

THE ZANYENGO E-NEWSLETTER

DEPARTMENT OF CLIMATE CHANGE & METEOROLOGICAL
SERVICES



The Transformative Role of Weather Radar in Malawi



JUNE 2025

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Be wise, Be weather wise

DIRECTOR'S DESK

June 2025

"We invite you to delve into the articles within this newsletter and discover the impactful work being done".

Dr Lucy Mtilatila- Director DCCMS.

Welcome back to the second edition of the Zanyengo Newsletter!

We're excited to bring you another update on the progress and highlights from the Department of Climate Change and Meteorological Services (DCCMS).

Following the enthusiastic reception of First Issue, we're excited to share key developments from the past three months in this edition.

Inside, you will find the significant strides made in establishing the Malawi Meteorological Society (MAMESO).

This vital platform will facilitate knowledge sharing, foster collaborative research, and drive innovation within the field of meteorology.

Recognizing that climate is paramount for sustainable development, the DCCMS has been actively developing the Zanyengo App.

This innovative application provides location-specific weather information to empower various sectors with the climate information they need to make informed decisions.

Furthermore, driven by the crucial "Early Warning for All" initiative, the DCCMS has been strategically reorganizing its efforts to ensure the ambitious 2027 target for universal early warning coverage is achieved.

Therefore, we are also pleased to report on the continued progress of the Climate Risk and Early Warning Systems (CREWS) project, which is providing invaluable support to the department in areas such as strengthening legislation and enhancing climate service delivery.

The procurement of weather radar with support from the World Bank is another significant milestone in responding to early warning for all initiative

Finally, the recent launch of the Agricultural Resilience through Climate Services Programme (ARCS) project reinforces the department's commitment to delivering targeted climate services specifically for the agricultural sector in Malawi.

We invite you to delve into the articles within this newsletter and discover the impactful work being done.

We are confident that you will find this edition as informative and engaging as the first, and we appreciate your continued partnership in building a climate-resilient future for Malawi.



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Towards Safer Skies

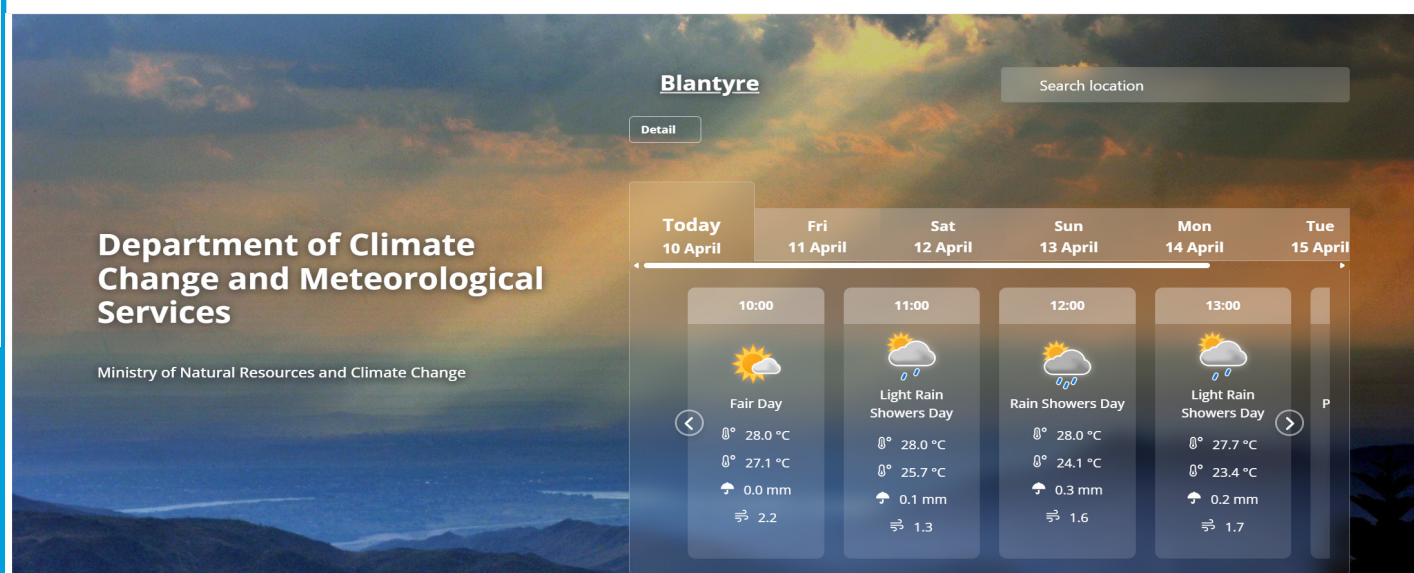
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ZANYENGO APP

Developing Malawi's Zanyengo Weather App

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APRIL-JUNE SUMMARY

Enhancing Malawi's Meteorological Capabilities Through WMO Training

With World Meteorological Organization (WMO) support, Malawi's Department of Climate Change and Meteorological Services (DCCMS) has concluded a week-long training initiative to advance the country's digital weather and climate services. Conducted from May 12–16, 2025, in Blantyre and Thyolo, the workshop equipped meteorologists, IT professionals, and communications personnel with skills to modernize weather alerts, data sharing, and public communication.

Key training components covered the Common Alerting Protocol (CAP), WIS2Box for data exchange, and global frameworks including WIS 2.0 and WIGOS.

A significant outcome was the upgraded DCCMS website, which now delivers enhanced forecasts, interactive maps, and user feedback mechanisms. Usage data highlighted strong demand for Chichewa-language content, informing future public engagement plans.



DCCMS digital transformation and data transmission initiatives training, May 12-16.

The program also fortified weather communication strategies, teaching automated alert distribution through email, QR codes, and shortened URLs. Participants developed social media approaches—including bulletins, videos, and infographics—with WMO experts advocating for expanded local-language materials and displays in rural communities.

DCCMS Director Dr. Lucy Mtilatila described the training as a “pivotal moment” for improving service accessibility. WMO facilitators

commended Malawi's advancements toward AI-driven forecasting and adherence to international standards like the Global Basic Observing Network (GBON).

Amid escalating climate threats, this collaboration ensures early warnings and resilience measures will effectively reach all Malawians.



The training venue in Thyolo District.



Participants during the training in Thyolo District.



DCCMS Develops 2025-2029 Strategic Plan through Nationwide Consultations



A visit to the Malawi University of Science and Technology (MUST) was part of the highlights.

The Department of Climate Change and Meteorological Services (DCCMS) is in the final stages of developing its Strategic Plan for 2025-2029, an effort supported by the World Bank's CREWS Malawi Project.

As reported by Hussein Milanzi, this plan will serve as a guiding document for the department's service delivery and institutional development over the next five years.

The development process has been led by a consultant team consisting of Ms. Alice Soares and Mr. Vincent Amelie,

working closely with DCCMS leadership, including Deputy Director Mr. Charles Vanya and Chief Meteorologist Mr. Hussein Milanzi. Intensive consultations were held from May 19-30, 2025.

Stakeholder engagement has been a crucial component of the plan's development. This included an internal session at the DCCMS Headquarters in Blantyre to gather staff input on institutional priorities, as well as academic consultations with the Malawi University of Science & Technology (MUST) in Thyolo and the University of Malawi (UNIMA) in Zomba.

Broader sector perspectives were

obtained through consultations with the World Bank offices in Lilongwe.

The next steps involve a final review by DCCMS management, followed by the official launch of the completed Strategic Plan.

This inclusive process ensures the plan aligns with national development goals while effectively addressing evolving climate challenges and the needs of its users. The finalized document will direct DCCMS operations and partnerships through 2029.



UNIMA-CRAFS and DCCMS Partner to Develop Malawi's Climate Data Web Portal

The Center for Resilient Agri-food Systems (CRAFS) and the Department of Climate Change and Meteorological Services (DCCMS) have partnered to create a Climate Data Web Portal for Malawi. Leaders from both organizations – DCCMS Deputy Director Amos D. Mtonya and CRAFS Academic Head Dr. Tiwonge Manda – directed a working session defining development priorities.

The portal will centralize, organize, and display both historical climate data (from 1981 onward) and future projections (extending to 2100). Key data focuses include precipitation, temperature, and hydrogeological information.

This data will be standardized using shapefiles, point data, and enumeration areas, allowing for visualization and analysis at national, district, and zonal levels.

The portal's planned features include the ability to customize queries by climate scenario, timeframe (daily, monthly, annual, or decadal), and geographic region. It will also provide integrated climate summaries with contextual notes and enable direct downloads of datasets.

During a technical workshop, significant progress was achieved. Teams completed the initial interface design, established data processing pipelines, and defined the project's backend and frontend architecture.

This milestone represents a major step forward in providing accessible climate information to support evidence-based decisions within Malawi's agricultural and environmental sectors.

Third Year of Climate Just Communities Programme Launched



Farmers and stakeholders discuss the PICSA process in Phalombe District.

Malawi has embarked on the third year of its Climate Just Communities (CJC) Programme, funded by Scotland's Climate Justice Fund. The CJC program is spearheaded by DAI Global UK and Oxfam Malawi, working closely with local organizations such as CADECOM in Karonga, World Relief Malawi in Salima, LCDM in Neno, CICOD in Phalombe, ELDS in Zomba, OSSEDI in Machinga, and Water Witness in Chikwawa. The program aims to bolster inclusive climate resilience, prioritizing the needs of vulnerable populations.

The official launch, held on May 27th at the Livingstonia Beach Hotel in Salima, was followed by a three-day Gender Equality and Social Inclusion (GESI) training session at Kambiri Lodge from May 28th to 30th. The DCCMS ensures that timely and actionable climate information reaches communities most at risk, while simultaneously promoting gender-responsive and inclusive climate adaptation strategies.

This proactive approach highlights Malawi's dedication to climate justice, striving to build long-term resilience with a focus on its most vulnerable citizens. The program targets Karonga, Salima, Neno, Machinga, Zomba, Phalombe, and Chikwawa districts, focusing on fortifying its most vulnerable citizens.



A cross section of participants during the event.

Enhanced Disease Surveillance with New Early Warning System

Malawi is bolstering its disease surveillance through a newly Enhanced Early Warning, Alert and Response System (EWARS), as reported by Hussein Milanzi and Brenda Mdzagada.

The Ministry of Health, in partnership with the World Health Organization (WHO) and with support from the UK Foreign, Commonwealth & Development Office (FCDO), recently conducted comprehensive training to strengthen the nation's ability to detect and respond to outbreaks.

The five-day training, held in Zomba from May 26–30, 2025, aimed to improve the rapid identification and response to disease outbreaks during emergencies, such as natural disasters. Future plans involve expanding the system to Chikwawa, Chitipa, and Salima as part of a five-year Global Climate Fund (GCF) project.

A key feature of the EWARS is its integration of climate and health data, leveraging weather forecasts from the DCCMS (temperature, rainfall, and humidity) to predict potential outbreaks. The system utilizes dual dashboards: an administrative



Participants during the training in Zomba.

dashboard for validating combined climate and health data, and a health facility dashboard that flags potential outbreaks based on meteorological inputs.

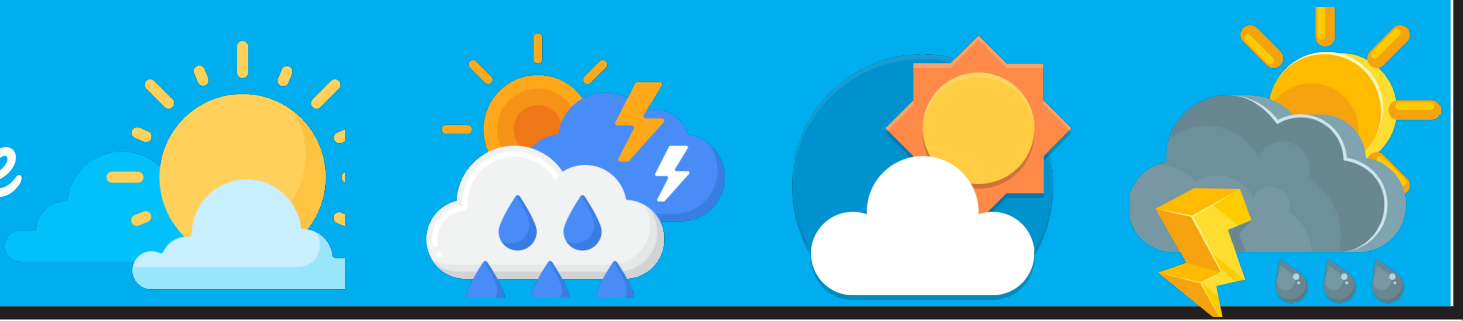
Participants included health workers from the Matawale facility, officials

from the Zomba District Health Office, and the DCCMS technical team. The training culminated in an action plan for server upgrades, training rollouts, and dashboard monitoring, reinforcing climate-health collaboration for long-term resilience.

This initiative represents a crucial step forward in Malawi's preparedness against climate-sensitive health threats.



Be wise Be weather wise



Empowering Meteorologists with Communication Skills

The Department of Climate Change and Meteorological Services (DCCMS) recently hosted a week-long communication skills training at its headquarters in Blantyre, from 26–30 May 2025.

Sponsored by the Norwegian Agency for Development Cooperation (Norad) through NORCAP-Part of Norwegian Refugee Council (NRC), the training aimed to equip meteorologists with essential skills to deliver weather and climate information more clearly and effectively.

Participants engaged in interactive sessions that focused on simplifying technical language, improving public speaking, and tailoring messages for various audiences, including media professionals, policymakers, and the general public. The initiative forms part of DCCMS's broader effort to make its services more accessible and impactful across Malawi.

By enhancing communication skills, the training supports better public understanding of forecasts and warnings, promotes safety, and fosters informed decision-making in response to climate-related risks.

"The training was highly useful and timely," said Tawakali Mphatso, a meteorologist. "It strengthened my ability to communicate weather information clearly and effectively, especially to pilots, farmers, and the general public. The practical skills I gained in video production, storytelling, and infographic design will help me create more engaging bulletins, informative visuals, and impactful articles."

I'm now better equipped to simplify complex forecasts and enhance early warning communication in my day-to-day work." This initiative represents a vital move toward transforming meteorologists into not only experts in data but also effective communicators who can engage the public and promote climate resilience.



A cross section of participants including the management of DCCMS before the training.



Debunking weather & climate myths.



Group activities and sharing ideas on communication & engagement.

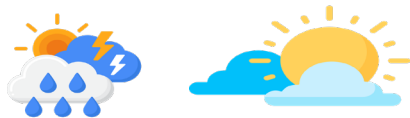


Collaboration and team building using the balloon game.



The communication and engagement training was participant centred.

The Transformative Role of Weather Radar in Malawi



Enhancing DCCMS Services for a Climate-Resilient Future

The Department of Climate Change and Meteorological Services (DCCMS) is pleased to inform all stakeholders that a significant technological upgrade is underway—a state-of-the-art weather radar will soon be installed at Kasamba Hills, Mdeka, in Blantyre District.

With a coverage radius of 250 kilometers, this radar marks a major milestone in the transformation of DCCMS operations. Malawi, continues to face rising climate variability, including intense cyclones, devastating floods, and prolonged dry spells.

This modern radar system will revolutionize how DCCMS monitors, predicts, and responds to weather extremes—ultimately saving lives, crops, and infrastructure.

Why Malawi Needs Weather Radar

Precision Forecasting for Disaster Preparedness

At present, Malawi relies mainly on satellite imagery and a limited network of weather stations, creating critical data gaps that hinder timely alerts.

Radar technology offers real-time, highly detailed updates. It can detect and track storm direction, rainfall intensity, and wind speeds at a local level—something satellite systems cannot do as effectively. With radar, DCCMS can issue cyclone and flood alerts early, providing sufficient time to evacuate vulnerable areas.

Ultimately, radar means improved timely and area specific early warnings, better coordination, and fewer lives and property lost.



An image of a weather radar in Africa. DCCMS is set to have a weather radar to greatly enhance its capacity.

Protecting Agriculture and Food Security

Malawi's farmers are increasingly impacted by shifting weather patterns, yet many still rely on traditional knowledge to plan their activities.

This uncertainty leads to poor planting decisions, reduced yields, and food insecurity. A weather radar system would provide localized, real-time rainfall data to guide agricultural planning.

By supporting more informed decisions on when to plant, irrigate, apply pesticides, and harvest, radar will help farmers reduce losses, protect income, and stabilize food supplies, thereby supporting livelihoods.



Improving Aviation and Transport Safety

Airports such as Chileka International frequently face operational disruptions due to wind shear and poor visibility occasioned by fog incidents, posing risks to passengers and cargo.

A modern radar would provide immediate alerts about wind shear and turbulence, helping pilots navigate safely. On Malawi's roads, radar can provide timely warnings about heavy rains or flash floods, preventing accidents and keeping supply chains functional.

In a country where reliable transportation underpins trade, tourism, and emergency response, weather radar is essential for operational safety and efficiency.



Climate Data for Long-Term Planning

The absence of comprehensive historical radar data limits Malawi's ability to analyze climate trends and make long-term plans.

This hampers preparedness for future droughts, floods, and changing growing seasons. With radar, DCCMS will be able to build a robust climate database—supporting better seasonal forecasts, improved agricultural planning, and stronger scientific research to guide national adaptation strategies.

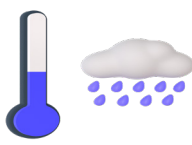
Most significantly, radar data will enhance collaboration by supporting, disaster response

agencies like DoDMA and regional entities like SADC for cross-border cyclone monitoring. Investing in weather radar is a strategic step toward a safer, climate-resilient Malawi.



Groundbreaking at the weather radar site in Mdeka, Blantyre District.

ARCS PROJECT



Norway-Funded Climate Resilience Project Set to Transform Malawi's Agricultural Sector

In a significant stride toward climate adaptation, Malawi has launched a groundbreaking initiative that promises to reshape how farmers confront climate challenges.

The Agricultural Resilience through Climate Services (ARCS) Consortium, a \$6 million project funded by Norway's Development Fund, was officially inaugurated by the Minister of Natural Resources and Climate Change, Dr. Owen Chomanika, MP, at the Bingu International Convention Centre in Lilongwe.

This ambitious three-year program arrives at a critical juncture for Malawi, where climate variability continues to threaten food security and rural livelihoods.

By bridging the gap between meteorological science and practical farming applications, ARCS aims to equip agricultural

communities with the tools they need to not just survive, but thrive in an era of climate uncertainty.

At the heart of this initiative lies a simple yet powerful premise: knowledge is the best defense against climate shocks.

The project will provide farmers in four pilot districts - Rumphi, Mzimba, Ntchisi, and Machinga - with localized, timely climate information tailored to their specific agricultural needs.

From planting windows to drought forecasts, these insights will empower farmers to make informed decisions that maximize yields while minimizing climate risks.

Minister Chomanika emphasized the transformative potential of this initiative during the launch ceremony.

"This program represents more than just climate adaptation - it's about building a food-secure nation from the ground up," he stated.

The Minister highlighted how ARCS dovetails with Malawi's National Framework for Water and Climate Services, creating a cohesive strategy for climate resilience across multiple sectors. Richard Perekamoyo, Principal Secretary for Administration, underscored the human dimension of this technological intervention.

"Climate change isn't just an environmental issue - it's a daily struggle for our farming communities," he noted.

"By putting accurate, actionable information in farmers' hands, we're giving them the power to rewrite their own futures."

The ARCS Consortium represents a model of international cooperation, with Norwegian funding supporting Malawian expertise through the Department of Climate Change and Meteorological Services.

Speaking during the event, Norwegian Ambassador to Malawi H.E Ingrid Marie Mikelsen explained that, this partnership approach ensures that global resources are channeled into locally appropriate solutions, creating a blueprint for sustainable development that other nations might emulate.

As implementation begins in the pilot districts, all eyes will be on how these climate services translate into tangible benefits for smallholder farmers.

Success could pave the way for nationwide expansion, potentially transforming Malawi's agricultural landscape.

In a country where over 80% of the population depends on rain-fed agriculture, the stakes couldn't be higher - nor the potential rewards more significant.

This initiative arrives as Malawi faces increasing climate pressures, from shifting rainfall patterns to more frequent extreme weather events.

In her remarks NORCAP Executive Director, Benedicte Giaevert said ARCS project offers a proactive response to these challenges, demonstrating how scientific innovation, when properly harnessed, can become a powerful tool for rural empowerment and national food security.

For farmers in the pilot districts, the program promises a new era of climate-smart agriculture. For policymakers, it offers valuable insights into effective resilience-building strategies.

And for international observers, it stands as a testament to what can be achieved when global resources meet local knowledge and commitment.

As Malawi takes this important step forward, the ARCS initiative reminds us that in the fight against climate change, information may be the most valuable crop of all.

The coming years will reveal how well these seeds of knowledge take root in Malawian soil, potentially yielding harvests of resilience for generations to come.



2025 ARCS project Launch - Malawi.



Field visit to Ntchisi District, Benedicte Giaevert ED NORCAP.



Farmers display their produce in Ntchisi.

PICTORIAL



Dr. Lucy Mtilatila, Director DCCMS.



The Guest of Honor, Dr. Owen Chomanika, MP, Minister of Natural Resources & Climate Change follows the proceedings.



Phillip Tegha, Country Director, Development Fund of Norway, Malawi.



Phillip Tegha explains to the Guest of Honor the workings of the ARCS Project.



Richard Perekamoyo, Principal Secretary, Administration Ministry of Natural Resources & Climate Change.

ARCS LAUNCH IN PICTURES

Malawi has launched the Agricultural Resilience through Climate Services (ARCS) Consortium, a \$6 million Norway-funded project, to enhance climate resilience in agriculture.

Officiated by Minister Owen Chomanika at the Bingu International Conference Centre, Lilongwe, the three-year initiative will provide localized climate information to farmers in Rumphi, Mzimba, Ntchisi, and Machinga, helping them make informed decisions on planting, drought forecasts, and risk mitigation.

The project aligns with Malawi's National Framework for Water and Climate Services, aiming to strengthen food security amid increasing climate variability. Richard Perekamoyo, Principal Secretary, emphasized its role in empowering smallholder farmers, who constitute 80% of Malawi's agriculture-dependent population.

This is a NORCAP led collaboration bringing key actors including Malawi's Department of Climate Change and Meteorological Services, ARCS combines global resources with local expertise.

If successful, it could expand nationwide, offering a model for climate adaptation. The initiative underscores timely climate data as a critical tool for rural resilience.



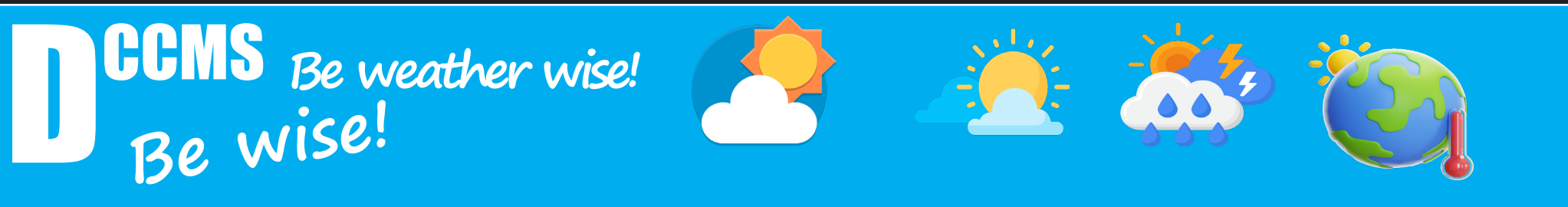
A cross section of participants during the launch.



Renata Jagustovic, Coordinator ARCS Project, Malawi and Ethiopia.



Ulf Flink, Secretary General, Development Fund, Norway.



Guest of Honor, Dr. Owen Chomanika, MP, Minister of Natural Resources & Climate Change, Norwegian Ambassador to Malawi H.E Ingrid Marie Mikelsen & Benedicte Gjaever Executive Director, NORCAP.



A cross section of partners during the launch.



Guest of Honor, Dr. Owen Chomanika, MP, Minister of Natural Resources & Climate Change and Benedicte Gjaever, Executive Director, NORCAP during the launch of ARCS Project.



ARCS focus is on smallholder farmers.



ARCS Partners during the field visit to Ntchisi District.



Women smallholder farmers during the field visit.



A farmer makes a presentation during the visit to Ntchisi.



CREWS MALAWI PROJECT



Malawi Strengthens Early Warning Systems through CREWS Initiative

The Department of Climate Change and Meteorological Services (DCCMS), in collaboration with the World Meteorological Organization (WMO), has made significant strides in enhancing the country's climate services and early warning capabilities.

The project, "Strengthening Risk-Informed Planning, Hydro-Meteorological and Early Warning Services in Malawi," implemented between August 2023 and April 2025, has yielded concrete results to improve Malawi's resilience to climate-related hazards.

Key achievements include enhanced data tools and capacity building through the installation and operationalization of ENACTS Maprooms, the Automatic Data Tool (ADT), and the Climate Data Tool (CDT) for improved climate data visualization. Training workshops on these platforms and the IRI Data Library were conducted for DCCMS staff and stakeholders. Additionally, the 2024 State of Climate Report for Malawi was developed and disseminated, providing critical climate insights.

Policy and public engagement efforts saw the successful launch of the

National Framework for Climate Services (NFCS), guiding climate adaptation strategies. Active participation in World Meteorological Day (2024 & 2025) raised public awareness on climate risks, and representation at SARCOF-29 (Southern Africa Regional Climate Outlook Forum) and COP29 contributed to regional and global climate discussions.

Infrastructure and coordination were supported through the servicing of project vehicles and the procurement of laptops and essential equipment to facilitate data management.

Looking ahead to 2025-2026, DCCMS will further strengthen Malawi's climate resilience by conducting a pre-SARCOF seasonal forecast session and participating in SARCOF-30, hosting the 2025 National Climate Outlook Forum and downscaling seasonal forecasts to district levels. Forecasts will be translated and disseminated in Chichewa, Tumbuka, and Yao for broader accessibility,

and a monthly Agrometeorological Bulletin will be introduced to support farmers. Maintenance will be performed on Automatic Weather Stations, lake buoys, and lightning detection systems, and spare parts will be procured to ensure uninterrupted operations.

A Monitoring & Evaluation framework will be developed for NFCS implementation, and specialized training on atmospheric dynamics, forecasting, and digital data transmission will be conducted.

Mr. Hussein Milanzi, Chief Meteorologist and Project Coordinator, emphasized the department's dedication, stating, "We are making tangible strides to ensure climate information is accessible, relevant, and trusted by all sectors of society."

As the project continues through 2026, these efforts will significantly bolster Malawi's preparedness against climate risks, ensuring communities receive timely, accurate, and actionable weather information for long-term resilience.



CDT/ADT Training, supported by CREWS project.



Tangible strides to ensure climate information is accessible, are being made.



Group photo of members who participated CDT Training.



National Climate Outlook Forum 2023.



Launch of National Framework for Water & Climate Services.

Malawi Meteorological Society (MAMESO) Ushers in a New Era for Weather and Climate Science

In a momentous stride for weather and climate science in Southern Africa, the Malawi Meteorological Society (MAMESO) was officially launched on 30 April, 2025—marking a transformative chapter for the meteorological community in Malawi and the region at large.

With a bold vision to advance meteorology and allied sciences, MAMESO is not only a platform for scientific excellence but a beacon of hope in the continent’s fight against climate change.

Spearheaded by a team of 11 visionary Trustees and chaired by the eminent Professor Sosten Chiotha, Director of Leadership in Environment and Development for Eastern and Southern Africa (LEAD SEA), the society arrives at a critical time when Malawi—and Africa—urgently need coordinated, data-driven responses to a changing climate.



The MAMESO Trustees during a symbolic launch of the society.

A Society Born of Purpose and Passion

At its core, MAMESO is a non-profit, professional organization with a mission that transcends academia.

It seeks to create a dynamic interface between science, society, and policy. Through its objectives—ranging from promoting meteorological research to engaging the public in weather education—the society intends to weave meteorology into the very fabric of national development.

The launch of MAMESO marks a pivotal step toward building a weather-resilient Malawi.

Through uniting experts and stakeholders, MAMESO can harness science to mitigate climate risks and enhance sustainable development.

Charting a Course for Impact

To fulfill its mandate, MAMESO is laying out an ambitious yet practical roadmap. Among its first strategic moves are;

- Funding and facilitating groundbreaking research in meteorology, climate science, and related disciplines.
- Hosting conferences and workshops that bring together scientists, journalists, policy influencers, and students to share knowledge and catalyze innovation.
- Publishing accessible resources—from journals to pamphlets—to ensure meteorological knowledge serves both decision-makers and communities.

•Forming partnerships with national bodies like the Department of Climate Change and Meteorological Services (DCCMS), and regional and global organizations such as the African Meteorological Society (AfMS), Kenya Meteorological Society (KMS), Royal Meteorological Society (RMetS) and American Meteorological Society(AMS) .

These collaborations aren’t just symbolic—they are essential. The envisioned symbiotic relationship between MAMESO and DCCMS promises to create a powerful feedback loop between research and practice.

While DCCMS generates operational forecasts and early warning information, MAMESO can offer scientific grounding, evaluation, and forward-looking innovations that improve these services.

In return, MAMESO benefits from real-world data, operational insights, and outreach channels facilitated by DCCMS.

Together, the two entities can elevate Malawi’s meteorological ecosystem—from capacity building to public engagement to influencing climate policy at home and abroad.

Why MAMESO Matters—Not Just for Malawi

Across Africa, climate extremes—droughts, cyclones, floods—are no longer future threats; they are present realities. Malawi, like many African countries, is grappling with the urgent need for more resilient, data-informed systems.

MAMESO’s emergence dovetails with Agenda 2063, the African Union’s blueprint for inclusive, sustainable growth. By fostering local innovation and connecting to global meteorological networks, MAMESO is poised to contribute to;

- Strengthening early warning systems and disaster preparedness.
- Supporting climate-smart agriculture and protecting food systems.
- Advancing evidence-based policies for environmental stewardship.
- Inspiring the next generation of meteorologists, researchers, and communicators.

A Future Fueled by Collaboration

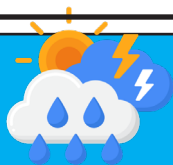
With formal approval granted on Friday 16 May 2025, MAMESO is already operational. Its inaugural initiatives include a national public awareness campaign on climate adaptation, as well as cross-border collaborations to harmonize weather data and standards in southern Africa.

As it begins this journey, MAMESO invites scientists, students, educators, development actors, and citizens to join the movement. When science meets society, and knowledge meets action, we create not just forecasts—but futures. MAMESO website: www.mameso.mw, emails: chair@mameso.mw, info@mameso.mw



Prof. Sosten Chiotha, speaks during the launch.





TOWARDS SAFER SKIES

Air travel is globally acknowledged as the fastest, most efficient, and comfortable means of transportation. However, the risks associated with aviation accidents are disproportionately high, both in terms of economic and human life losses.

This makes safety a non-negotiable priority in the aviation industry. Among the many stakeholders who ensure safe air travels like pilots, Air Traffic Control Officers (ATCOs), and aviation authorities; meteorological personnel play a critical role, especially at key aerodromes such as Kamuzu International Airport (KIA) and Chileka Airport.

In our increasingly technology-driven world, integrating AI into aviation meteorology is not just a forward-thinking option, it is a strategic necessity too.

AI offers powerful tools that can revolutionize how meteorological data is observed, processed, and communicated to those who need it most like pilots and ATCOs in order to come up with time-sensitive decisions.

EMBRACING ARTIFICIAL INTELLIGENCE (AI) IN AVIATION METEOROLOGY AT MALAWI'S AERODROMES

Meteorological data, including routine and special observations, is the backbone of aviation safety. Reports like METAR (Aviation routine weather Report) and SPECI (Special Report) provide vital real-time weather parameters such as wind direction and speed, cloud cover and height, visibility, and others including a trend forecast of the anticipated weather conditions, all these inform decisions related to aircraft takeoff, landing, and route planning. In the event of hazardous weather phenomena such as tropical cyclones, thunderstorms or turbulence within your working airspace, additional warnings like SIGMETs are issued to alert aviation personnel.

These reports are meant to be timely and accurate to prevent aircraft delays, diversions, or worse still accidents.

As climate change continues to intensify weather variability, aerodromes are becoming more vulnerable to disruptive weather hazards. The traditional, human-driven processes of observation



and forecasting are susceptible to fatigue and error, especially during round-the-clock (24/7) airport operations. This is where AI presents an unmatched advantage. Using machine learning algorithms, AI systems can analyze real-time data from satellites, radar, and on-ground sensors, producing faster and more precise weather forecasts.

Incorporating AI into meteorological operations means better-informed pilots, more efficient flight planning, and fewer disruptions due to unexpected weather changes.

AI systems are particularly effective in detecting rapidly developing conditions like convective storms or dangerous runway crosswinds which negatively affects aircrafts at aerodromes. They can also distinguish between aircraft and birds, reducing false alerts and improving airport safety.

Recognizing these benefits, Malawi's Department of Climate Change and Meteorological Services (DCCMS) is already taking significant steps.

An AI-powered Automatic Weather Observation Station (AWOS) is being installed at both Kamuzu and Chileka International Airports. This marks a

significant milestone in modernizing the country's aviation meteorology systems, with more AI tools expected to follow.

Despite skepticism from some quarters, the advantages of AI in meteorology are clear and compelling. These systems enhance the speed, accuracy and reliability of weather information, consequently contributing to safer, more efficient airport operations and reduced economic losses.

Now is the time to embrace this transformative technology. To fully realize the potential of AI in aviation meteorology, collaboration across all aviation stakeholders is essential.

This includes investing in training for meteorological staff, supporting research and development, and raising public awareness of AI's role in delivering better weather services. To sum it up, the future of safe and efficient air navigation in Malawi and across the globe lies in our willingness to adopt AI today.

By doing so, we not only modernize our aviation infrastructure but also safeguard lives, protect economic assets, and ensure seamless travel in the skies above.



Landing.



Take-off.



Weather Station at Kamuzu International Airport-Photo by Matthews Mizati.

BEHIND THE SCENES

Developing Malawi's Zanyengo Weather App

In our last newsletter, we introduced Zanyengo, the new weather app from the Department of Climate Change and Meteorological Services (DCCMS).

This app gives Malawians easy access to real-time and accurate weather forecasts, helping people stay prepared for extreme weather and improving overall resilience to climate change.

Making Weather Simple and Accessible

Creating the Zanyengo app was a joint effort by DCCMS and the Norwegian Meteorological Institute, with support from NORCAP, part of the Norwegian Refugee Council.

The goal is simple: provide clear and useful weather information that anyone can understand and use daily.

Built With You in Mind

Right from the start, the Zanyengo app was designed with users at the center. The app is available in both English and Chichewa to ensure wide accessibility.

A dedicated UX (User Experience) designer worked closely with the team, ensuring the app was not only technologically robust but also easy and intuitive to use. Feedback from users was regularly collected and incorporated, making sure the app meets real needs and is easy to understand.

The app primarily shows basic forecasts but highlights critical weather warnings clearly when dangerous conditions are expected. This helps people quickly understand and react to potential hazards.

Later stages of development involved extensive outreach to key user groups like extension workers, teachers, and young adults. This outreach, done in collaboration with Save the Children Malawi, gave valuable insights into practical uses of the app, ensuring it truly serves the community.

“We’re excited to have the Zanyengo app as a new, reliable way to quickly deliver important weather updates directly to Malawians.” – Tapiwa Khutakumutu



Download the Zanyengo Weather App

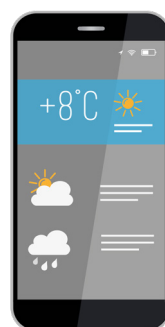
Scan the QR Code on your Android Device and access real-time weather updates for any location in Malawi. Stay informed, anytime, anywhere.



MINISTRY OF NATURAL RESOURCES AND CLIMATE CHANGE
DEPARTMENT OF CLIMATE CHANGE
AND METEOROLOGICAL SERVICES



PART OF NORWEGIAN
REFUGEE COUNCIL



ZANYENGO APP

GET IT ON
Google Play



What's Next for Zanyengo?

The launch of the Zanyengo app is just the beginning. DCCMS and the Norwegian Meteorological Institute will continue working together to introduce new features and enhancements.

Your feedback as users will play a crucial role in guiding these improvements. DCCMS plans to continually gather user experiences to ensure the app remains useful and relevant.

By using digital tools like Zanyengo, Malawi is leading the way in digital weather communication. We hope the Zanyengo app can inspire similar initiatives in other countries in our region.

Help Improve the Zanyengo App

Have you downloaded Zanyengo yet? We would love to hear how you use it and how it can be improved. Please rate the app on the Google Play Store and share your feedback.

If you have suggestions or questions, email us at feedback@metmalawi.gov.mw.

Download Zanyengo for Android here: <https://rb.gy/xbi2qh>

This article was collaboratively authored by the DCCMS and MET Norway teams involved in the development of the Zanyengo Weather App.



Discussing how best to improve the Zanyengo Weather App.



DCCMS and the Norwegian Meteorological Institute working collaboratively.



A lady balances a load, while checking her phone. The app is for all categories of users.

CHILDREN & YOUTH CORNER

Hello, Future Weather Whizzes!

What makes thunder rumble? How do clouds float? Why does the wind whisper through the trees? If you've ever looked up at the sky and wondered about these magical weather mysteries, then you're exactly where you belong - in our Zanyengo Kids' Corner!

This is your special space in our weather newsletter where science meets fun! Every season, we'll bring you exciting adventures through:

- Mind-blowing weather facts that will make you the smartest kid on the playground
- Hands-on experiments you can try at home (with a grown-up's help)
- Creative challenges where you can show off your weather artwork or stories
- Real-life weather detective games to sharpen your observation skills

We want YOU to be part of our weather team! Send us your questions, drawings, or cool weather observations from your neighborhood.

Who knows - your work might be featured in our next issue! Remember, every great meteorologist started by being curious - just like you. So grab your imaginary umbrella, put on your thinking cap, and let's explore the wonderful world of weather together.

The sky's is the limit!
Your Weather Friends,

The Zanyengo E-Newsletter Team



Weather Kids visited the weather station at Chileka International Airport, to learn about the importance of weather forecasting.



CROSSWORD

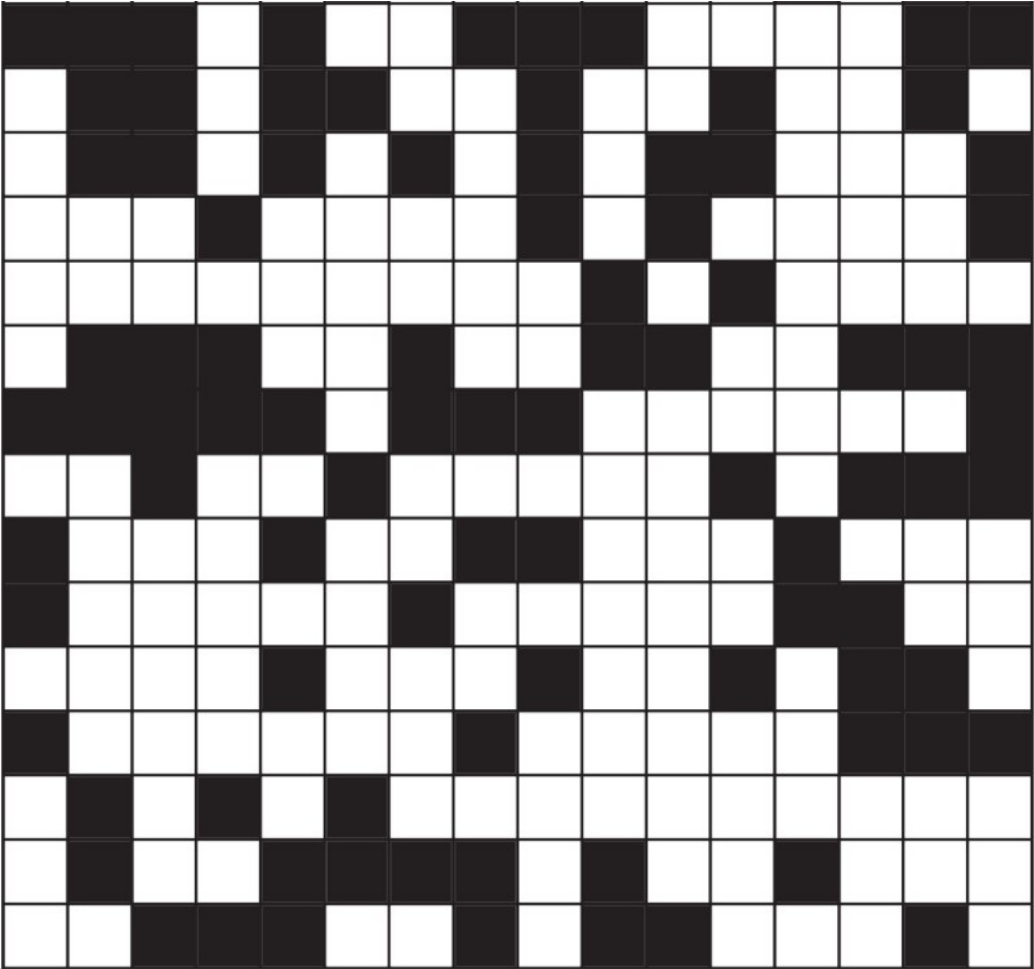
PUZZLE

CROSS

- Sunny
- Thunder
- Winter
- Change
- Precipitation
- Atmospheric
- Global
- Solar

DOWN

- Wind
- Cloud
- Temperature
- Climate
- Humidity
- Humidex
- Climate
- Cloud cover
- Rainfall
- Pressure
- Warming
- Fog



STUDENT CONTEST

Learner's name : Calista Nampinga

Class : Standard 6

School Name : Nkhosho Primary School

District : Nsanje

Let's protect our earth

The earth is a beautiful place to live
As seen from the sky
But what people are doing to it
Can not make it survive
This makes the blue planet to cry

The earth shakes with fear
And shed more tears
As it feels the pain of human destruction
That surpass the rate of its production

The earth looks upon us with painful eyes
Sobbing and weeps on asking you
Why you cut down trees and cause desertification?
Why you dispose off waste products and cause pollution?
And why you burn fossil fuel and cause climate change?
Please it is patiently waiting for your answers

Let's make the earth look beautiful

Don't dispose off waste products everywhere

Reuse, renew and recycle

Plant trees and be sure not to abuse the earth



Weather Kids visited DCCMS head office in Blantyre, sparking curiosity and interest in meteorology.

FILL IN THE BLANKS

When the sky is blue with no clouds ? (5 letters)

This falls from the sky when it rains ? (8 letters)

A loud sound you hear during a storm? (7 letters)

Malawi's hottest month (usually) ? (8 letters)



Be a Weather Warrior! Malawi's Changing Skies

Have you ever stepped outside on a bright, sunny morning, ready to play football or run around with friends—only to see dark clouds roll in by afternoon?

That's weather for you! It changes all the time, just like your mood. One minute it's hot and still, the next, the wind is rushing through the trees, or raindrops are tapping on the roof. But climate is different.

It's Malawi's usual weather pattern over many, many years. We've always counted on rainy seasons from November to April, when farmers plant their crops, and dry, cooler months from May to October.

Our grandparents knew when to expect the rains, when to harvest, and when the rivers would be full. Now, something strange is happening—our climate is changing, and it's making life harder.

The rains play tricks! Sometimes they arrive late, leaving fields too dry to plant. Other times, they pour down all at once, flooding villages and washing away crops.

It's getting hotter! The sun feels fiercer, and some days are much warmer than they used to be. Dry spells last longer. Rivers and wells dry up, leaving people and animals thirsty. This isn't just a problem for farmers—it affects all of us. Less rain means less food. Hotter days can make people sick. Strong winds and floods can damage homes and roads.

But guess what? You can help! Even small actions make a big difference. Plant a tree. Trees give shade, clean the air, and even help bring rain.

Save water. Turn off taps tightly, fix leaks, and use water wisely—every drop counts! Reuse and recycle. Plastic bottles and bags can be used again instead of thrown away.

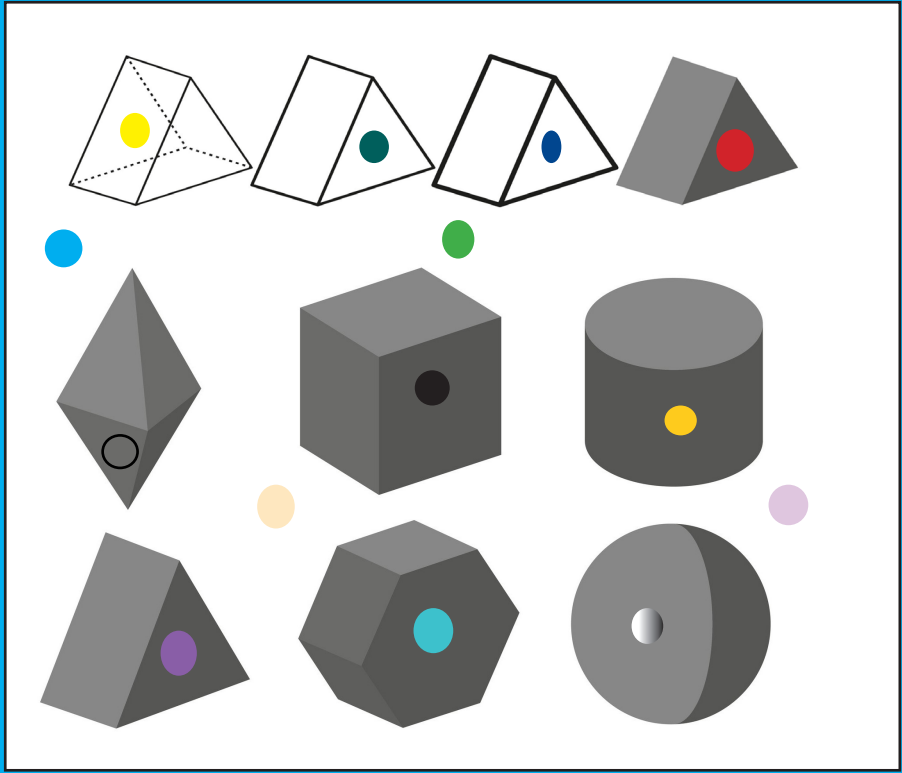
Less trash means a healthier Malawi. Ask and learn. Talk to your grandparents—did the rains used to be different when they were young?

Share what you discover!

The Department of Climate Change and Meteorological Services is working hard to track these changes and keep people safe. But we need you—our future Weather Warriors—to help protect Malawi's skies, lands, and water.

Stay curious. Take action. Together, we can make a difference!

COLORING GAME





DCCMS Staff Lead Early Action & Climate Resilience in Machinga

Weather experts from the Department of Climate Change and Meteorological Services (DCCMS), based in Machinga District, are playing a vital and expanding role in advancing community preparedness through early action initiatives.

Their core function involves the critical, timely dissemination of early warnings, targeted weather advisories, and comprehensive awareness campaigns. This dedicated work is proving essential in empowering local communities to anticipate and effectively prepare for an increasing number of climate-related hazards. Machinga stands as one of Malawi's districts most vulnerable to climate change impacts, frequently experiencing severe disasters such as tropical cyclones, prolonged and damaging dry spells, and sudden, destructive flash floods. Consequently, the district relies heavily on accurate, localized weather information to safeguard both lives and livelihoods. To meet this urgent need, DCCMS officers stationed in Machinga actively collaborate with a wide network of partners.



Joster Muhalu engaging the youth in Climate Change.

This includes close coordination with community leaders, civil protection committees, local schools, regional radio stations, and other vital stakeholders. Their combined efforts ensure that crucial weather information reaches all residents in clear, accessible, and actionable formats, enabling informed decision-making.

Beyond the primary task of disseminating forecasts and urgent warnings, the DCCMS team undertakes essential routine weather observations.

They diligently collect critical meteorological data that serves multiple important purposes. This locally gathered data is fundamental for generating accurate daily and seasonal forecasts specifically for Machinga and the surrounding region.

Furthermore, it significantly contributes valuable insights to national databases and supports vital international research efforts focused on understanding long-term climate trends. The data also acts as a practical educational resource, benefiting students and researchers engaged in studies related to climate science and disaster risk management strategies.

“Our commitment remains steadfast,” stated Joster Muhalu, Officer-in-Charge for DCCMS in Machinga. “We will continue working tirelessly alongside communities and all relevant stakeholders. Our shared goal is to help mitigate the severe impacts of climate change and actively build long-term resilience here in Machinga.”

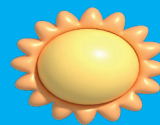
Through their consistent and proactive engagement across the district, DCCMS continues to demonstrate a strong and unwavering commitment to resilience-building and the provision of effective, life-saving early warning support for the people of Machinga.



Ntaja Meteorological Station.



DCCMS IN THE NEWS



Malawi boosts climate and meteorological services to save lives and improve farming

Malawi News Agency

12 April 2025

By Charlie Ligomeka



Chiperoni weather expected to weaken — Meteorological Department

Maravi Express

16 June 2025

By Duncan Mlanjira

DCCMS warns flash floods in Karonga, Nkhata Bay districts

Malawi News Agency

19 April 2025

By Petro Mkandawire

DCCMS warns of Mwera winds over lakes

Malawi News Agency

13 May 2025

By Petro Mkandawire

Minister calls for scaling up youth led ecosystem restoration

Malawi News Agency

25 June 2025

By Innocent Manda