METEOROLOGICAL SERVICES DEPARTMENT

NEWSLETTER

ISSUE 1

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Minimizing Risk With Science

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ATTENTION READERS

Feel free to approach the editorial team to submit an article for the next issue of the Newsletter.

Using statistical analysis, expert interpretation of current status of the global climate system and outputs from dynamical models run by Global Producing Centres the forecasters determined likelihoods of above-normal, normal, and below-normal rainfall for broad regions (Figures 1 to 3) for overlapping three-monthly periods i.e. February-March-April (FMA), March-April-May (MAM) and April-May-June (AMJ). Above-normal rainfall is defined as rainfall lying within the wettest third of recorded (30 years, that is, 1981-2010 mean) rainfall amounts; below-normal is defined as within the driest third of rainfall amounts and normal is the middle third, centred on the climatological median.

Outlook

The period of February to June covers the occurrence of bimodal type of rainfall season and the transition to winter season over most of Southern Africa. Owing to the differences and evolution patterns in the predominant rainfall-bearing systems, the seasons have been subdivided into three overlapping three-month periods (i.e. FMA, MAM and AMJ as defined below).

Figure Caption

It is emphasized that boundaries between zones should be considered as transition areas. Outlook information is provided only for countries that comprise the Southern Africa Development Community (SADC) region. The colours for each zone indicate four forecast categories (above normal, normal to above normal, normal to below normal and below normal) representing different probabilities of rainfall anomalies.

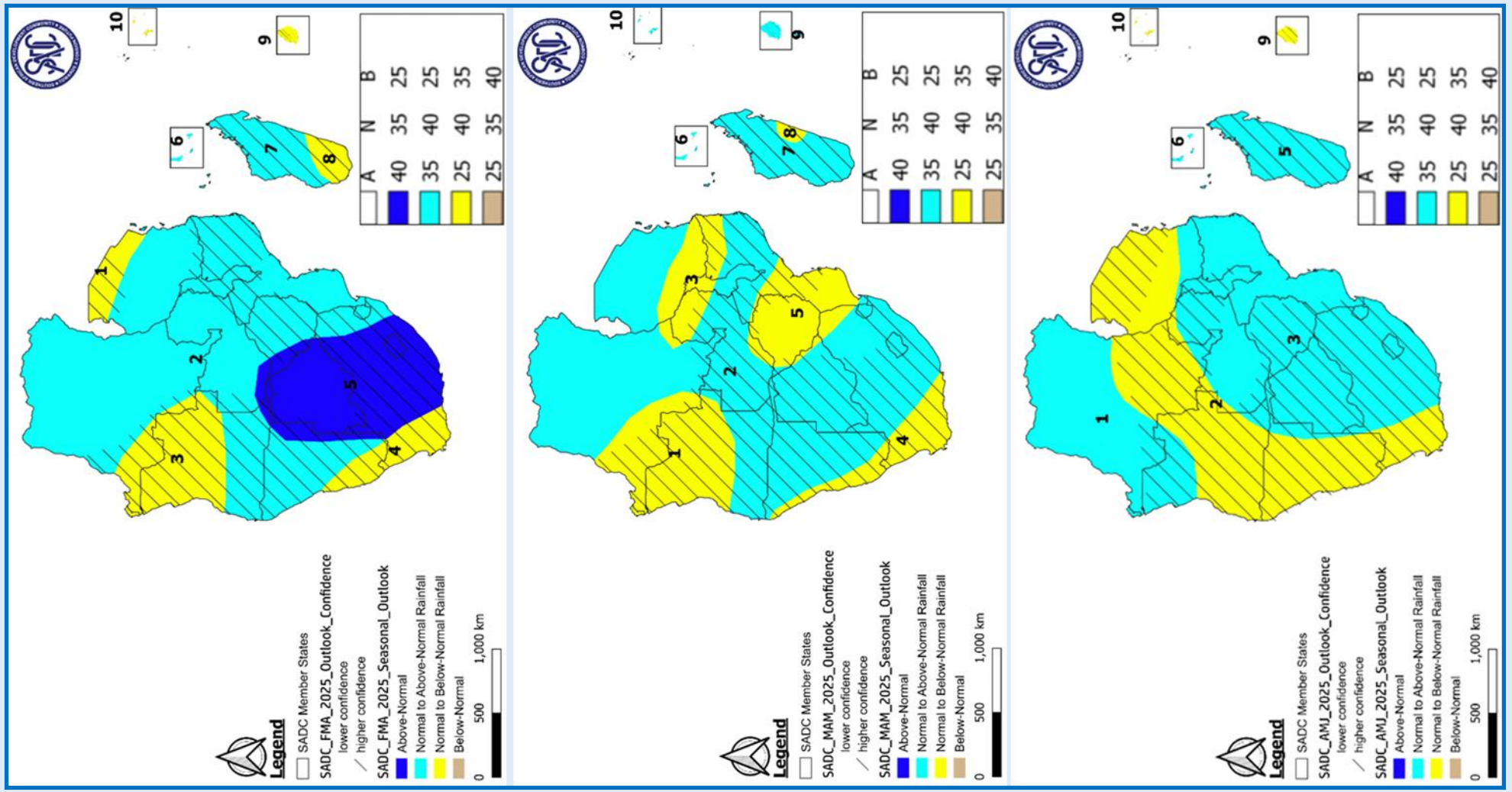
- The first colour (blue) indicates that the above normal rainfall has the highest probability of occurring.
- The second colour (cyan) indicates the highest probability of normal rainfall, but with increased probability of above normal.
- The third colour (yellow) indicates the highest probability of normal rainfall but with increased chance of below -normal rainfall.
- The last colour (brown) indicates that the below normal rainfall has the highest probability of occurring.

The probabilities associated with each category are listed in inset in the bottom-right corner of the figure. For example, Figure 1, for Zone 2 with the colour yellow, depicts that there is the highest probability of normal rainfall (40% chance), but with increased probability of below normal (35% chance) and lower probability of above normal rainfall (25% chance). In addition to forecast categories, the outlook maps present information about forecast confidence. This has been derived based on 1) level of agreement of various forecasting approaches in terms of direction and magnitude of forecasted anomalies, 2) ability of these approaches to correctly predict anomalies during previous forecasts and 3) level of confidence in the forecast expressed by the forecasters based on their knowledge and understanding of the regional climate system. Increased level of confidence in the forecast reflects the higher likelihood that the forecast is correct.

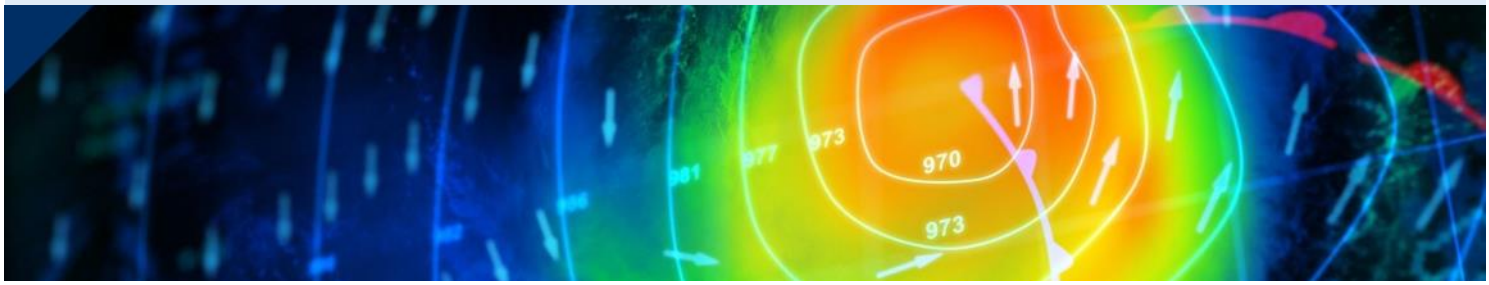
Rainfall forecast for Feb—March—April 2025

Rainfall forecast for March—April—May2025

Rainfall forecast for April—May—June 2025



Are Cyclones Really Named After Women?



Tinetariro Chikati

Tropical cyclones are among the most powerful natural hazards, occurring across the globe. Their destructive nature makes them impossible to ignore. Wherever they pass, they leave a trail of devastation, and even before they arrive, people are already talking about them. Take Cyclone Idai, for example, its impact was so severe that it displaced houses and moved boulders, drawing widespread attention. However, one enduring mystery remains: how are tropical cyclones named? If you were to ask a random person in Zimbabwe, they might say that cyclones are always named after women, which is a common misconception. While this was once true, the system has since changed. Historically, cyclone names were chosen randomly. For instance, if a cyclone destroyed the radar system at the Meteorological Services Department Headquarters, it might be named "Cyclone Radar." However, this approach was confusing, especially when similar destruction occurred repeatedly. As meteorology advanced, cyclones were instead identified by latitude and longitude of origin, a method which was systematic, but difficult for non-experts to understand.

During World War II in the 1940s, meteorologists in the United States of America. military began informally naming cyclones after their wives and girlfriends. This practice became official in 1953 when female names were assigned in alphabetical order as cyclones occurred. However, in 1979 male names were introduced, leading to the alternating male-female naming convention which is still in use today. As of today, the World Meteorological Organization (WMO) has established strict procedures for naming tropical cyclones. The process is managed by five regional tropical cyclone committees: the ESCAP/WMO Typhoon Committee, the WMO/ESCAP Panel on Tropical Cyclones, the RA I Tropical Cyclone Committee, the RA IV Hurricane Committee, and the RA V Tropical Cyclone Committee. These committees maintain predesignated lists of names, which are proposed by the national meteorological and hydrological services of WMO member countries. Names are chosen for their familiarity to people in each region, ensuring they are easy to remember and communicate. Some regions follow alphabetical order, while others organize names based on country names in alphabetical sequence. Importantly, cyclones are not exactly named after individuals.

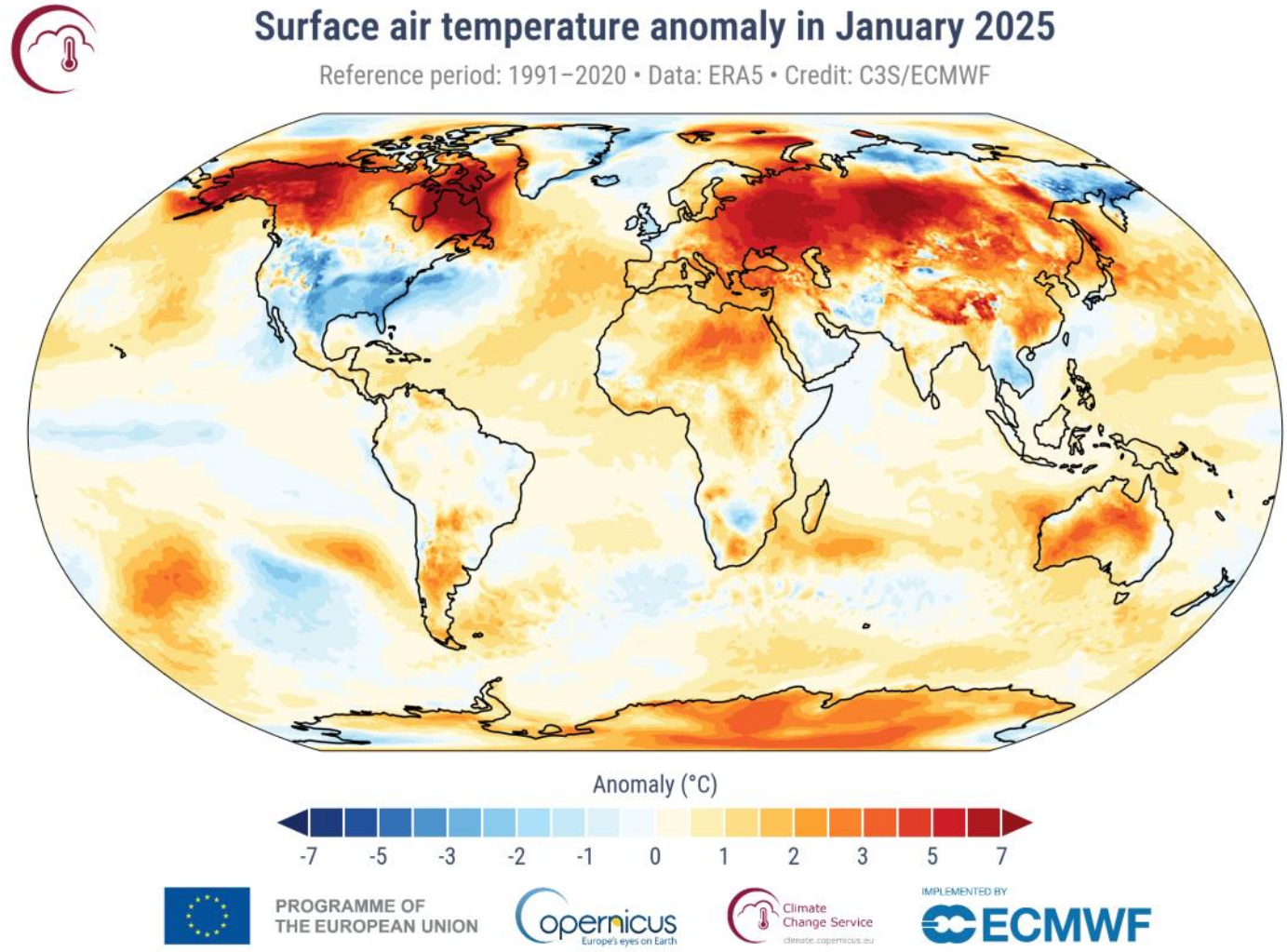
Several factors influence the selection of cyclone names. They must be short, easy to pronounce, culturally appropriate, and unique to prevent confusion with past cyclones. In Southern Africa, for example, we have already seen cyclone Ancha, Bheki, Chido, Dikeledi, Elvis, and most recent, Faida. These names are each short, distinct, and simple to pronounce. By understanding the naming process, we can better appreciate the science and organization behind tracking these powerful systems. The next time a cyclone is in the news, you'll know exactly how it was named.

Cyclone Names planned for The 2024/2025 Season

List of names of storms or cyclones to be used in the southwest Indian Ocean during Cyclone Season 2024-2025

	NAME	GENDER	COUNTRY WHICH PROVIDED THE NAME
1	ANCHA	F	Comoros
2	BHEKI	M	Eswatini
3	CHIDO	F	Zimbabwe
4	DIKELEDI	F	South Africa
5	ELVIS	M	Seychelles
6	FAIDA	F	Tanzania
7	GARANCE	F	France
8	HONDE	M	Malawi
9	IVONE	F	Mozambique
10	JUDE	M	Seychelles
11	KANTO	F	Madagascar
12	LIRA	M	Lesotho
13	MAIPELO	F	Botswana
14	NJAZI	F	Malawi
15	OSCAR	M	France
16	PAMELA	F	Tanzania
17	QUENTIN	M	Kenya
18	RAJAB	M	Comoros
19	SAVANA	F	Mozambique
20	THEMBA	M	Eswatini
21	UYAPO	N	Botswana
22	VIVIANE	F	Mauritius
23	WALTER	M	South Africa
24	XANGY	M	Madagascar
25	YEMURAI	F	Zimbabwe
26	ZANELE	F	Lesotho

Climate Change Alarm: January 2025 Sets New Temperature Records



Surface air temperature anomaly for January 2025 relative to the January average for the period 1991-2020. Source: ERA5. Credit: C3S/ECMWF.

Praise Govere

The world just went through its hottest January ever recorded, according to the World Meteorological Organization (WMO). This record-breaking information comes from data analyzed by the Copernicus Climate Service, a partner of the United Nations. January 2025 was notably warmer, with temperatures reaching 1.75 degrees Celsius above the pre-industrial level. This was 0.79 degrees Celsius higher than the average temperature for January between 1991 and 2020.

Interestingly, scientists had expected the La Niña weather phenomenon to bring cooler temperatures, but this did not happen. This extraordinary heat occurred despite those expectations. It's worth recalling that in 2015, the international community made a significant commitment to try to keep the global temperature rise to 1.5 degrees Celsius above pre-industrial levels. This latest data underscores the urgency and challenge of meeting that goal, highlighting the importance of continued efforts to combat climate change.

Too Much Rainfall or Too Much Dirt?

Localized flooding in Mbare in early January 2025. The streets were completely inundated.

Tinetariro Chikati

Urban areas in Zimbabwe face many challenges, and one of the major ones is poor drainage systems. This issue becomes most noticeable during the rainy season, which typically lasts from October to March. Inefficient drainage not only causes immediate problems but also has long-term environmental, economic, and health impacts. When cities like Harare receive heavy rainfall, streets quickly turn into rivers. Surprisingly, the amount of rainfall is often not extreme, but our drainage systems are in poor condition.

The main cause of this problem is linked to human activity, especially littering. Many drainage channels are clogged with waste, preventing water from flowing away properly. Now that Zimbabwe is experiencing normal to above-normal rainfall, the effects of poor drainage are even more severe. So far, cases of localized flooding have been reported in high-density suburbs like Mbare and Zengeza 3. In some areas, floodwaters have even entered people's homes. If the original drainage channels and culverts in these neighbourhoods were still open and functional, the water would have been diverted away from residential areas. Flooding can cause serious damage to homes and businesses, leading to significant financial losses. Beyond property damage, stagnant floodwater creates ideal conditions for mosquito breeding, increasing the risk of diseases such as malaria, especially in malaria-prone regions. Additionally, floodwater can contaminate communal wells, increasing the risk of waterborne diseases like cholera.

While rainfall is a natural occurrence, its impact on urban areas is worsened by human negligence. Addressing this issue requires better waste management, regular drainage maintenance, and urban planning that considers climate patterns and water flow management.

Youth Constituency Consultation Workshop on NDCs

Praise Govere

From January 29th to 31st, 2025, I had the privilege of representing the Meteorological Services Department at the Nationally Determined Contributions (NDCs) Youth Constituency Consultation Workshop held at Luna Lodge in Kadoma. This impactful event brought together a diverse group of young people passionate about tackling climate change and shaping a sustainable future. The workshop provided a crucial platform for youth to share their perspectives on the NDC process, which outlines each country's climate action commitments. A key outcome was the development of a youth position paper on NDCs. This document captures our collective insights and recommendations, serving as a powerful call to action for policymakers to meaningfully include young voices in climate planning.

For the Meteorological Services Department, this workshop was particularly significant. As the primary source of climate data and information, we play a vital role in informing effective climate policies. Engaging with youth allows us to better understand their concerns and aspirations, which directly influences how we communicate climate risks and opportunities. The workshop reinforced the understanding that young people are not just passive recipients of information; they are active agents of change in the climate dialogue. Their involvement is essential for fostering ownership of climate initiatives and ensuring that resulting policies are relevant and impactful. **[continues on next page...]**

Mr. Govere Attending the Youth Constituency Consultation Workshop on NDCs in Kadoma

Youth Constituency Consultation Workshop on NDCs continued...

Expert-led discussions, including contributions from Mr. Carlos Vasquez of UNICEF Zimbabwe and Mr. Washington Zhakata, Acting Permanent Secretary in the Ministry of Environment, Climate, and Wildlife, emphasized the urgency of youth inclusion in climate discussions. They highlighted that climate change is not a future threat; it's a present reality demanding immediate action. The workshop participants recommended increased accessibility of meteorological data, more capacity-building workshops, and stronger collaboration between meteorological services and youth -led organizations. These initiatives are crucial for empowering young people with the knowledge and skills they need to effectively address climate challenges. The NDCs Youth Constituency Consultation Workshop was more than just an event; it was a significant step toward integrating youth perspectives into the climate action framework. The Meteorological Services Department is committed to ensuring that young voices are heard and considered in climate policy formulation. We believe that by working together, we can create a sustainable future where everyone is included, and where the hopes and dreams of today's youth shape the climate policies of tomorrow. One participant eloquently stated, "Our future is in our hands, and we must act now." Let's continue to foster collaboration, raise awareness, and take meaningful action in the ongoing fight against climate change.

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Cultivate Unwavering Commitment to Fitness and Sports Excellence

Blessed Sibanda

In today's fast-paced world, prioritizing fitness and wellness is essential for maintaining a healthy lifestyle. The MSD team has wholeheartedly embraced this philosophy, demonstrating a steadfast commitment to regular training and sports development. Since participating in the Gweru competitions last year, the team has continually pushed themselves to improve, undeterred by obstacles like inclement weather.

Engaging in regular physical activity is crucial for both physical and mental health. Exercise helps reduce stress, boost mood, and increase energy levels. The MSD team's dedication to fitness highlights their understanding of its importance. By prioritizing physical activity, they are not only enhancing their overall well-being but also fostering a sense of camaraderie and teamwork.

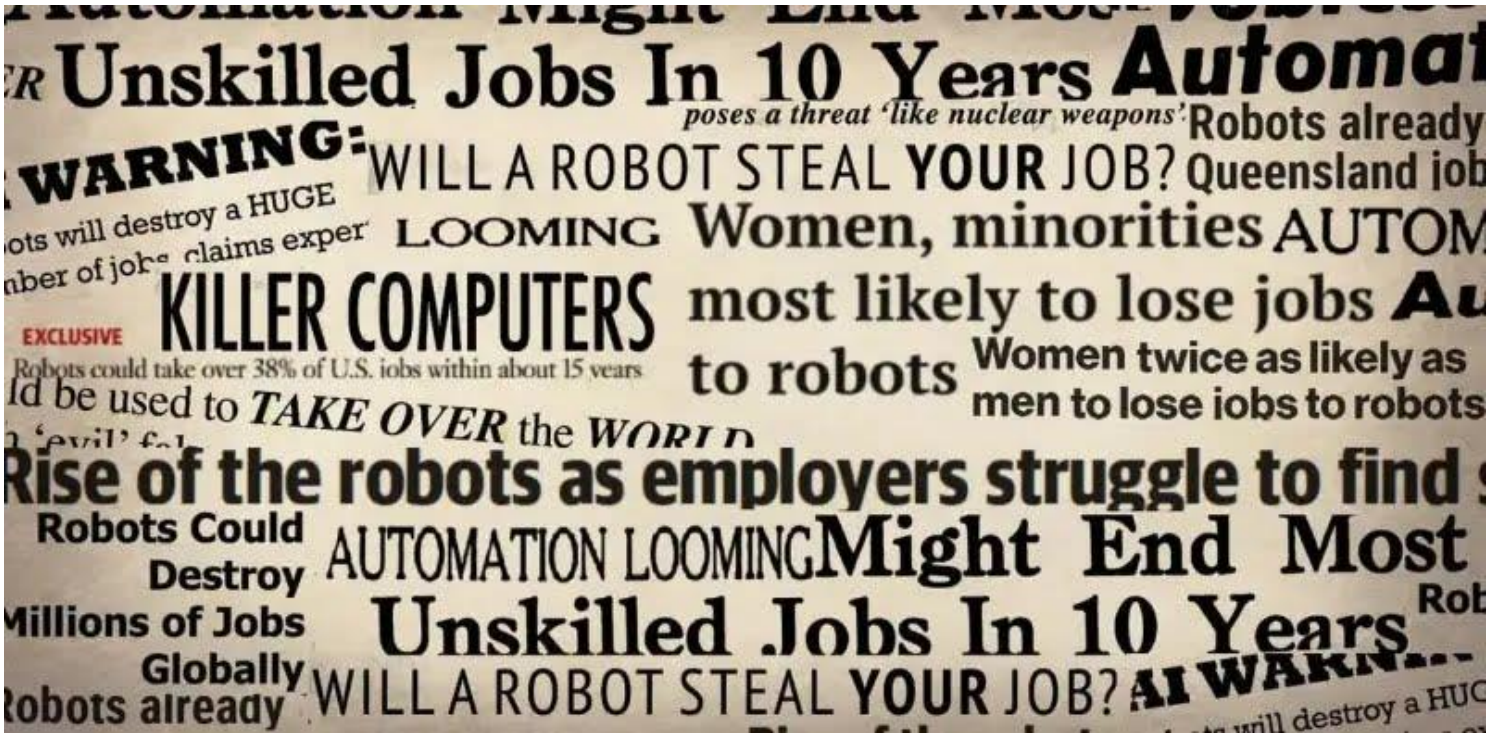
The administration of the MSD team has played a pivotal role in promoting sports development within the organization. Their efforts have resulted in the acquisition of essential equipment, including five balls each for football, volleyball, and netball. Additionally, there are plans to construct a volleyball pitch at the MSD headquarters, a project that will require support from the directorate. As the MSD team continues to grow and excel in various sports, it has become clear that new uniforms are necessary.

Last year's makeshift approach underscored the need for proper attire that reflects the team's dedication and commitment to sports excellence. The MSD team's relentless pursuit of fitness and sports excellence is a shining example of their dedication to personal and collective growth. As they continue to push boundaries and strive for greatness, it is crucial that they receive the necessary support and resources. We eagerly anticipate the directorate's backing for the volleyball pitch project and look forward to seeing the team thrive in their new uniforms. Let us rally behind the MSD team and provide them with the tools they need to succeed. Together, we can promote a culture of fitness, teamwork, and excellence within our organization.

The Human - Artificial Intelligence Conflict!

Tinetariro Chikati

Artificial Intelligence (AI) is changing many industries, including meteorology. With its ability to analyse data quickly and accurately, AI is becoming an important tool in many industries. Recently, there has been news on people in professions such as graphics design and copy writing, losing their jobs to AI in some developed countries. What about professionals like meteorologists, are their jobs safe?

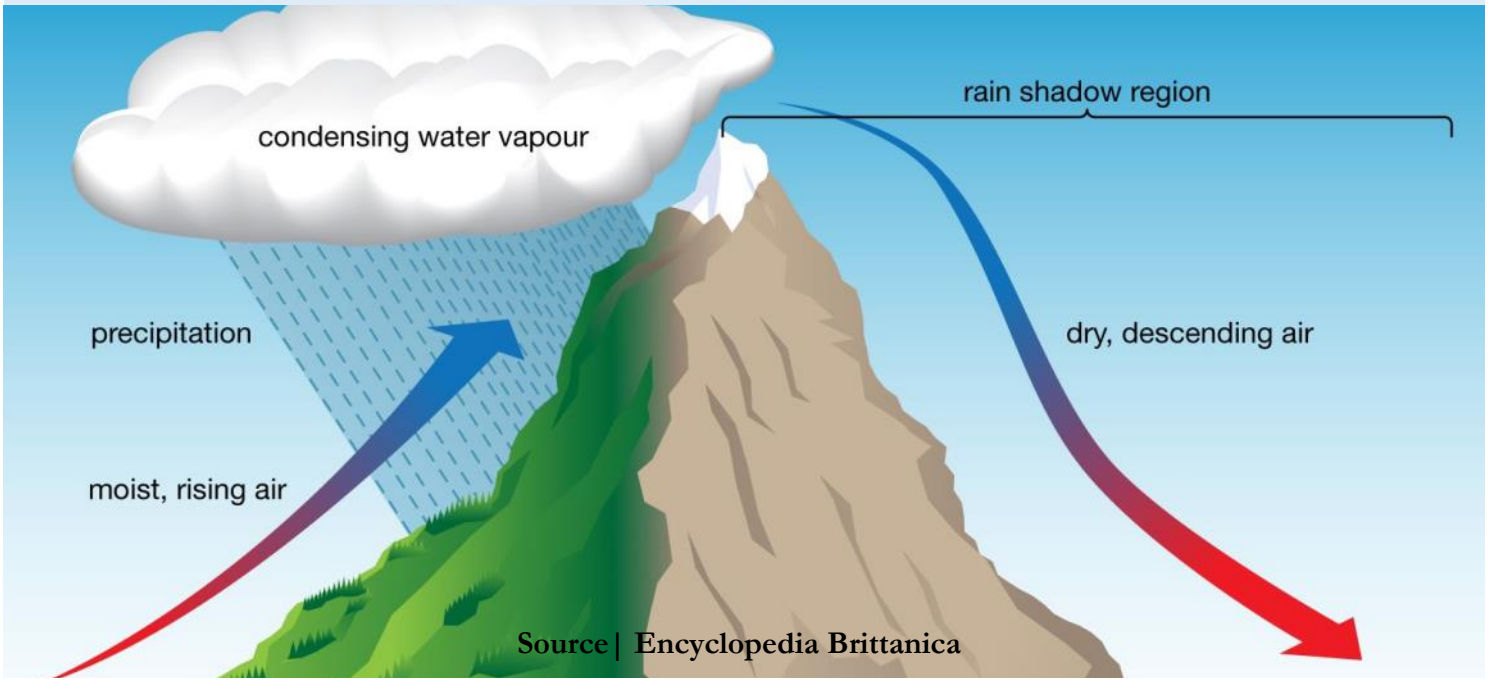


To understand this, we first need to know what AI does. AI refers to machines or bots that can learn, analyse information, and make decisions, similar to how humans think. In meteorology, AI can be used to process vast amounts of weather data, identify patterns, and generate forecasts faster than traditional methods. It helps predict storms, temperature changes, and rainfall, faster and to some extent more accurately than humans. Of recent, even mobile weather apps are now using AI to give personalized forecasts based on location and past weather trends.

Despite these advancements, AI might not be able to completely replace professionals like meteorologists, but rather it can support and complement them. While AI can process data quickly, sometimes it can be too sure as it uses predefined parameters and knowledge. As a result, human expertise is still needed to interpret complex weather patterns as humans have other abilities which cannot be possessed by AI. Human can communicate forecasts effectively, and make critical decisions during extreme weather events. Instead of taking jobs, AI is creating new opportunities in all fields including meteorology and in the context of Zimbabwe, jobs are very safe from AI due to the lack of unwillingness to adopt new technologies.

In conclusion you shouldn't fear AI, but rather fear losing your job to another person who uses AI to be more productive.

Decoding Our Weather: A Look at the Forces Behind It



Source | Encyclopedia Brittanica

Praise Govere

Have you ever wondered why the weather changes so much? It's all thanks to a complex dance between the Earth's atmosphere, land, and oceans. Think of it as a giant, interconnected system where temperature, humidity, wind speed, and air pressure are constantly interacting. Meteorologists, the weather experts, use their knowledge of these elements to make predictions and keep us informed about what to expect. A key player in this weather system is the "air mass." Imagine huge bubbles of air, each with a consistent temperature and humidity.

When these air masses move and bump into each other, things get interesting! For example, when a warm air mass collides with a cold one, they create a "front," which is like a battle zone. These fronts can bring rain, thunderstorms, and even severe weather like tornadoes or blizzards. High up in the atmosphere, there's a fast-flowing "river of air" called the jet stream. This powerful current plays a major role in steering air masses and storm systems across the globe.

The jet stream's position and strength can dictate whether we have calm, sunny days or experience stormy weather with heavy rain. Of course, the seasons have a huge impact on our weather. Summer typically brings warmer temperatures and higher humidity, while winter often means colder temperatures and snowfall in many areas. Understanding these seasonal shifts helps communities prepare for the specific weather challenges each season brings. Mountains can act like walls, blocking air movement and creating dry areas known as "rain shadows."

One side receives little rainfall, while the other side gets plenty of rain. Large bodies of water, like lakes or oceans, can help regulate temperature in some areas. Meteorologists take these geographical factors into account to create more accurate, localized forecasts. Understanding how weather patterns work empowers us all. It helps us make informed decisions about our daily lives, from planning outdoor activities to preparing for severe weather events.

METEOROLOGICAL SERVICES DEPARTMENT

'Where Science Meets The Sky'

ZIMBABWE

Vision

A world class provider of meteorological, climatological and seismological products and services by 2025.

Mission Statement

To provide customer and stakeholder driven quality seismological, weather and climate services for socio economic development.

Core Values

- **Teamwork:** We value unity of purpose
- **Equality:** We offer equal status, rights and opportunities to all
- **Customer focus:** We prioritize and address customer needs.
- **Transparency:** We are open to scrutiny
- **Integrity:** We have strong moral principles
- **Creativity:** We focus on innovation and continuous improvement.
- **Accountability:** We take responsibility for one's own actions.