



METEOROLOGICAL SERVICES DEPARTMENT NEWSLETTER



VOLUME 1 | ISSUE 3

20-05-2024

Stories in this issues

- Weather update: what to expect in the future.
- UNDP's contribution to the Meteorological Services Department and Zimbabwe as a whole.
- Meteorological Services Department's exhibition at the 2024 UNDP Consultative Stakeholders meeting.
- What you need to know about Tropical Cyclones.

Editorial Team

Tinetariro Chikati

Moven Manjowe

Blessed Sibanda

Praise Govere



Weather: Where Science Meets The Sky

PRODUCTS AND SERVICES

GCF 10 Day Weather Advisory

MATOBO DISTRICT: ISSUE DATE AND TIME		FRIDAY 17 MAY 2024 @1600HRS
VALID		FRIDAY 17 MAY 2024 - SUNDAY 26 MAY 2024
Period	Weather Conditions	Local Language
FRI 17 - SAT 18	<ul style="list-style-type: none"> Cold conditions in the morning and mild conditions by the afternoon under cloudless skies. 	<ul style="list-style-type: none"> <i>Kuzaqanda ekuseni ku khudumale emini kungela ngitsho iyezi.</i>
SUN 19 - SUN 26	<ul style="list-style-type: none"> Mostly sunny conditions, cold in the morning and warm by afternoon. 	<ul style="list-style-type: none"> <i>Kuza kuba lelanga, kuqande ekuseni, ku khudumale Emini</i>
ADVISORY English <ul style="list-style-type: none"> Protect poultry houses from winds and cold. Pen goat kids and calves in warm pens. Water your vegetables in the morning and evenings Transplant seedlings in the morning and evenings Keep warm. 		ADVISORY Local Language <ul style="list-style-type: none"> Izilugu zemkukhu azivikelwe emqandweni lo. moyo omnengi Valela amazinyane ia mathole ezibayeni ezikhudumalayo Thelela isivande ekuseni la ntambama Gxumeka usaba ekusemi kumbe ntamba Gqoka okukhudumalayo

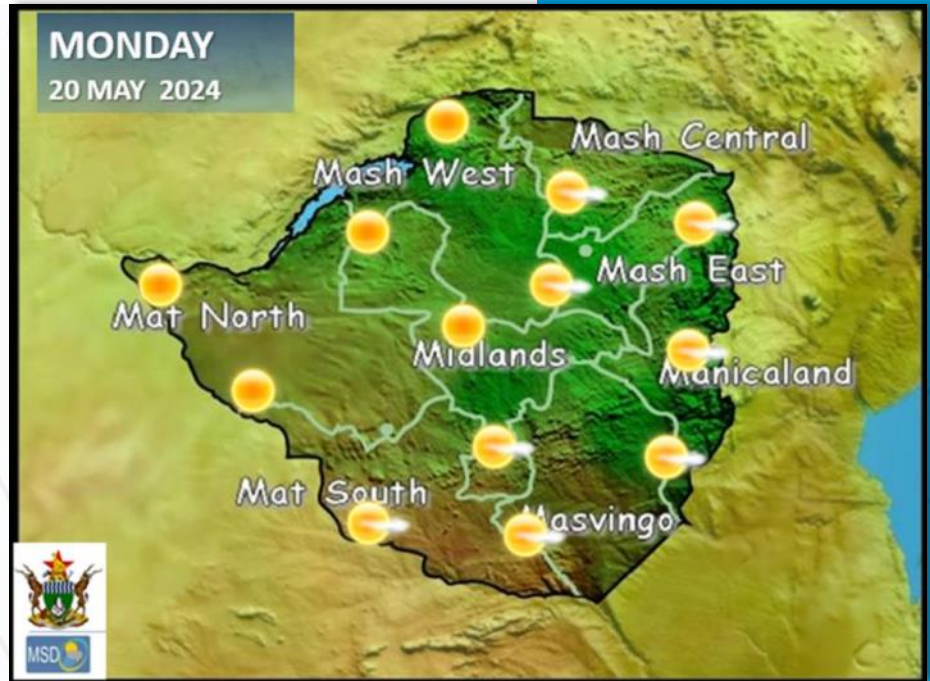
CHIPINGE DISTRICT: ISSUE DATE AND TIME		FRIDAY 17 MAY 2024 @1600HRS
VALID		FRIDAY 17 MAY 2024 - SUNDAY 26 MAY 2024
Period	Weather Conditions	Local Language
FRI 17 - SAT 18	<ul style="list-style-type: none"> Mostly sunny conditions, cold in the morning and warm by afternoon. 	<ul style="list-style-type: none"> <i>Kuno ningirwa kuti kuchaa nezuva kuchitonhora mangwanani kwozodziya ave masikati.</i>
SUN 19 - SUN 26	<ul style="list-style-type: none"> Partly cloudy conditions, cold in the morning and warm by afternoon. 	<ul style="list-style-type: none"> <i>Kuno ningirwa kuti kuchaa nemakore akapararira, kuchitonhora ari mangwanani kwozodziya ave masikati.</i>
ADVISORY English <ul style="list-style-type: none"> Farmers let's continue Harvesting our maize. Let's SUN dry our harvested crops before we apply grain protectant. Let's apply grain protectants before weevil infestation. Farmers should continue Hay and silage making. Winter Wheat Farmers let's continue planting. 		ADVISORY Local Language <ul style="list-style-type: none"> Varimi ngatikukure mbesa dzose dzaoma. Ngatianike mbesa dziome tisati taisa mushonga wezvifukuto. Tisazoisa mushonga zvipfukuto zvavemo. Varimi ngatishandise mukana uyu kugadzirira zvifuyo chikafu. Saileji uye hayi. Varimi ngatishandise mukana uyu kusima koroni.

PRODUCTS AND SERVICES

Weather Report and Forecast For Monday 20 May

Weather outlook for Monday 20 May 2024

Anticipate brief clouds and cold conditions in the southern parts of the country namely Matabeleland South, the extreme northern parts of Mashonaland East provinces and the northern parts of Manicaland. However, it should become mostly sunny in the afternoon. The Zambezi valley is expected to under mild conditions and for the remaining areas, they should be cold at first in the morning and warm by the afternoon under clear skies.



Weather Report and Forecast For the Period Tuesday 21 May to Monday 27 May 2024

The forecast for this period indicates predominantly clear skies and cool morning conditions across Zimbabwe. However, along the Highveld, mornings should be cold with slight ground frost being expected in areas such as **Henderson, Nyanga, Mukandi, Rusape, Marondera, Wedza, Gweru, and Matopos**. Afternoons should be warm, while evenings will become cooler.

On Saturday 25 May, a pressure rise to the south east coast of the subcontinent is expected to bring a cooling south-easterly airflow, windy and cool conditions in provinces such as **Matabeleland South, southern parts of Midlands, Masvingo and Manicaland**.

Impacts of the weather for the review and forecast period.

Temperatures are slowly declining, more so overnight. This reduces the heat units affects poultry projects and other temperature sensitive initiatives.

Health sector is one of the key sectors of focus as the seasons transitions into winter, and respiratory related illnesses being of concern.

Africa day celebrations should be held under mostly sunny and warm conditions, though the morning and evening of Saturday 25 May should be cold.

**FOCUSING
ON
IMPACTS
AND
ACTIONS
TO
TAKE**

PRODUCTS AND SERVICES

Weather Report and Forecast For the Period Tuesday 20 May to Monday 27 May 2024

#IMPACTBASEDFORECAST

Actions to take

Farmers facing cold conditions and the threat of frost need to take several proactive actions to protect their crops and livestock. Here are some key steps farmers can take:

Monitor Weather Forecasts Closely:

Closely track weather forecasts and be prepared for any upcoming cold snaps or frost events. Stay informed on the predicted timing, duration, and severity of the cold conditions.

Implement Frost Protection Measures:

Deploy frost protection methods like irrigation, wind machines, heaters, and row cover as needed. Ensure all frost protection equipment is in good working order and ready for deployment.

Protect Livestock:

Provide adequate shelter, bedding, and supplemental heating for livestock. Ensure access to unfrozen water and extra feed/forage. Move livestock to the most sheltered and insulated housing available.

Inspect and Maintain Irrigation Systems:

Check for any frozen or damaged pipes, valves, and sprinklers. Drain irrigation systems to prevent freeze damage.

Cover or Insulate Sensitive Crops:

Use row covers, tarps, or other insulating materials to protect tender plants.

Focus protection efforts on the most vulnerable crops and young plants.

Prune and Mulch Perennial Crops:

Prune trees and vines to remove any dead or damaged growth. Apply insulating mulch around the base of plants to protect roots.

Harvest or Relocate Crops if Possible

Harvest any mature crops that can be protected from the cold. Consider moving potted or containerized plants to sheltered locations.

Monitor and Assess Damage:

Carefully inspect crops and livestock after cold snaps to assess any damage. Be prepared to implement recovery measures like pruning, fertilizing, or replanting

During cold conditions, the public can take several actions to reduce the risk of cold-related diseases and illnesses. Here are some key steps the public can take:

Dress Appropriately:

Wear layers of loose, warm clothing that cover as much exposed skin as possible. Wear a hat, scarf, and gloves to prevent heat loss from the head, neck, and hands. Choose moisture-wicking fabrics that will keep skin dry.

Limit Time Outdoors:

Avoid prolonged exposure to cold temperatures, especially for the elderly, young children, and those with

pre-existing medical conditions. If possible, stay indoors in a warm, well-insulated environment.

Maintain Physical Activity:

Engage in light physical activity to generate body heat and improve circulation.

Avoid sitting or standing still for extended periods in the cold.

Consume Warm Beverages and Foods:

Drink warm, non-alcoholic fluids like tea, coffee, or soup to help maintain body temperature. Eat warm, nutrient-dense meals to provide energy and warmth.

Protect Vulnerable Individuals:

Check on the elderly, those with disabilities, and young children to ensure they are safe and warm. Assist them in keeping their homes heated and properly insulated.

NB: It is still important to consult the respect experts such as the Agronomists and medical experts for some of the actions to take.

PRODUCTS AND SERVICES

Tropical Cyclones: What You Need to Know

Mr. Moven Manjowe

Training School Officer, MSD

A Tropical Cyclone or typhoon or hurricane is a rapidly rotating, low-pressure weather system that forms over warm ocean waters in the tropics. They are characterized by strong winds, heavy rainfall, and storm surges that can cause significant damage and flooding. Tropical Cyclones do not form anywhere or in any season, but certain conditions need to prevail before they can develop.

The necessary conditions for tropical cyclone formation are:

1. Warm Ocean waters: They need warm ocean waters (at least 27°C) to a depth of about 50 meters to form and maintain their strength. This is why all tropical cyclones form in tropical waters where solar energy from the sun is maximum.

2. Moisture: High levels of atmospheric moisture are necessary to sustain thunderstorms and rainfall. This is because, to sustain intense convection, moisture must be abundant.

3. Low atmospheric pressure: A pre-existing low-pressure system or area of low pressure is necessary for tropical cyclone formation. This causes the initial convergence of moisture

before the rotation commences.

4. Coriolis force: The Coriolis force, caused by the Earth's rotation, is necessary to create the spinning motion of the tropical cyclone. Without the spinning, the low pressure fails to deepen.

5. Pre-existing weather disturbances: Tropical cyclones often form from pre-existing weather disturbances, such as tropical waves or areas of low pressure. These waves are critical in sustaining the vertical growth of the system.

6. Distance from the equator: Tropical cyclones typically form at least 5° latitude (about 550 miles or 885 kilometers) away from the equator to allow for the Coriolis force to take effect. Too much or too little Coriolis Force inhibits tropical Cyclone development. At the 5-degree latitude, there is the right amount of Coriolis Force, thereby creating the perfect conditions.

7. Weak vertical wind shear: Tropical cyclones require weak vertical wind shear (a change in wind direction and speed with height) to develop and maintain their rotation. Too much vertical wind shear causes the Tropical Cyclone to shear therefore killing it.

These conditions need to be in place for a tropical cyclone to form and strengthen. If any of these conditions are missing, a tropical cyclone will not form or will not be able to maintain its strength.



PRODUCTS AND SERVICES

UNDP Consultative Stakeholders meeting

Tinetariro Chikati

GIS Specialist

On Thursday 16 May 2024 the United Nations Development Program (UNDP) Consultative Stakeholders meeting was held at the Golden Conifer Events Venue in Harare. A team from The Meteorological Services Department of Zimbabwe and the Deputy Director of Agricultural Meteorology Mrs. Pasingodya attended the event. Some of our partners such as ZINWA were present at the event, along with other organizations not limited to the European Union, the Zimbabwe Electoral Commission, the World Bank, the United Nations Population Fund, and the Zimbabwe Ministry of Finance.

The meeting aimed at giving a detailed presentation on the achievements of UNDP in Zimbabwe, for its 2021 range of projects that will end in 2026. Since UNDP is also a partner of the MSD, they are carrying out some projects that are very critical to our operations. For MSD they sourced 30 Automatic Weather Stations installed in 13 Districts, 10 Automatic rain gauges installed in 7 Districts, and 7 Hydro Gauging Stations installed on 7 rivers. These instruments have been critical in MSD's efforts to increase the coverage of its data sampling points, and compliance with the Minamata convention as published in Issue Number 2 of this Newsletter.



Some of the MSD team who attended the UNDP consultative meeting

UNDP's achievements include the installation of 1053 solar systems producing at least 10.14 MW of electricity in health facilities, which are also feeding into the National grid. Some growth points that had hibernated due to power shortages have also been revitalized through the installation of solar power systems.

Concerning Agriculture, UNDP has pledged to install 9 irrigation systems, 2 of which have been in-



Mr. Enias Muradzvi giving his closing remarks

stalled. Overall, the UNDP is working with the Government of Zimbabwe to realize its Agenda 2030, through National Development Strategy 1 (NDS1) aligned projects.

In his closing remarks, Enias Muradzvi standing in for Mr. George Guvamatanga, the Permanent Secretary in the Ministry of Finance, Economic Development and Investment Promotion said, "Where UNDP's Country Development Plan comes in: we are looking for a partner to strengthen Zimbabwe's capacities, institutions, and human capital, to achieve our Vision 2030."

PRODUCTS AND SERVICES

Meteorological Services Department, Engineering Section

Moven Manjowe

Training School Officer, MSD



Mr. Moven Manjowe at the UNDP Consultative Stack-holders meeting.

Through the Green Climate Fund (GCF) and The Central Asia Water & Energy Program (CAWEP), the MSD received 30 Automatic Weather Stations and 10 Automatic rain gauges. As mentioned in another article in this issue, some equipment was also received from the UNDP. The Engineering department has been on its feet carrying out the installation of the equipment. Currently, they have installed 10 of the 30 Automatic Weather Stations (AWS) in replacement of the old mercury instruments for compliance with the Minamata Convention, which leaves 37 for replacement.

The remaining 20 have been installed in other areas to establish new data sampling points. The data from the AWS transmitted and stored in the MSD servers for access by our stack-holders. The engineering department plays a very vital role in the operation of MSD. Besides equipment installations, they also carry out maintenance work, as well as incorporate support services such as data transmission and storage from the Information Technology section.



Mr. Siziba in blue overalls, Clapton in black, and O. Zifunzi in blue shirt, assembling an Automatic Weather Station and rain-gauge at the UNDP Consultative Stack-holders meeting.

As shown in the photo above, the Engineering department also displayed an automatic weather station and automatic rain gauge on their exhibition booth, at the UNDP stack-holders meeting, held on Thursday 11 May 2024. Afterwards many people who were interested in what MSD is currently doing came to our booth, to get a deeper understanding of our operations. After the instruments were mounted Mr. N. Chaibva gave an account of the outcomes of our projects and partnerships, with organizations such as United Nations Development Program.

PROGRAMS AND PROJECTS

Raingauge installations in collaboration with SAFIRE

Mrs A. Chirenje

Met Officer, MSD

The Meteorological Services Department (MSD) in collaboration with SAFIRE has installed seven standard rain gauges in Buhera district (Manicaland Province). This was a great achievement to us as the **Rainfall Section** and **MSD** at large, to increase our station network in Manicaland Province.

These are additional to more than 805 rain gauges which the Department has throughout the country. These stations are going to read and record rainfall data and submit it to MSD head office on a monthly basis. They will use Pay Forward facility on postage. We managed to go around installing rain gauges in identified wards, as well as spot training the Agritex personnel who will be doing the measuring, recording and sending the rainfall returns at the end of each month.

The team comprised of the two Met Officers Mrs A. Chirenje and Mr B. Manyonga from Harare, accompanied by MSD Provincial Chief (Manicaland) Mr T. Maringo based in Mutare and Mr Aaron Gilbert (SAFIRE). The team also resuscitated dormant rainfall stations. 2 personnel reported that they needed rainfall registers and measuring cylinders.



Mrs. Chirenje in maroon t-shirt on the left, training the locals, and Mr. Manyonga in green t-shirt making sure that the rain gauge is installed on a level platform.

The table below summaries the instruments installed and the places in which they were installed.

Ward	Buhera district	Personnel	Issued instruments
15	Zivei Garden	O. Hlavati P. Tengenyika	Complete rain gauge set Rainfall register & measuring cylinder
24	Mhaka Village	Mr. Mhaka	Complete rain gauge set Rainfall register & measuring cylinder
25	Zangama	Ms. Charakupa	Complete rain gauge set Rainfall register & measuring cylinder
30	Canaan Garden	Mr. Koponi Ms. Ngoweni	Complete rain gauge set Rainfall register & measuring cylinder
28	Mudzimu-Matenga	Ms. Chiedza	Complete rain gauge set Rainfall register & measuring cylinder
19	Samwero- Gwaya	T. Gwaya A. Gwaya	Complete rain gauge set Rainfall register & measuring cylinder
19	Ndanjei - Musinake	C. Madzikatidze	Complete rain gauge set Rainfall register & measuring cylinder

The table below shows the resuscitated stations

Station Name	Personnel	Issued instruments
Mutunha	P. Mutunha	Rainfall register & measuring cylinder
Matsakanure	Mr. Nzwisisai	Rainfall register
Matsetsa	Mr. Collins	Rainfall register & measuring cylinder
Gunura	Ms. Murire	Rainfall register & measuring cylinder

PROGRAMS AND PROJECTS

The Meteorological Services Department Exhibition at the 2024 UNDP Consultative Stake-holders meeting



Mr. N. Chaibva explaining how the Automatic Weather Station (AWS) works, in the supply of information to stack-holders.

Blessed Sibanda

Climate Scientist

The Government of Zimbabwe through the Ministry of Lands Agriculture Fisheries and Rural Development in partnership with the United Nations Development Programme (UNDP) is implementing a seven-year project, “Building the climate resilience for vulnerable agricultural livelihoods in Southern Zimbabwe.”

UNDP partnered with the Meteorological Services Department to bring vital weather information

directly to farmers. Seasonal forecasts are now available at the district level, with the help of agricultural extension officers, thereby playing an important role in helping farmers to plan their planting seasons and manage the available resources.

Additionally, timely 10-day forecasts are disseminated through WhatsApp groups and four radio channels, ensuring critical updates reach even the most remote communities. In the photo above news reporters and media anchors from other organizations were present to capture the interesting presentation which was being given by Mr. Chaibva. Our booth was mounted next to ZINWA as some of our projects are interlinked.

WOMEN, YOUTH AND WELLNESS

Youth involvement in development programs



Runako in black blazer, Clapton in blue t-shirt and Mitchell in blue blazer as they stand at the MSD exhibition booth

Tinetariro Chikati

GIS Specialist

At the UNDP Consultative stakeholders meeting, youth involvement was cited as a very important stance to take, as the youth will be the future workforce, and source of innovation. In their country Programme the UNDP has been making sure that the youth are not left behind, as the involvement in critical programs will give them a strong sense of belonging, which will foster good behavior, inclusive of other desirable attributes.

The Meteorological Services Department has been very supportive of the youth in its workforce. For every event the administration makes sure that there is at least a representative of the youth. To solidify this stance, Gamuchirai Vhumisai was

appointed as a representative of the youth at MSD. At the UNDP meeting Clapton an engineering intern, Runako a meteorology intern and Mitchell a meteorologist were present. Tinetariro Chikati and Blessed Sibanda a GIS officer and Climate scientist, respectively were also present in representation of this news letter's, compilation and editorial team. They had the chance of visiting some of the interesting booths which were present at the meeting.

Due to his interest in climate change, Blessed visited the UNDP booth which displayed some of the equipment being used to eliminate the use of chloro-fluorocarbons the gases which have been very notorious in the depletion of

the ozone layer. He also visited the Ministry of Lands booth, where they demonstrated how they use an instrument called a Total station to measure dam water levels and other variables.



Blessed Sibanda using a Total Station, after being taught how to use it, by the Ministry of Lands team.

WOMEN, YOUTH AND WELLNESS

Physical health and fitness



The MSD team at the National Sports Stadium for a soccer match on Friday 17 May 2024

Blessed Sibanda

Climate Scientist

On Friday the Meteorological Services Department team went to the National sports stadium, as usual for its weekly wellness retreat. The turnout was better, compared to the previous week. In the photo above are 13 players, 14 including our beloved camera-man myself. There isn't much to say in words, we enjoyed ourselves, just look at the photos. Our only gripe is that we don't have enough equipment. We also want to increase the number of sports, that we can participate in.

Some people might think that these wellness activities are for the young, however they are actually for everyone, as it is important to maintain a healthy body, especially as you get older. Even if you wear a suit throughout the week, its okay to take off the neck tie, and do some physical fitness activities. Physical fitness is for everyone, look at Mr. Maodza to the right, he is a Meteorologist, I will speak no more.



Mr. Leon Maodza, a full blown meteorologist enjoying himself on Friday

TRAININGS AND STAFF DEVELOPMENT

Birthdays and bereavements

Moven Manjowe

Training School Officer, MSD

Recently, some of our colleagues at the Meteorological Services Department received sad family news. Mrs. Mundoga from the IT section at MSD headquarters lost her mother in law. In addition to Mrs. Mundoga Mrs. Mutakuragumbo also lost her husband. We hope that our Lord and Savior will comfort these two families in these tough times.

It is important that we mourn with those who are mourning, and rejoice with those who are rejoicing. Despite the sad news, we are also celebrating life through the birthdays of two of our colleagues, Deputy Director Engineer Mazhara and Deputy Director Public Weather Services Mrs. Linia Gopo.

If you're reading this please bring them some presents. If this was a WhatsApp message, 3 laughing emojis would have been inserted here [***].



Engineer Mazhara, who had a birthday on

THE END



MINISTRY OF ENVIRONMENT, CLIMATE AND WILDLIFE
 Meteorological Services Department
 Telephone: +263 (242) 778204 – 6, 778218, 778027
 Website: www.weatherzw.org.zw
 Box BE 150, Belvedere, Harare, Zimbabwe
 All correspondences should be addressed to the Director

