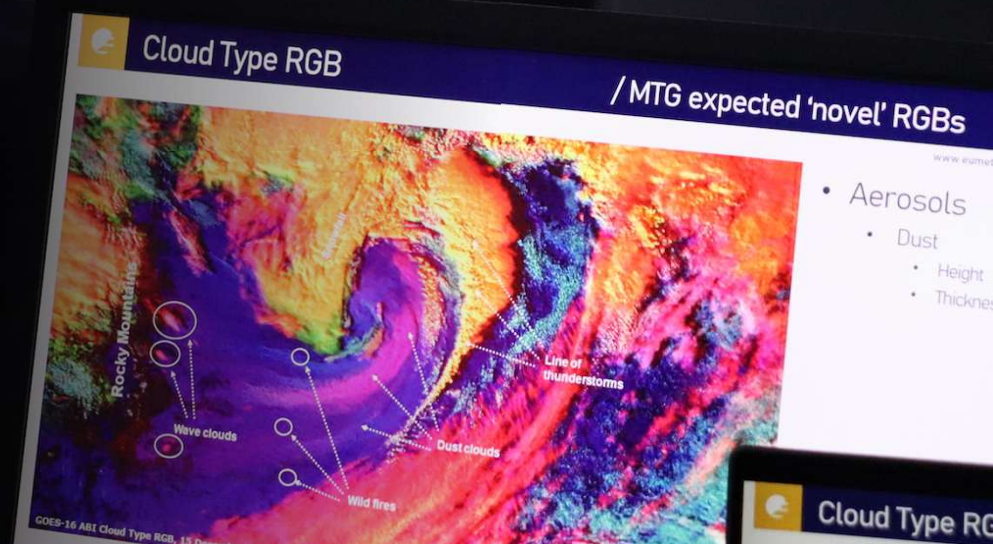


Meteosat Third Generation (MTG). Weather from Space: A Game Changer for Africa (MTG Training)

Sarah Kimani, Kenya Meteorological Department/IMTR-WMO RTC



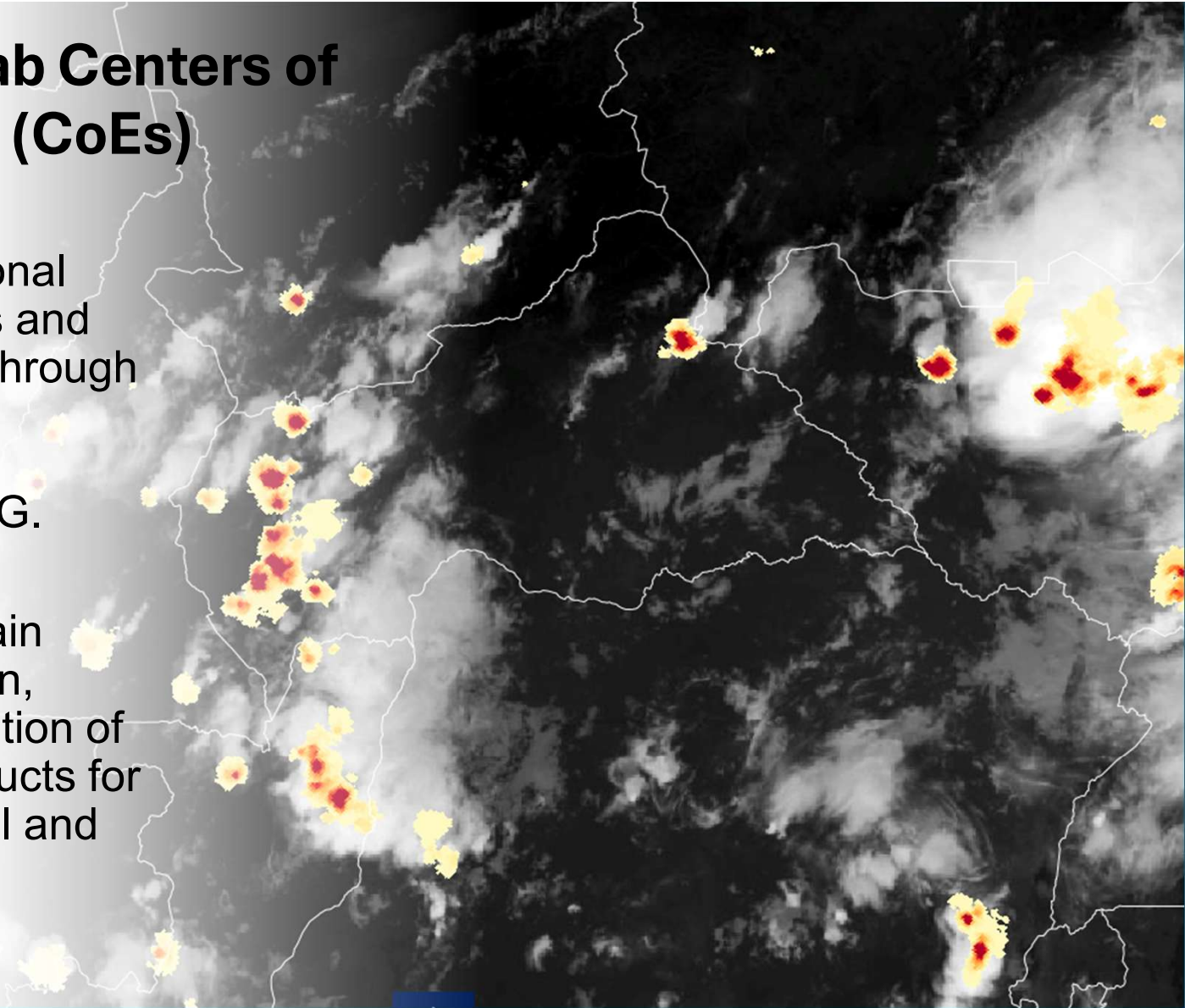
WMO CGMS VLab Centers of Excellence (CoEs)

- The MTG trainings take place at the 4 WMO CGMS VLab CoEs in Africa.
- Designated WMO VLab “Centers of Excellence” for training Satellite Meteorology and are implementers of African Satellite Meteorology Education and Training (ASMET).
 - South Africa (SAWS) & Kenya (IMTR) – English
 - Niger (EAMAC) and Morocco (DGM) – French
 - Oman – [English / Arabic]
- Supported by EUMETSAT, WMO and other collaborations



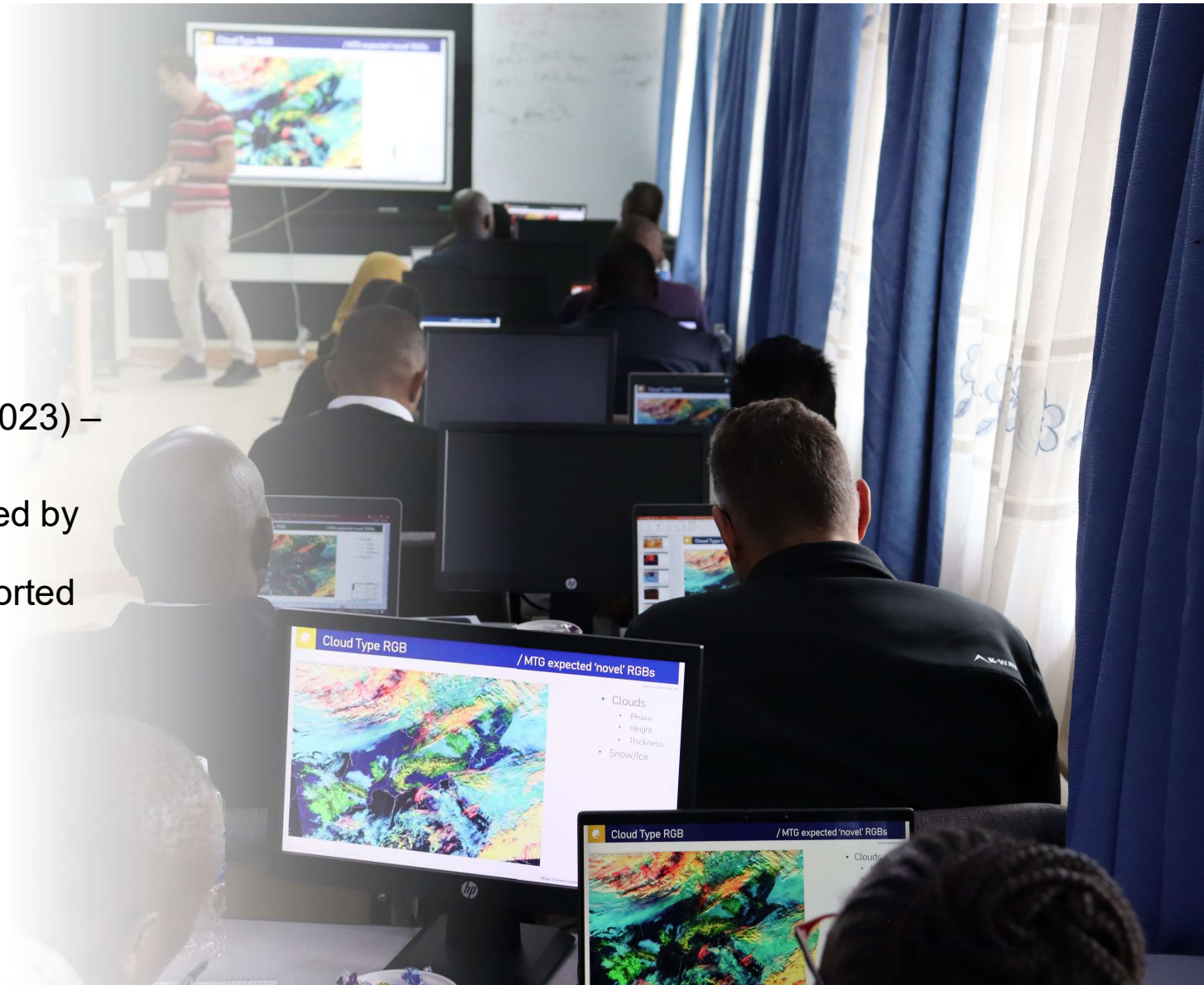
WMO CGMS VLab Centers of Excellence (CoEs)

- To strengthen the operational capacity of meteorologists and other satellite data users through enhanced awareness and understanding of the new capabilities offered by MTG.
- Ensure users in Africa attain proficiency in the utilization, interpretation, and application of new satellite derived products for operational meteorological and environmental monitoring services.



MTG Training ToT & Forecasters

- WMO Satellite Training Course on MTG (Nov 2023) – IMTR, Nairobi
- The course was attended by 25 participants from 19 African countries, supported by WMO.



MTG Training - ToT & Forecasters (Objectives)

- Strengthen the capacity of trainers to effectively deliver training on the interpretation, application, and operational use of MTG data and products for weather forecasting and early warning services.
- Develop a sustainable regional MTG training network by enabling trainers to design, facilitate, and replicate MTG satellite data training programmes within their National Meteorological and Hydrological Services (NMHSs) and affiliated institutions.





WMO CGMS VLab Centers of Excellence (CoEs) - **EAMAC**

- The Centres of Excellence (CoEs) have been instrumental in advancing the transition from MSG to MTG applications across the African region.
- Capacity development initiatives have been concentrated on enhancing skills in operational forecasting, severe weather analysis, nowcasting, and impact-based forecasting through the application of MTG products and services.

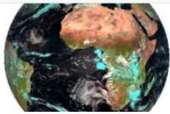


WMO CGMS VLab Centers of Excellence (CoEs) - SAWS

- In collaboration with EUMETSAT, WMO and other partners, the CoEs have contributed to strengthening of regional forecasting capacity and operational readiness.
- Technical experts/ASMET trainers from the CoEs have supported MTG implementation through facilitation of training sessions, development of forecasting case studies and training modules, and provision of operational guidance.



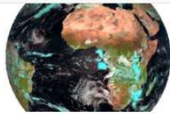
Satellite Application courses (Africa)



RA-I MTG Satellite Imagery Interpretation Online Course 2026

This course will introduce us with the new operational MTG satellite, its ...

View



RA-I Cours Intérpretation de base de l'imagerie satellitaire 2026

Ce cours sur les applications satellitaires **en langue française** est ...

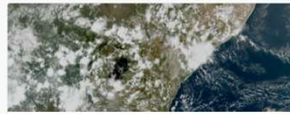
View



Applications satellitaires en météorologie 2026

En association avec l'École africaine de la météorologie et de l'aviation ...

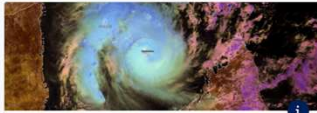
View



Using MTG data for Improved Weather forecasts in Africa

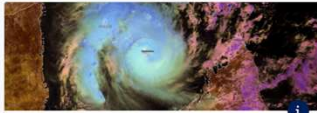
EUMETSAT in collaboration with the Kenya Meteorological Department Institute ...

View



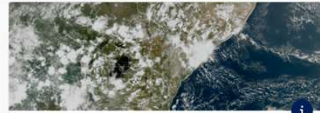
Satellite Applications Course Pretoria 2026

This English-language training course is designed to



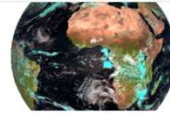
Atelier de prévision maritime 2025

Cet atelier vise à renforcer les capacités en télédétection spatiale et son ...



Mastering MTG Satellite imagery for Forecasting

EUMETSAT in collaboration with the Kenya



RA-I Cours Intérpretation de base de l'imagerie satellitaire 2025

Training at WMO CGMS VLab Centers of Excellence (CoEs)

Trainings are delivered through a combination of virtual sessions, in-person workshops, regional forecasting exercises, and periodic weather briefings to promote continuous professional development.

<https://asmet.africa>

Subscribe for news/training events across Africa

Training at WMO CGMS VLab Centers of Excellence (CoEs) - SAWS

Week 3 - Low clouds, Fires Restricted

Available from 20 March 2026

Welcome to Week 3!

In this week, we continue to apply satellite products in operational forecasting scenarios. The focus will be on the identification of low-level clouds (including fog and stratus) and the detection of active fires using MTG imagery products.

Low clouds present significant challenges for aviation, transport, and forecasting due to their subtle satellite signatures and frequent misclassification. You will learn how to distinguish fog and stratus using various MTG products, with particular emphasis on night-time detection using multispectral and infrared imagery.

We will also explore fire detection using the MTG Fire RGB product. You will learn how to identify active fire pixels, differentiate fires from hot surfaces, interpret smoke plumes, and understand the physical principles behind the RGB colour representation.

We invite you to join the live sessions and review the resources provided in this section. Please make sure to reserve time to complete the Assignment and the Exercise. We welcome your questions in the course Forum throughout the course.

zoom Monday, 23 March at 10:00-12:00 UTC (SAWS)

The recording is now available. [Click below](#) to listen to the recording.

- Introduction to Low clouds Part 1 & Fires
- Introduction to Low clouds Part 2

Monday live session presentations

Exercise 3 - Feedback on live session
Opened: Monday, 23 March 2025, 12:00 PM

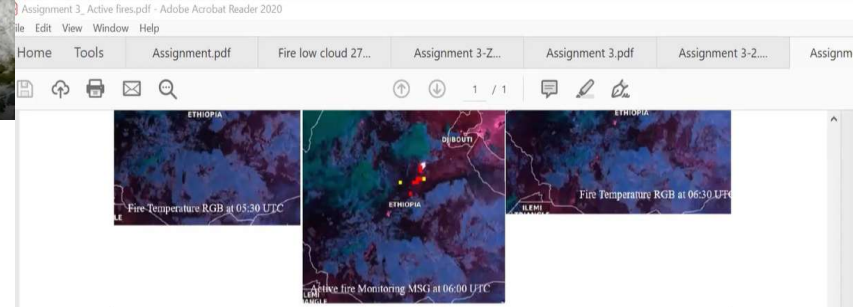
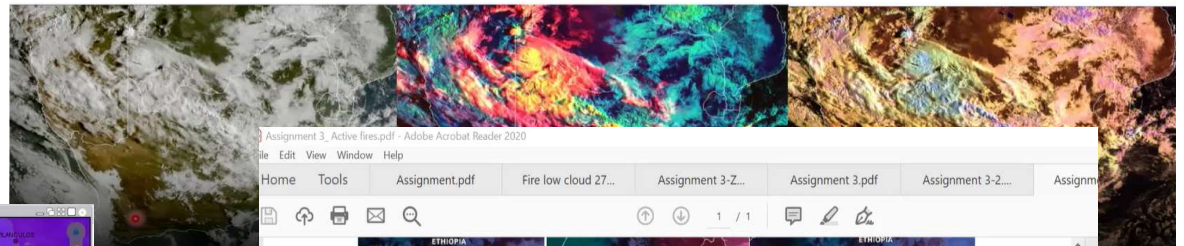


Case Study: 25 March 2026

04H00 UTC



06H00 UTC

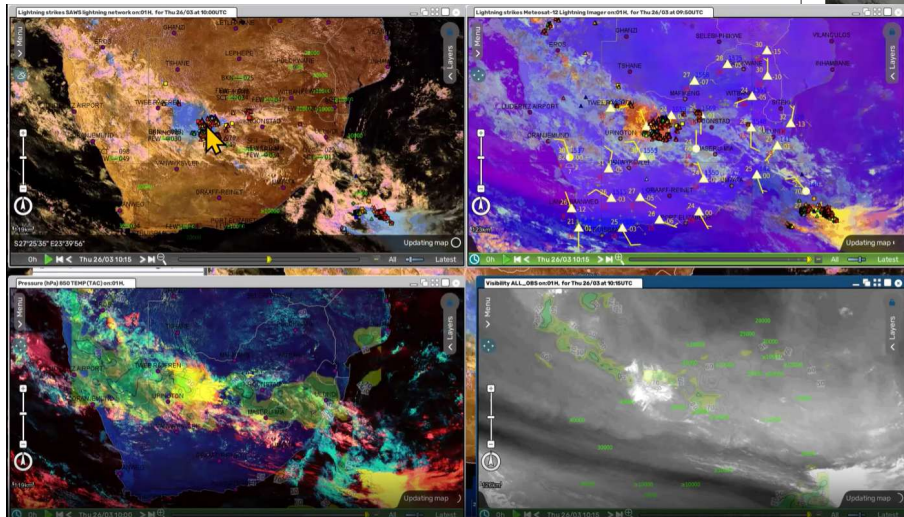


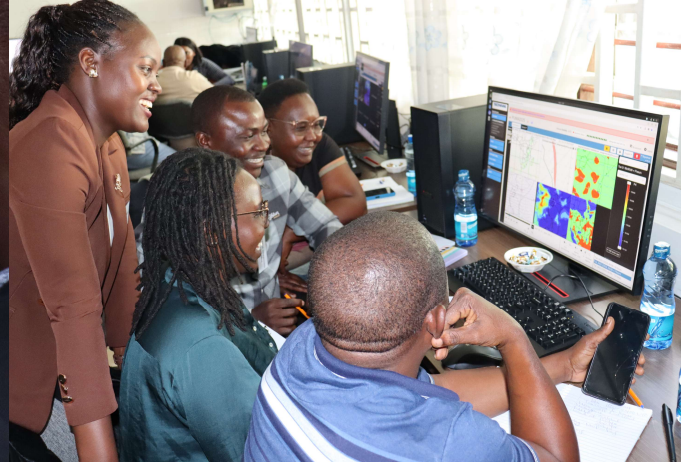
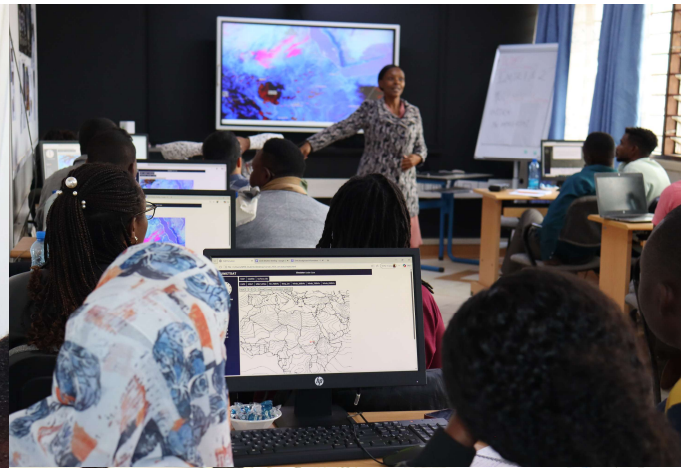
Observation

The combined Satellite images show an active fire hotspot in Ethiopia by using the Fire Temperature RGB and Active fire monitoring. There is one which illustrates where the same fire is obscured by low-level cloud or fog. There are also water clouds as well as the ice clouds, which occur in the area.

Impact of low clouds on fire detection

Fires are only seen in cloud-free areas. If a fire is burning under a stratocumulus or fog layer, the satellite will see the cloud top instead of the fire. So, active fire can be invisible to the satellite until the low clouds move away.

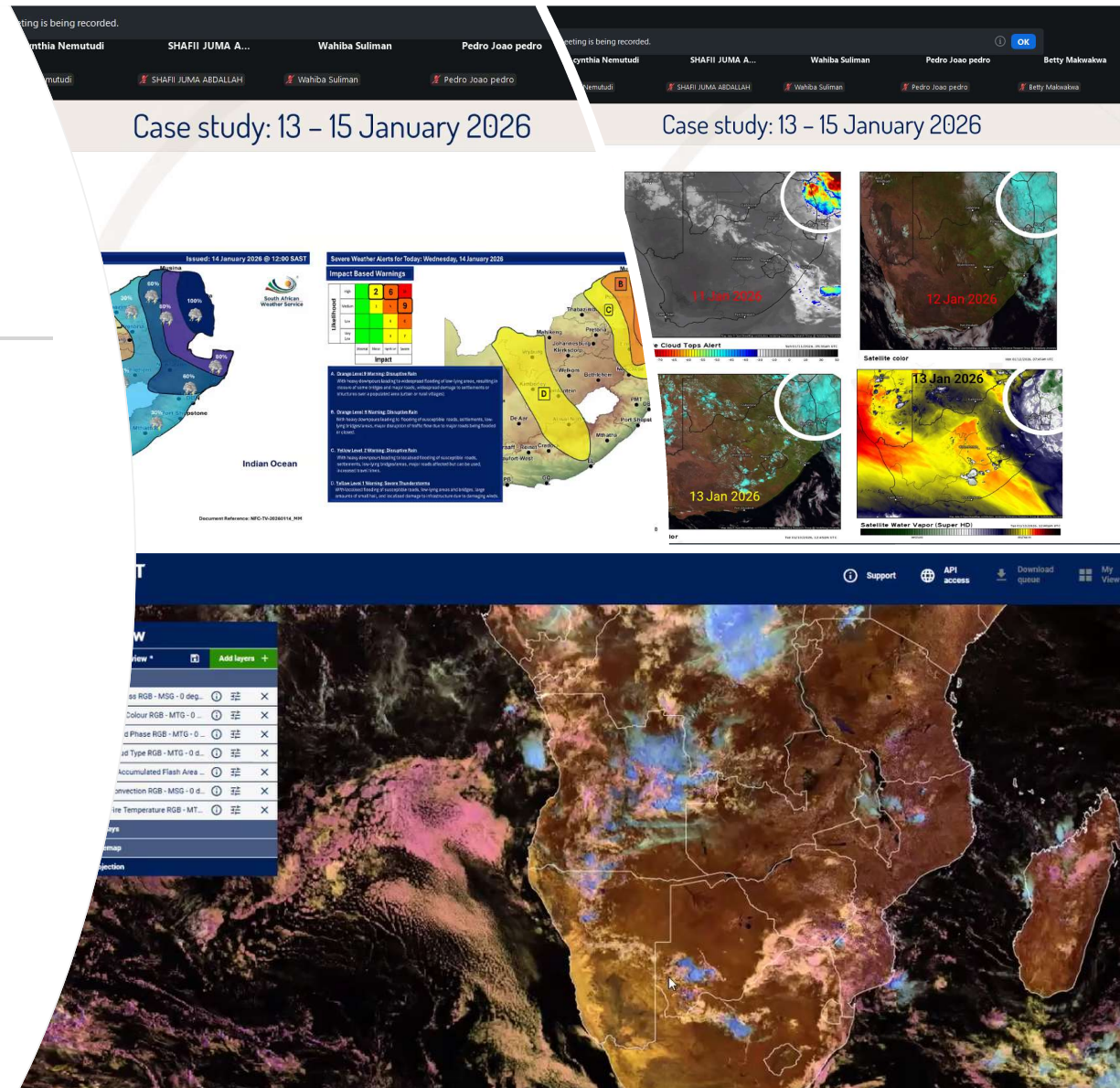




SAC, IMTR-Nairobi, April 2026

RA-I Quarterly weather Briefing:

- 30 March 2026 linked to early warnings and IBF – 34 participants
- Case Study 13 to 15 Jan 2026
- Live weather briefing



Training at WMO CGMS VLab Centers of Excellence (CoEs)(SAWS)



Missed a briefing?
Catch up on previous sessions:

African Weather Briefings

- MTG true Color RGB and identification of weather hazards for early warning
- MTG cloud phase RGB and identification of weather hazards for early warning
- Quarterly African Weather Briefing
- Identifying potential turbulence areas using MSG and MTG satellite imagery
- Identifying severe thunderstorms using satellite products

Date	Description	Links
Mar, 2026	Every Quarter, the South African Weather Service in collaboration with EUMETSAT organizes an African Weather Briefing open to everyone to discuss interesting weather events using various satellite products. Join us as we explore how satellite imagery moves beyond identifying weather systems to anticipating real-world impacts.	Briefing slides Briefing video
Dec, 2025	This Weather Briefing was proudly hosted by the South African Weather Service and focused on identification of Tropical weather systems using satellite products.	Briefing slides Briefing video
Sep, 2025	The September online Weather Briefing was offered by the South African Weather Service (SAWS).	Briefing slides Briefing video
Jul, 2025	The July online weather briefing was hosted by the South African Weather Service and looked at identification of potential turbulence areas using various satellite products.	Briefing slides Briefing video
Nov, 2024	The November online African Weather Briefing was presented by Kanyisa Makubalo from the South African Weather Service.	Briefing video
Oct, 2024	The October Weather Briefing was delivered by presented by Mirriam Mwende and Jemimah Gacheru from the Kenya Meteorological Department / Institute for Meteorological Training and Research (KMD/IMTR).	Briefing slides Briefing video
Jul, 2024	The July online African Weather Briefing was proudly hosted by the South African Weather Service.	Briefing slides Briefing video

<https://asmet.africa/live-weather-briefings/>

Training at WMO CGMS VLab Centers of Excellence (CoEs) – EAMAC & DGM

List of MTG Training conducted by EAMAC in Collaboration with WMO, EUMETSAT and/or DMN-Morocco

Course title	Period	Type	Number of participants
RA-1 Satellite Application Course	06 to 24 Mai 2024	Online	70
Training course on the use of data and products using MTG satellites	02 to 06 Dec 2024	Classroom	22
RA-1 Satellite Application Course	31 Mar to 18 Apr 2025	Online	75
Use of PUMA-2025 Station	25 to 29 Aug 2025	Classroom	18
Use of PUMA-2025 Station	06 to 10 Oct 2025	Classroom	18
RA-1 Satellite Application Course	09 to 13 Feb 2026	Classroom	20
RA-1 Satellite Application Course	13 Apr to 01 Mai 2026	Online	81



PUMA Application Training November 2024 - Forecasters

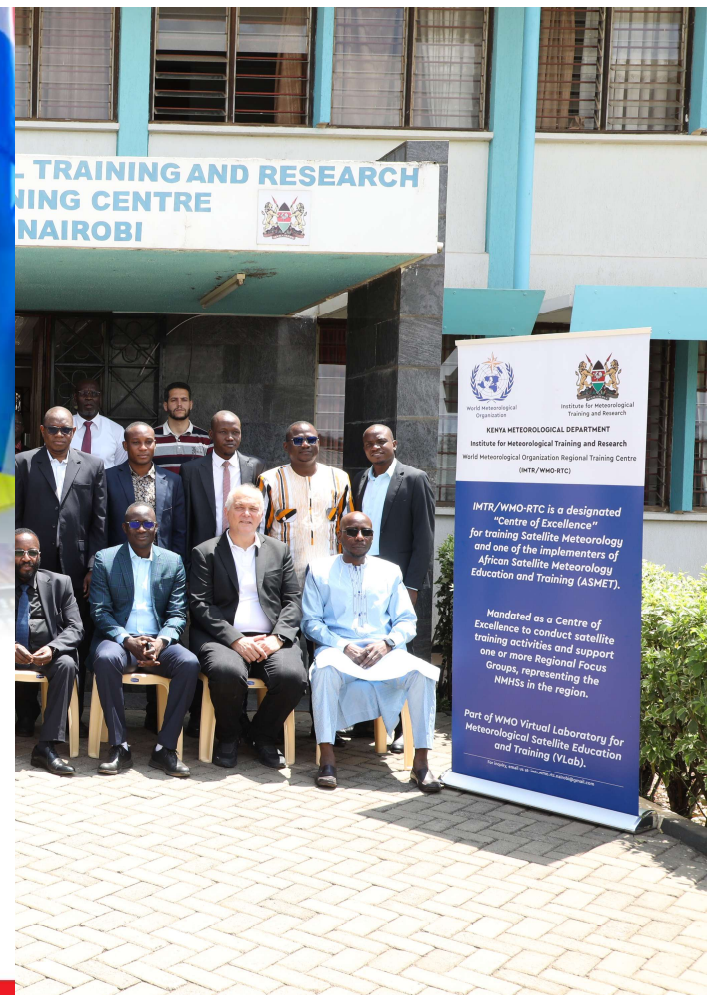


Climate Change PS Dr. Eng. Festus Ng'eno launches a ToT Course on PUMA and ClimSA weather systems at IMTR in Nairobi.

KBC NEWS

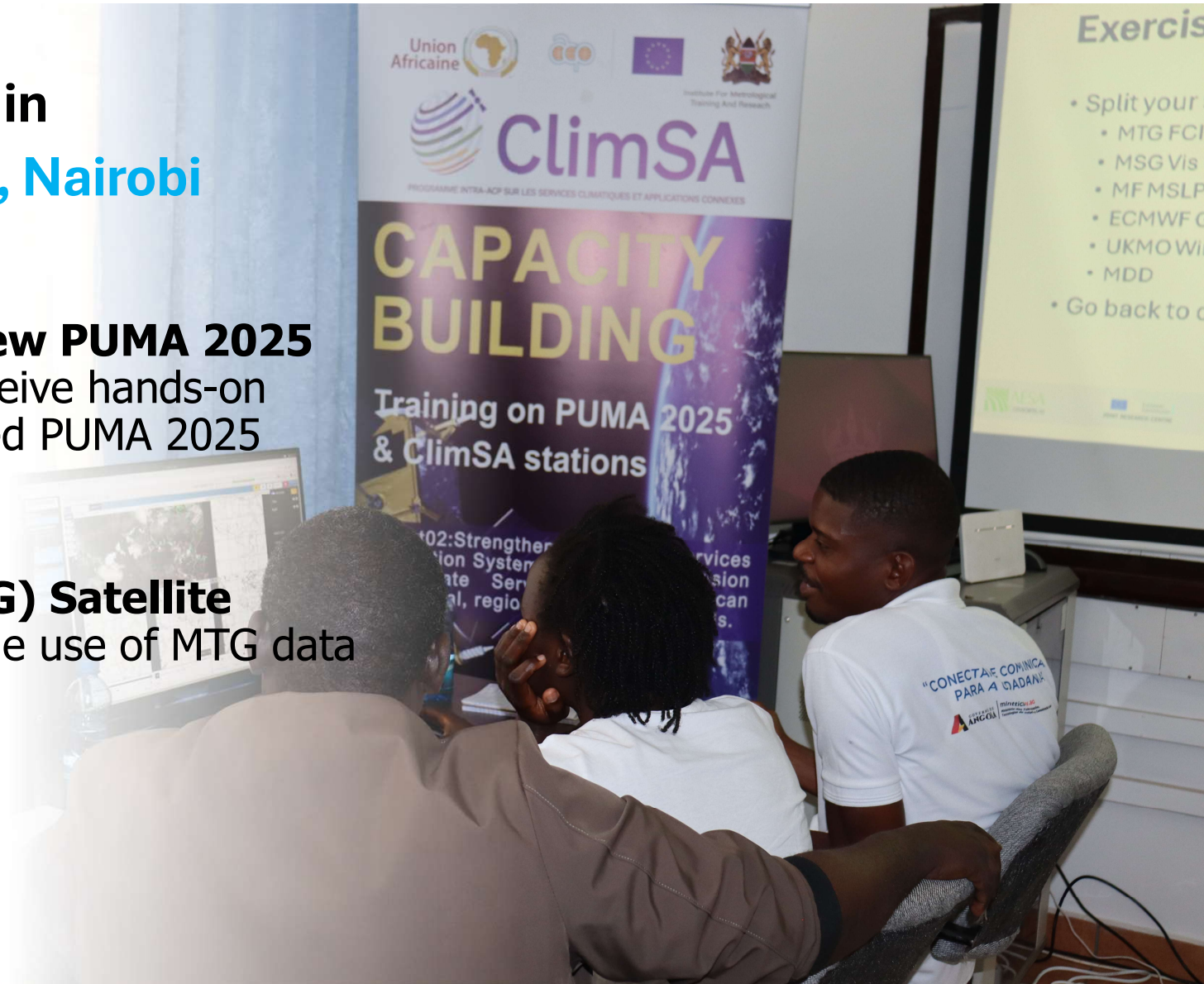
www.kbc.co.ke [f](#) [@](#) [x](#) [kbcchannel1](#)

4TH NOVEMBER 2024



Use of PUMA 2025 in Forecasting – IMTR, Nairobi

- **Introduction to the New PUMA 2025 Station:** Participants receive hands-on training with the upgraded PUMA 2025 station
- **Interpretation of (MTG) Satellite Products:** to optimize the use of MTG data for Nowcasting.



PUMA AND CLIMSA – TRAINING

Development and
Harmonization of PUMA &
ClimSA training materials
by Trainers from IMTR,
EAMAC and AGHRYMET

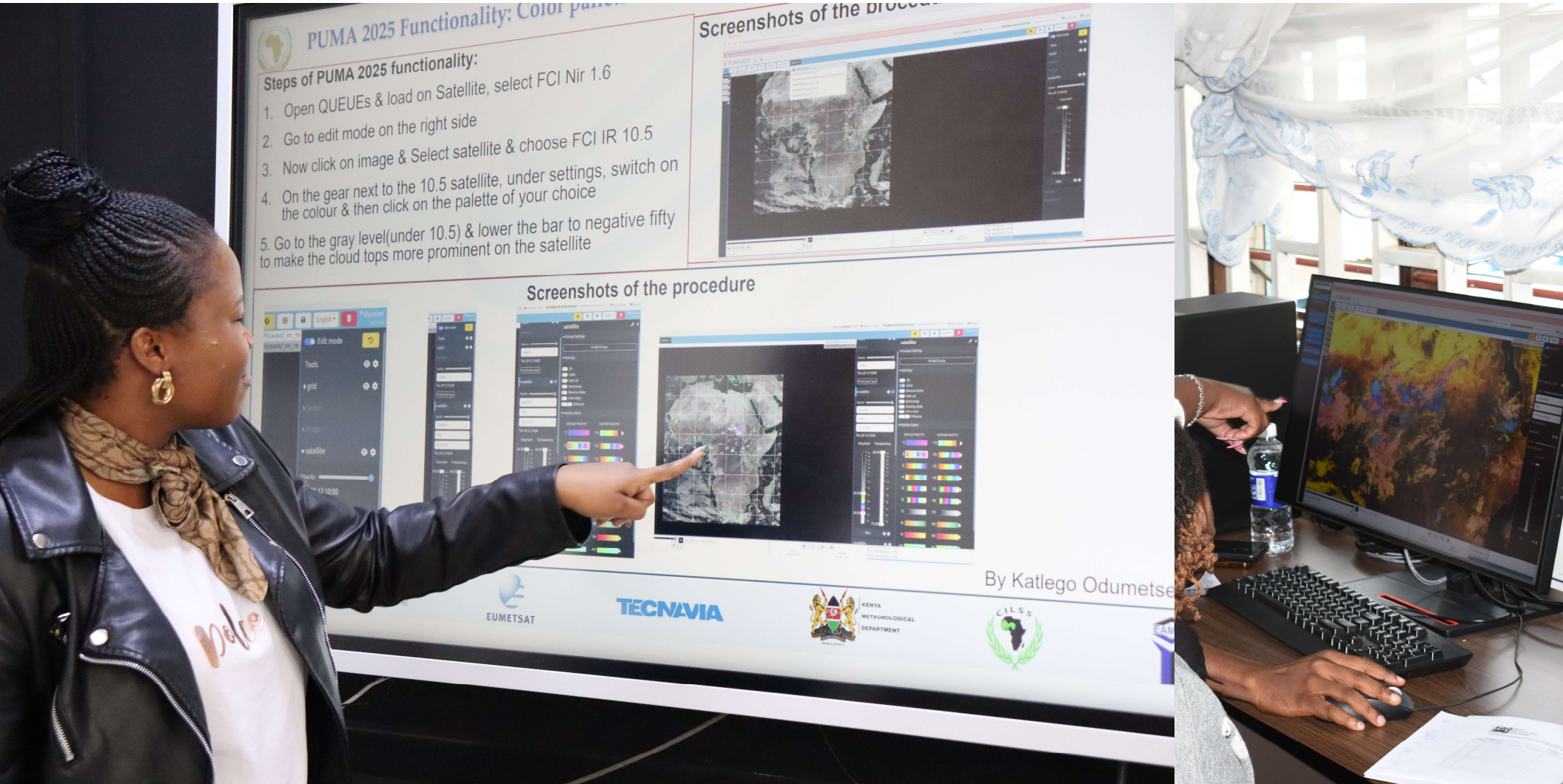
AUC, Ethiopia;
11th – 15th August 2025



Forecasters - Application of PUMA 2025 Stations

- Distinguish between PUMA-2015 and PUMA-2025 systems, including their operational improvements and enhanced capabilities.
- Strengthen participants' skills in interpreting MTG products for diverse forecasting applications, with emphasis on newly introduced MTG products.
- Equip participants with practical skills to use the PUMA-2025 system for integrating, manipulating, and analysing datasets and satellite products in operational forecasting.

PUMA 2025 TRAINING



Course page:

<https://classroom.eumetsat.int/course/view.php?id=536>

SUSTAINABILITY: CAPACITY DEVELOPMENT PUMA 2025

HOME MY COURSES COURSES & WORKSHOPS OPEN LEARNING PARTNERS

ClimSA Training of Trainers: PUMA-2025 station application resources for meteorologists and trainers

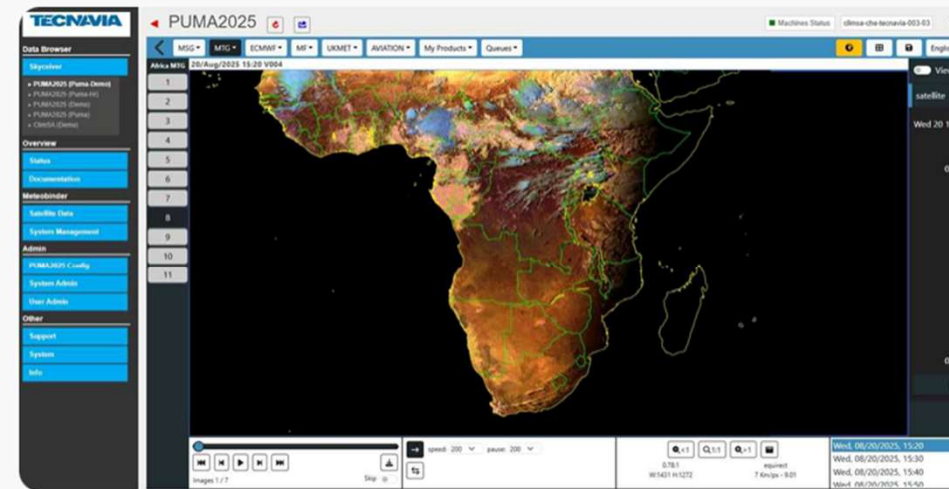
Course Settings Participants Grades Reports More

Welcome to the PUMA resource page

> Quick Guides for Africa

> African Case Study Examples

∨ PUMA-2025 System Functionality



An Introduction to PUMA-2025

An Introduction to PUMA-2025: PDF version

Displaying Datasets in PUMA-2025

Displaying Datasets in PUMA-2025: PDF version

EUMETSAT-IMTR Satellite Applications Course, May 2025- IMTR, Nairobi



WMO CGMS VLab Centers of Excellence (CoEs)

- Aimed at developing and improving the operational meteorologists and other users in being proficient users of current and new satellite products
- Training Needs identified by the 4 WMO RTC VLab Training Centres (South Africa, Kenya, Niger & Morocco and supported by EUMETSAT) and through WMO-RAIDEG
- ASMET Group (Expert group of trainers from the 4 CoEs) address the training needs collaboratively – continued relation between the CoEs
- ASMET group important in preparing the regional MTG training resources; Self-paced online modules freely available at asmet.Africa; provides a wide reach to participants
- Online and classroom Satellite Application Courses carried out in the CoEs
- ASMET Group is Contact point for MTG training and other training topics in RA I (Africa)
- Online courses are **open** to all Forecasters and users in Africa, in person training; participants are **nominated by the WMO PRs** for each NMHS.
- Online satellite training events: <https://trainingevents.eumetsat.int/trui/>

Advance Africa's Weather Forecasting

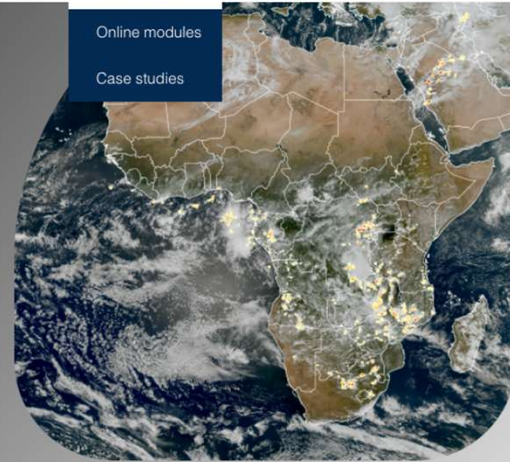
asmet.africa equips meteorologists with the knowledge and skills needed to effectively use modern meteorological satellites for improved weather analysis and forecasting.

Find out more ▾

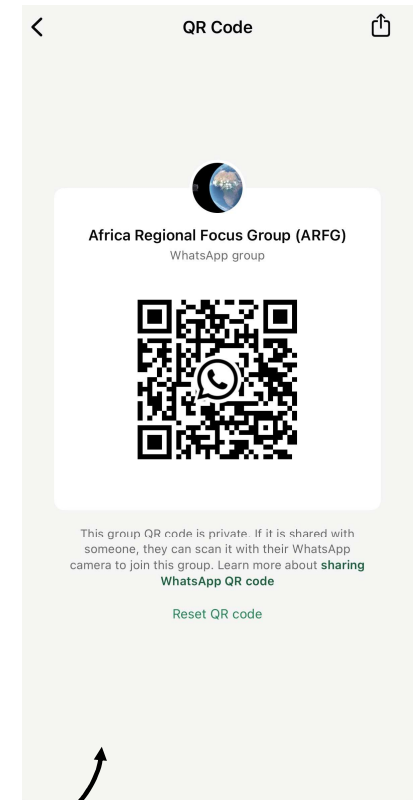
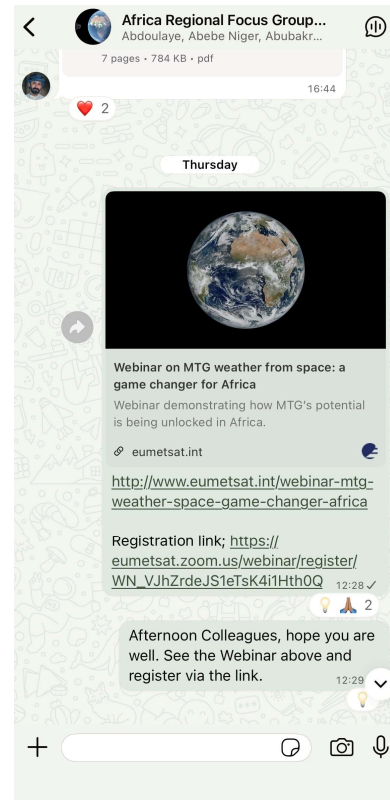
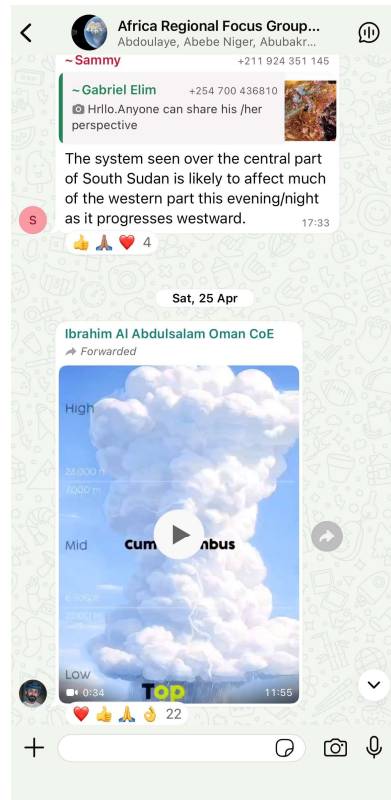
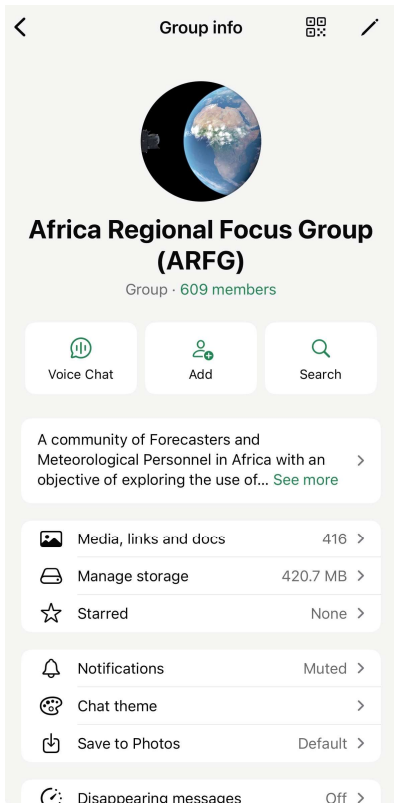
Training events

Online modules

Case studies



African Regional Focus Group (ARFG)



Scan QR code to join

Thank you.