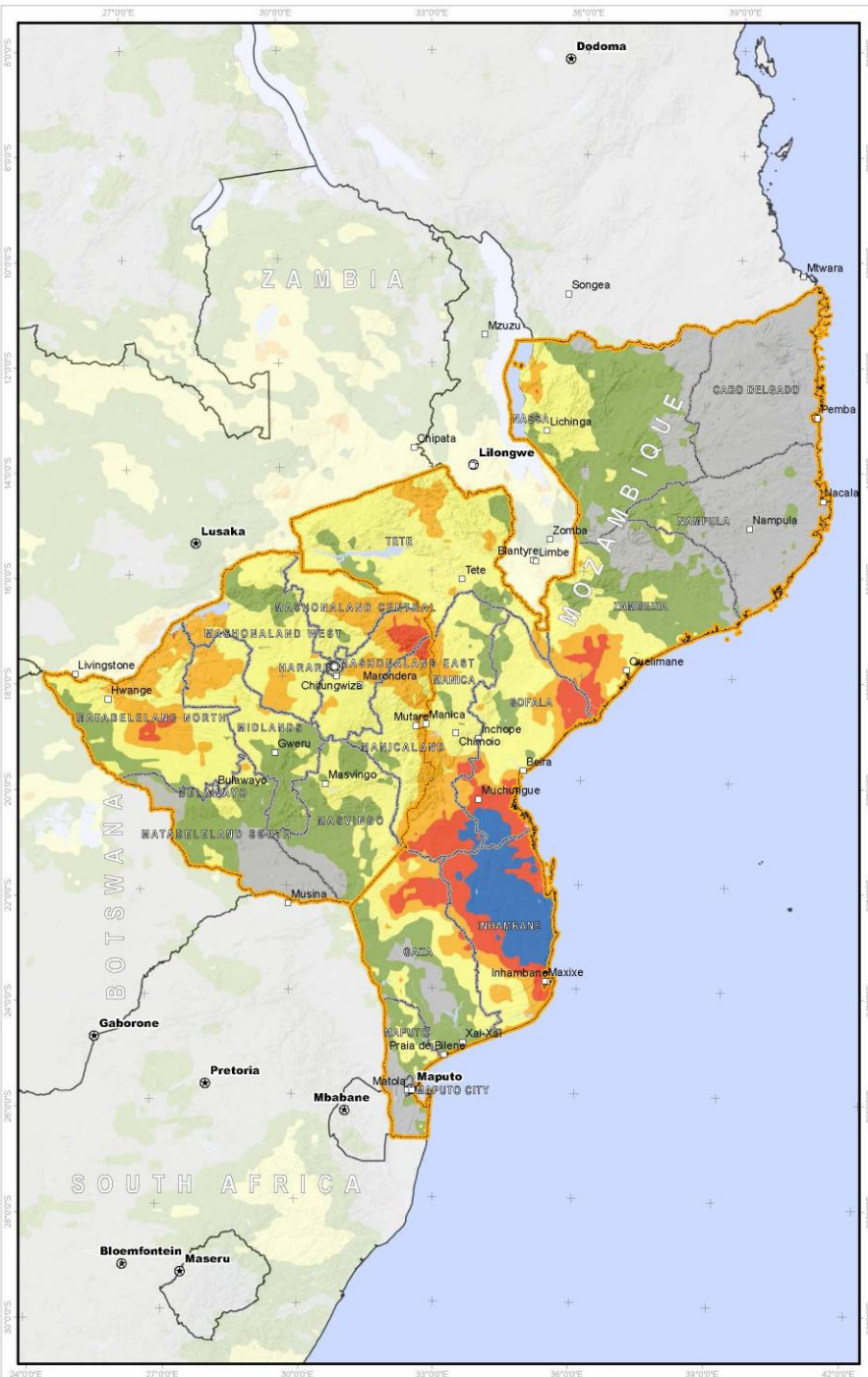
Analysis conducted with ArcGIS v10.4.1

Coordinate System: WGS 1984 UTM Zone 36S
 Projection: Transverse Mercator
 Datum: WGS 1984
 Units: Meter

Precipitation Data: GPM
 Resolution: ~10km
 Date Series: 12 - 18 January 2017
 Copyright: NASA
 Source: NASA

Average Precipitation Data: The World Bank Group
 Date Series: 1990-2012
 Baseline Data: OSM, OCHA & WFP
 Analysis: UNITAR - UNOSAT
 Production: UNITAR - UNOSAT

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The map is available to download [here](#).

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The analysis has not been verified in the field yet; please send your comments and feedback to unosat@unitar.org.

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