

SEVERE WEATHER DESK: TROPICAL CYCLONES

Meteorological Services Department Of Zimbabwe
Ministry of Lands, Agriculture, Water, Climate and
Rural Resettlement

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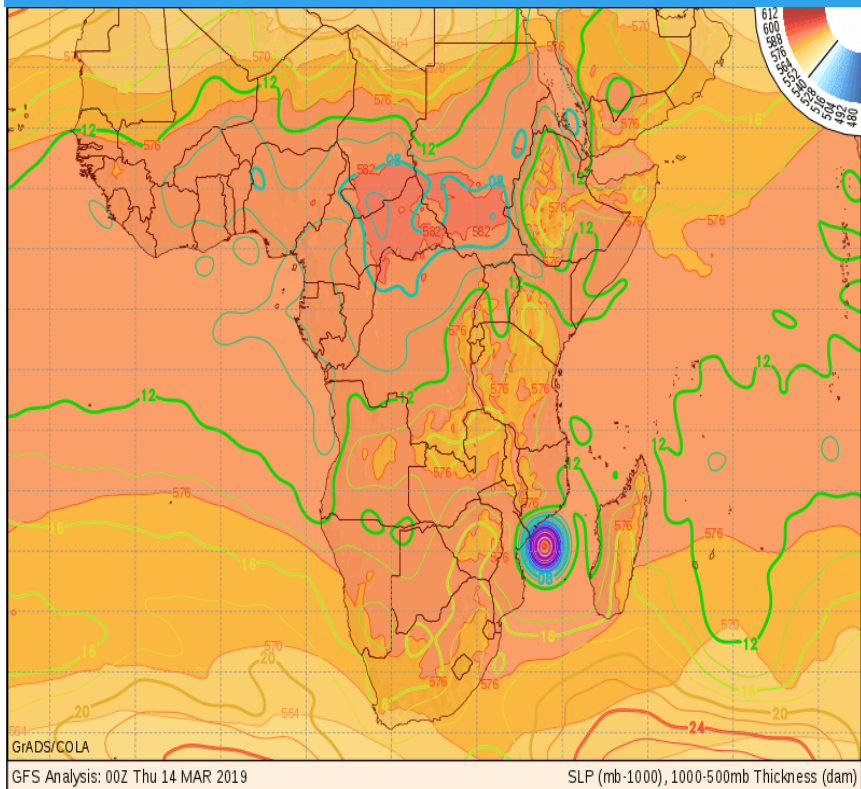
05 NOVEMBER 2019



OUTLINE OF PRESENTATION

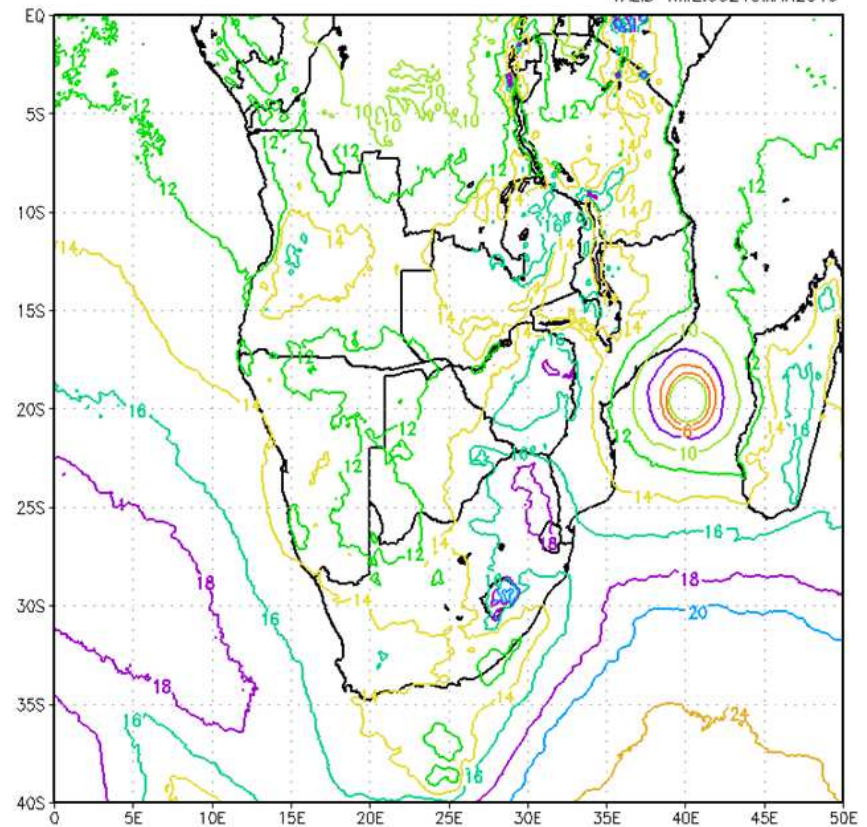
- **FORECASTING PROCESS**
 - **GAPS & NEEDS**
 - **DAMAGES DUE TO IDAI**
- 

LOCAL VS GLOBAL MODEL



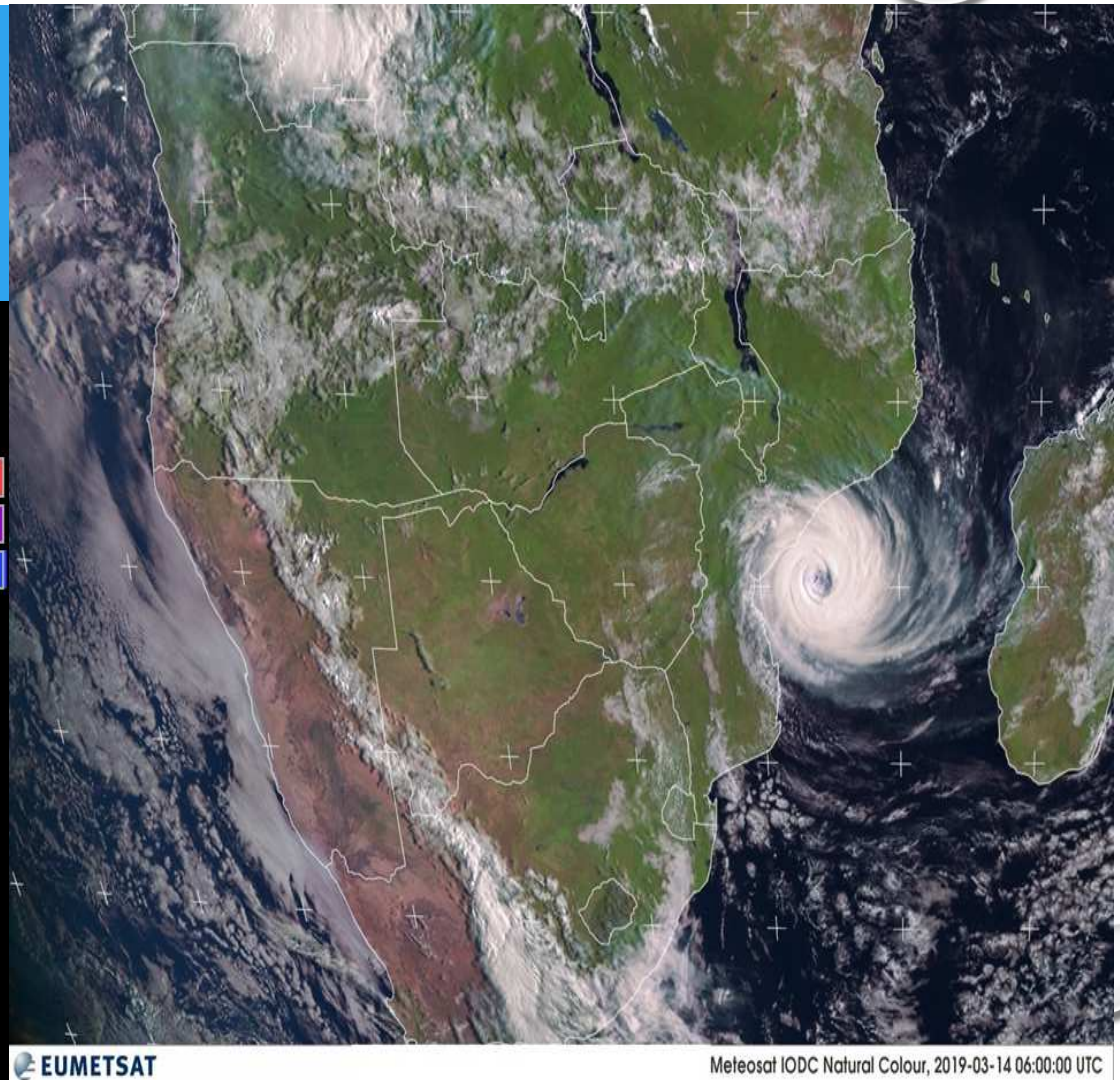
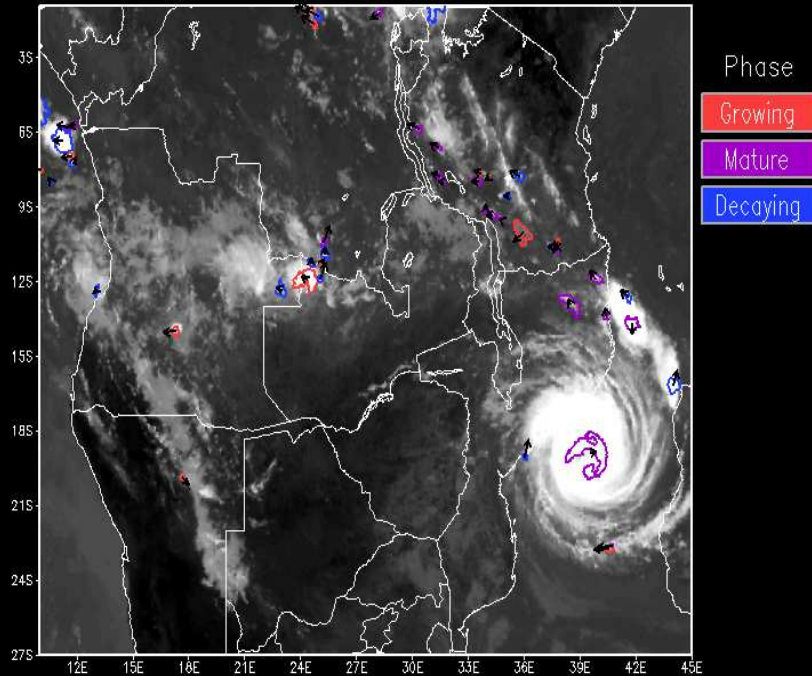
WRF 3.8
SLP FORECAST (mb-1000)

RESOLUTION:12km
MSD ZIMBABWE
VALID TIME:00Z13MAR2019

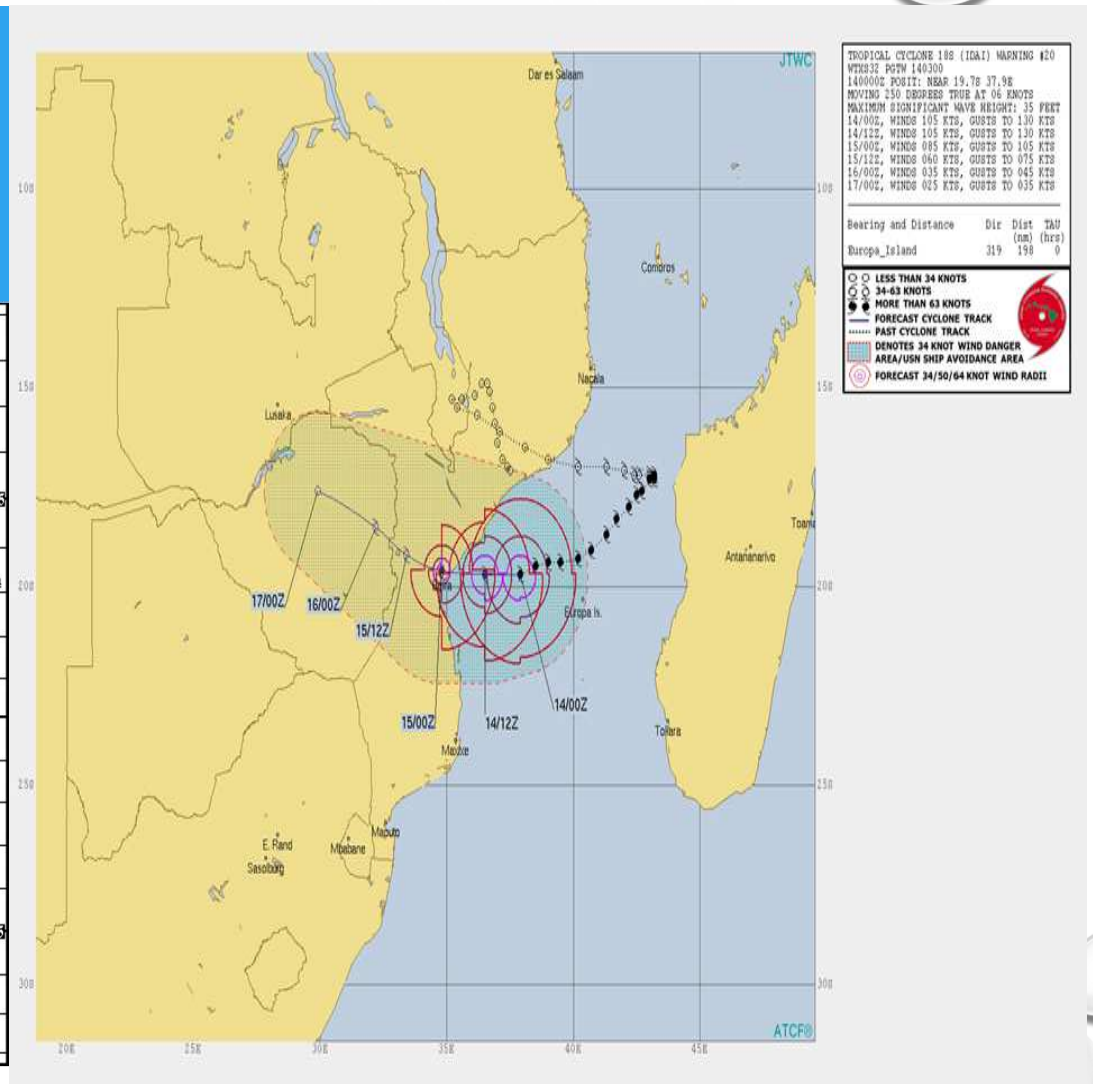
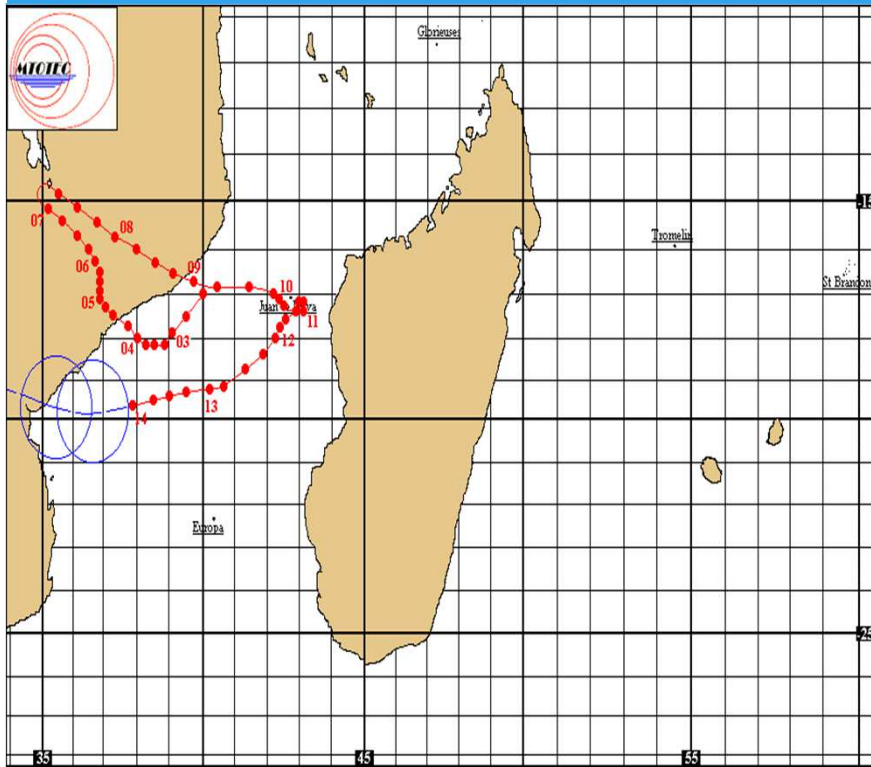


SATELLITE IMAGERY; RAPID DEVELOPING THUNDERSTORMS

RDT (v2016) for 20190313 at 0900UTC



CYCLONE TRACKING IMAGERY



TROPICAL CYCLONE 188 (IGAI) WARNING #20
 WTS32 POTH 140300
 14/000Z POSIT: NEAR 19.78 37.98
 MOVING 150 DEGREES TRUE AT 06 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 35 FEET
 14/00Z, WINDS 105 KTS, GUSTS TO 130 KTS
 14/12Z, WINDS 105 KTS, GUSTS TO 130 KTS
 15/00Z, WINDS 085 KTS, GUSTS TO 105 KTS
 15/12Z, WINDS 040 KTS, GUSTS TO 075 KTS
 16/00Z, WINDS 035 KTS, GUSTS TO 045 KTS
 17/00Z, WINDS 025 KTS, GUSTS TO 035 KTS

Bearing and Distance	Dir	Dist (nm)	TAD (hrs)
Europa_Island	319	190	0

- LESS THAN 34 KNOTS
- 34-63 KNOTS
- MORE THAN 63 KNOTS
- FORECAST CYCLONE TRACK
- PAST CYCLONE TRACK
- DENOTES 34 KNOT WIND DANGER AREA/USN SHIP AVOIDANCE AREA
- FORECAST 34/50/64 KNOT WIND RADII

WATCH: TC IDAI – TUESDAY, 12 MARCH 2019

- THE POSITION OF THE CYCLONE (NORTHERN SECTOR OF THE MOZAMBIQUE CHANNEL): BY VIRTUE OF THIS POSITION IT WAS DRYING OUT THE COUNTRY
- TRAJECTORY OF THE CYCLONE (MOVING SOUTH-EASTWARD AT 5 KM/H): EXPECTED TO MOISTEN THE COUNTRY (EASTERN HIGHLANDS) BY THURSDAY, 14 MARCH 2019

DATE: 12 MARCH 2019



**SUBJECT MATTER: MONITORING OF TROPICAL CYCLONE IDAI
(CURRENTLY IN THE NORTHERN SECTOR OF THE MOZAMBIQUE CHANNEL)**

A tropical cyclone named IDAI (*name supplied by Zimbabwe*) is currently in the northern sector of the Mozambique Channel (near 18° south and 42° east) **today, Tuesday 12 March 2019**. In this quasi-stationary position it is drying out the bulk of Zimbabwe while at the same time inducing a steady cool breeze over the eastern and south-eastern parts of the country (namely Manicaland, parts of Masvingo Province into Mashonaland East).

Presently Idai (currently **WATCH GREEN** category, see table below) is moving south-westwards at a speed of 5 km/h; if this present speed and trajectory is maintained, it is expected to start moistening the country's atmosphere beginning with the **Eastern Highlands** on **Thursday evening, 14 March**. However due to the nature of such systems this path and speed can change drastically. The Meteorological Services Department will continue to monitor intensity and trajectory of Tropical Cyclone Idai and advise the public accordingly.

Issued by Meteorological Services Department

WATCH GREEN	ALERT-ORANGE	WARNING -RED
WIND GUSTS POSSIBLE	 FLOODING IS POSSIBLE	 SERIOUS FLOODING EXPECTED IN LOW LYING AREAS
		



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ALERT: TC IDAI – THURSDAY, 14 MARCH 2010


- STARTING EVENING OF **THURSDAY, 14 MARCH 2019**, TC IDAI WAS EXPECTED TO AFFECT THE COUNTRY WITH THE PEAK OF THE EVENT EXPECTED ON **FRIDAY, 15 MARCH 2019** DUE TO ANTICIPATED LANDFALL ON THE SAME DAY
- RAINFALL IN EXCESS OF **50MM** (IN 24HRS) WERE EXPECTED IN PLACES OVER **MANICALAND** AND **MASVINGO PROVINCES**



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All correspondences should be addressed to the Director
Minimizing Risks through Science



DATE: 14 MARCH 2019



ALERT

SUBJECT MATTER: ANTICIPATED HEAVY RAINS AND STRONG WINDS DUE TO TROPICAL CYCLONE IDAI (CURRENTLY IN THE CENTRAL MOZAMBIQUE CHANNEL).




As a follow up to the **WATCH** that was issued on Tuesday 12 March 2019, tropical cyclone IDAI has taken the south-westward direction as was predicted earlier. By this morning Thursday 14 March 2019, it was located near 19° south and 37° east. It is expected to continue moving towards the Mozambique boarder and is anticipated to make landfall (**Beira, Sofala Province, Mozambique**) in the early morning hours (0200hr) of tomorrow, Friday 15 March 2019.

Thus, starting this evening, Thursday 14 March 2019, **Masvingo, Manicaland, Mashonaland East and Central provinces** should start experiencing cloudy and windy conditions with isolated thundershowers. Elsewhere, it should be partly cloudy. However, from Friday 15 March 2019 due to increased moisture after the expected landfall of tropical cyclone IDAI; it should be cloudy across the country with intermittent moderate rainfall over **Masvingo, Manicaland, Mashonaland East and Mashonaland Central**. Rainfall of 50mm in 24hours are expected in some places (localised heavy falls) over these areas accompanied by strong winds. The peak of the rainfalls should be the Friday 15th of March 2019.

Tropical cyclone IDAI, after landfall it is expected to take a north-westerly trajectory moving further inland reaching Zimbabwe by the 17th of March 2019. If the projected movement of the cyclone is maintained, this should continue to bring moisture over most parts of Zimbabwe with significant rainfall (at least 30mm in 24hours) over **Masvingo, Manicaland, Mashonaland East and Mashonaland Central**.

The Meteorological Services Department will continue to monitor intensity and trajectory of Tropical Cyclone Idai and advise the public accordingly.


Issued by Meteorological Services Department

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Page 1 / 1

WARNING: TC IDAI – THURSDAY, 14 MARCH 2010

- RAINFALL IN EXCESS OF 50MM (IN 24HRS) WERE EXPECTED IN PLACES OVER MANICALAND AND MASVINGO PROVINCES, WITH EVEN HEAVIER FALLS FORECAST TO AFFECT CHIPINGE AND CHIMANIMANI
- IMPLICATIONS: HEAVY DOWNPOURS, DAMAGING WINDS, LIGHTNING, LANDSLIDES AND FLASH FLOODING




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Minimising Risks through Science



MSD
METEOROLOGICAL
SERVICES
DEPARTMENT

DATE: 14 March 2019



WARNING

SUBJECT MATTER: RISK OF FLASH AND RIVER FLOODING DUE TO CONTINUED RAINFALL AFTER CYLONE IDAI MAKES LANDFALL TODAY, THURSDAY EVENING 14 TO SUNDAY 17 MARCH 2019

In general, rains are expected over the eastern half of the country from Wednesday 13 until Saturday 16 February 2019, with heavy falls in some places. Of note however, on **Friday 15 and Saturday 16 March, parts of Manicaland, Matabeleland South, Masvingo Provinces, as well as southern areas of Midlands Province** are forecast to receive heavier rains in excess of 50mm in 24 hours, with even heavier falls over in districts such as **Chipinge, Chimanimani, Bikita, Mutare Rural, Buhera** into **Chiredzi**.

Thereafter, the rains should steadily ease off giving way to bright and showery conditions in most areas, and localized heavier falls in places.

Implications and Recommendations




Indications are that these rains may result in **heavy downpours, damaging winds, lightning, hail, landslides, flash flooding**. Uprooting of trees and damage to infrastructure cannot be ruled out with this type of rainfall intensity.

Some of the precautions to be taken onboard are:

- **Avoid crossing flooded rivers and swollen streams** where the depth is unknown.
- **Flash flooding** may occur especially in low laying areas and river planes; where possible move from such areas.
- Try to avoid being caught outdoors or on the road during heavy storms, more so at night when flood dangers are more difficult to perceive.

The Department will continue monitoring the conditions and update the public accordingly. The public is also being requested to provide feedback or information on [disasters](#). We are on twitter, [facebook](#) and [whatsapp](#).

ISSUED BY: The Meteorological Services Department

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CYCLONE INDUCED DAMAGES: LIFE AND PROPERTY LOST

Place	Houses Destroyed	Missing People	Deaths
Chipinge	9 347	0	6
Chimanimani	5 324	325	173
Total	14 671	325	179



NATIONAL DISASTER MANAGEMENT

GAPS

- SHORTAGE OF OBSERVING AND FORECASTING TOOLS
- LOOSE EARLY WARNING SYSTEM
- POOR COORDINATION BETWEEN AUTHORITIES
- INADEQUATE SKILLSET
- STAFF SHORTAGE

NEEDS

- RADARS, SATELLITE RECEIVERS, DIGITAL THERMOMETERS & BAROMETERS, AWS, AWOS, MESSAGE SWITCHING SYSTEMS, COMPUTERS (LAPTOPS & DESKTOPS)
- NEED FOR AN EFFECTIVE INTEGRATED EWS: ESTABLISHING AN EARLY WARNING UNIT; STANDARD OPERATING PROCEDURES; ESTABLISHING A NATIONAL FRAMEWORK FOR CLIMATE SERVICES
- NEED FOR CRITICAL TECHNICAL COURSES FOR PROFESSIONALS (GIS, MODELLING, COMPUTER PROGRAMMING)



Candy

