



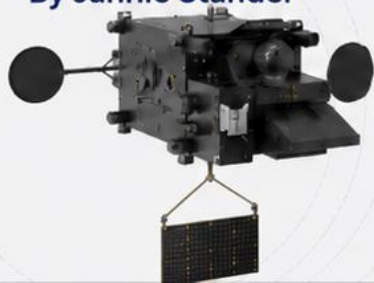
WMO-CGMS Virtual Laboratory
for Education and Training in Satellite Meteorology



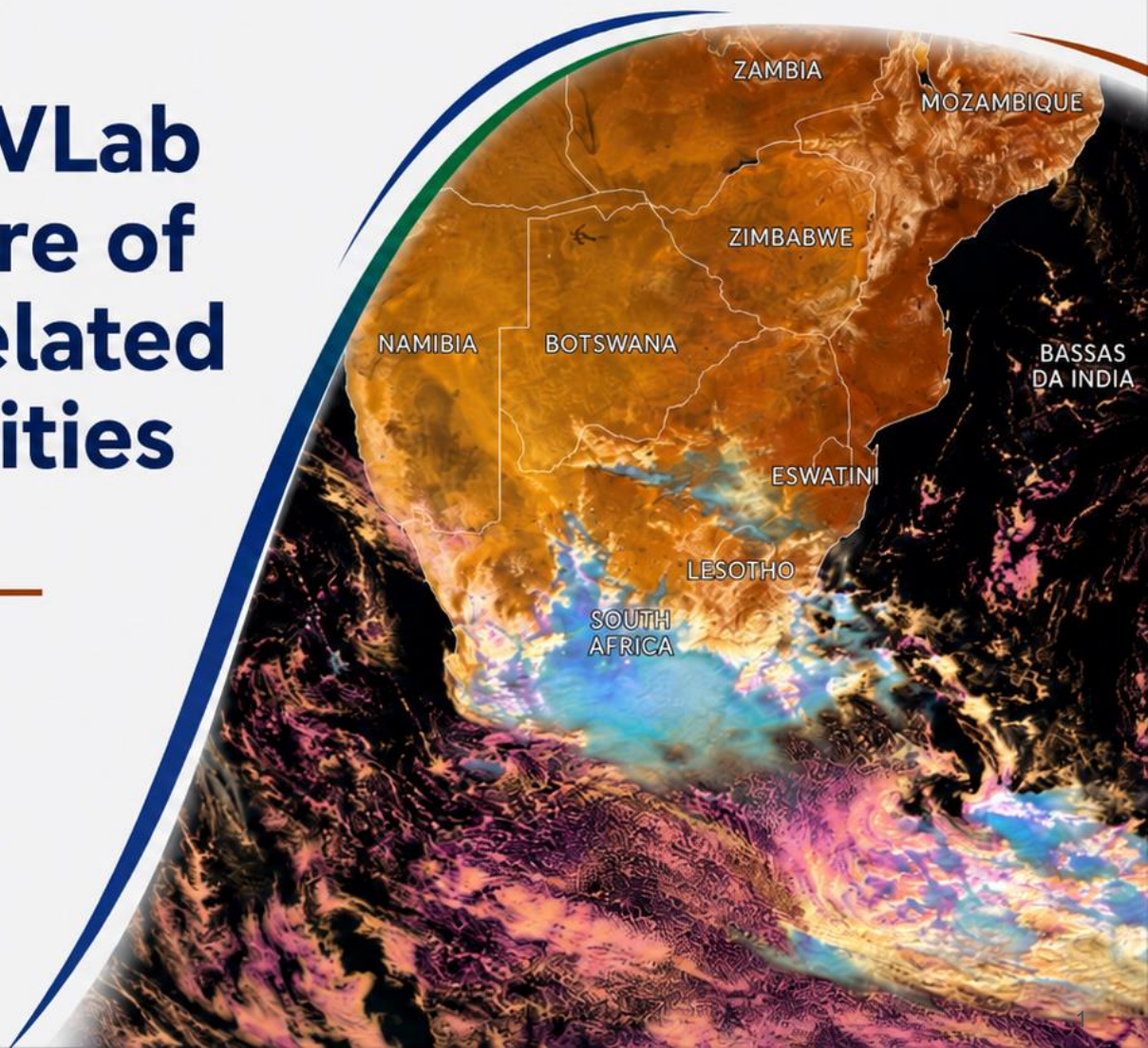
RTC Pretoria VLab Satellite Centre of Excellence-Related Training Activities 2025/2026

Summary of satellite and
forecasting-related training
initiatives

By Jannie Stander



MTG Flexible
Combined Imager
(FCI)



RTC 2025 SATELLITE TRAINING PROGRAMMES

OVERVIEW

A diverse portfolio of satellite meteorology training programmes delivered in 2025 to strengthen forecasting and operational capabilities across Africa.

KEY HIGHLIGHTS



130+

Total Participants



14+

Countries Reached



7

Training Programmes















Multiple Delivery Modes

F2F and Online



High Relevance

Directly aligned with operational needs and WMO frameworks

COURSE	DURATION	MODE	PARTICIPANTS	COUNTRIES	SATELLITE RELEVANCE
 Satellite	 11–14 March 2025	 F2F	 3	 South Africa	Direct MTG satellite meteorology training
 Satellite Applications Course (EUMETSAT)	 17 Mar – 4 Apr 2025	 Online	 70+	 Africa	Advanced MST satellite applications
 BSc Meteorology	 Full year	 F2F	 7	 South Africa	Satellite skills within competency framework
 Post Graduate Certificate in Weather Forecasting	 10 months	 F2F	 3	 South Africa	Forecasting with MTG satellite interpretation
 Severe Weather Impact-based Forecasting	 Sep & Nov 2025	 F2F	 3	 South Africa	MTG Satellite imagery for severe weather analysis
 NWP Course – CREWS	 12–16 May 2025	 F2F	 9	 South Africa & Mozambique	NWP and MTG satellite-derived forecasting products
 EAMAC NCR Compircratory Training	 17 Jun – 17 Jul 2025	 F2F	 25	 13 African countries	Operational forecasts and MTG satellite applications



Online

EUMETSAT Satellite Applications Course



This course introduced the newly launched geostationary MTG satellite to meteorologists across Africa and strengthened their satellite interpretation skills.



Learning outcomes addressed

- ✓ Understand the differences between MSG and MTG mission applications
- ✓ Analyze satellite data to monitor and detect severe weather
- ✓ Develop advanced skills in RGB imagery interpretation
- ✓ Integrate satellite data into the forecasting process



Course overview

- Held from **17 March to 4 April 2025**
- Targeted English-speaking meteorologists across Africa
- Covered three main topics, one per week:
 - MTG Basics
 - Lightning Imager (LI) data and conversion
 - Low clouds and fog, facilitated by SAWS
- SAWS led the third week, focusing on MWS and MTG products for fog and low-cloud detection
- Average participation: **70 participants** per session

RA-I MTG Satellite Imagery Interpretation Online Course 2025

17 March 2025 – 4 April 2025 | Online



Dates

17 March –
4 April 2025



9 to 27
March 2026



Audience

English-speaking
meteorologists
across Africa



Topics

3 main topics
(one per week)



Participation

Average of
70 participants
per session

Online Satellite Applications Course: SAWS Contribution



**South African
Weather Service**

SAWS contributed to the online course through Moodle learning materials, case studies, satellite image interpretation, and guided practical analysis.

1



MOODLE LESSON

Week 3 – Low Clouds, Fires

Week 3 – Low Clouds, Fires 90% complete

In this week, the course focuses on interpreting satellite imagery to identify low-level clouds, fog, stratus and fires, and to understand their characteristics and impacts on weather and aviation.

We will explore visible and infrared satellite products, case studies and practical examples to enhance your interpretation skills.

Zoom Monday, 25 March at 10:00-12:00 UTC (SAW)

➕ Introduction to Low Clouds, Fog & Stratus

➕ Introduction to Fire Detection

➕ Activity – Low Clouds & Fires

🗨 Forums 2 unread posts

Complete



Structured learning content delivered via the Moodle platform.



Focus on low clouds, fog and stratus, as well as fires.



Includes readings, resources and interactive activities.

2



CASE STUDY

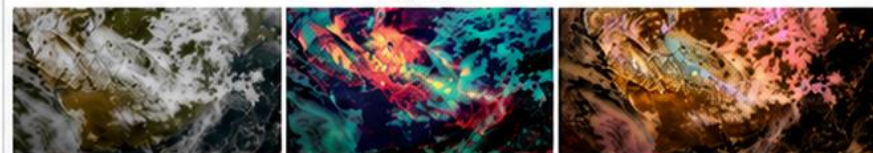
Case Study: 25 March 2026

Case Study: 25 March 2026

RGB



RGB-BTC

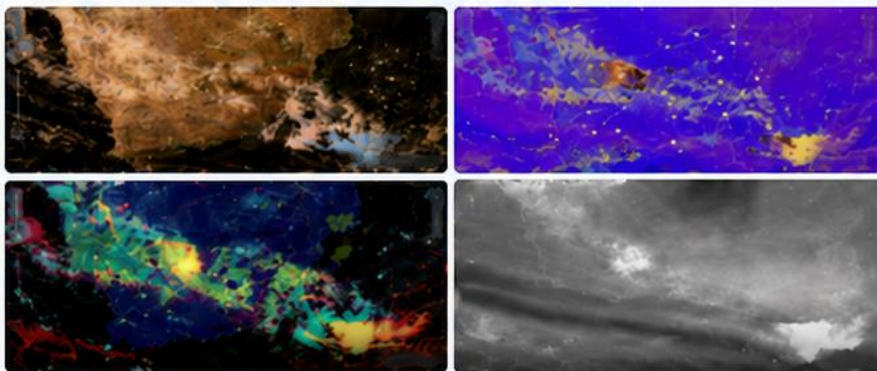


3



PRACTICAL EXERCISES

Satellite Image Interpretation



Use of multiple satellite products



Feature identification



Applied interpretation skills

4



DISCUSSION / ANALYSIS

Annotated Learning & Assessment

🔍 | Page 1 of 1 | 🔍 🔍 🔍 | 🔍 | Highlight | Comment



Discussion

The selected satellite images show an active fire hotspot in Ethiopia in the west of the Somali Depression. Analysis on today's session relating to the weekend. Low clouds are present over parts of the region.

Practical task: Describe the scene.

From analysis, you should discuss evidence for fire detection and the impacts on weather. Support your interpretation with the products shown above and refer to the course materials.



Guided discussion and peer interaction



Practical tasks and assessment



Application of interpretation skills



Feedback and learning consolidation

EUMETSAT SATELLITE APPLICATIONS COURSE: FACE TO FACE



19 – 23 JANUARY 2026



This course introduces the newly launched geostationary satellite MTG to meteorologists across Africa and enhances their satellite interpretation skills.

THIS WAS ACHIEVED BY ADDRESSING THE FOLLOWING LEARNING OUTCOMES:



Learn about the differences between MSG and MTG mission applications.



Analyze satellite data interpretation to monitor and detect severe weather.



Become an advanced user of RGB imagery.



Integrate satellite data into the forecasting process.



COURSE FOCUS AREAS



MSG vs. MTG
Mission Applications



Severe Weather
Monitoring



Advanced
RGB Imagery



Forecasting
Integration



Capacity Building
Across Africa



Face-to-Face Training: Participation and Practical Sessions



The course combined classroom instruction, hands-on practical work, and participant engagement to strengthen satellite interpretation skills.

PARTICIPANT LIST		
2026		
Name & Surname	Gender	Country
Neo Gracious Atin	Female	Botswana
Emmanuel Kgoletsile	Male	Botswana
Zakhele Khumalo	Male	Eswatini
Mohlioli Ntele	Male	Lesotho
Pusetso Nikets	Male	Lesotho
Rethabile Mphahama	Female	Lesotho
Aristides Domingos	Male	Mozambique
Albertina G. Anderson	Female	Namibia
Valeria Nakale	Female	Namibia
Chadly Ferial ITOUA OIHEENDO	Male	Congo
Gaëlle Benricca Btsoumanif-Nguaya	Female	Congo
Markus Geldenhuis	Male	South Africa
Thabo Magoro	Male	South Africa
Pusetso Mafokeng	Male	South Africa
Kamrissa Makubalo	Female	South Africa
Nhlanhla Sithole	Male	South Africa
Joey Mathebane	Female	South Africa
Jamie Stander	Male	South Africa
Matshidiso Mogale	Female	South Africa
Sedico Isaac Mashau	Male	Mozambique
Victor Muyambo Bupe	Male	Zambia
Petro Burger	Female	South Africa
Vesa Nietosvaara	Male	EUMETSAT
Sarah Kimani	Female	Kenya
Cynthia Nermutudi	Female	South Africa
Moyeni Mansowe	Male	Zimbabwe
Mark Higgins	Male	EUMETSAT



Participants from several African countries attended the face-to-face course.



Training included instructor-led classroom sessions and guided discussions.



Learners completed hands-on practical exercises in the computer laboratory.



The sessions strengthened operational skills in satellite data interpretation and application.



Postgraduate Certificate in Weather Forecasting



The training was attended by **five students.**



During February and March, the training focused on **Forecasting Competency 1**, which requires students to analyse and diagnose the weather situation in preparation for issuing warnings.



The focus was on the use of **observed and remotely sensed data** to support operational forecasting decisions.



Training included the interpretation and application of the following data and products:



MTG satellite imagery



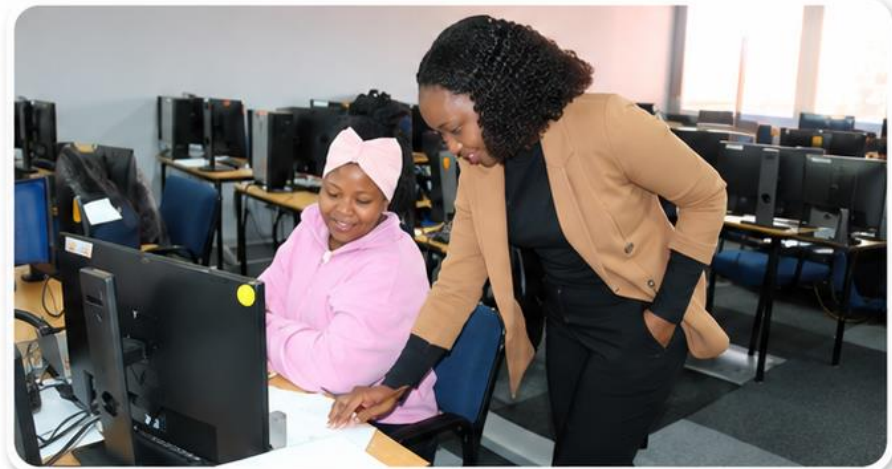
Radar data



Nowcasting SAF products



Lightning detection data



Continuous Online Training – MTG



**South African
Weather Service**

A series of online training sessions and African Weather Briefings focused on MTG applications, satellite interpretation, and early warning support.



26 September 2024 – Quarterly African Weather Briefing, delivered by two presenters: one from South Africa and one from Zambia.



September 2024 – MTG True Colour RGB and the identification of weather hazards for early warning.



November 2024 – MTG Cloud Phase RGB and the identification of weather hazards for early warning.



29 November 2024 – Quarterly African Weather Briefing.



31 July 2025 – Identifying potential turbulence areas using MSG and MTG satellite imagery.



30 September 2025 – Identifying severe thunderstorms using satellite products.



01 December 2025 – Identification of Tropical Weather Systems using Satellite Products.



30 March 2026 – Using Satellite Products to Support Impact-based Forecasting.



ASMET
African Satellite Meteorology
Education and Training



Save the Date!
26 September 2024
0900 UTC

African Weather Briefing

Every Quarter, the South African Weather Service in collaboration with EUMETSAT organises a Weather Briefing open to everyone to discuss the current weather situation using various satellite products plus NWP models.

To join the briefing, please use the link below to register!






ASMET
African Satellite Meteorology
Education and Training



Save the Date!
29 November 2024
0900 UTC

African Weather Briefing

Every Quarter, the South African Weather Service in collaboration with EUMETSAT organises a Weather Briefing open to everyone to discuss the current weather situation using various satellite products plus NWP models.

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ASMET
African Satellite Meteorology
Education and Training




Save the Date!
30 September 2025
0900 UTC

Identification of Severe Thunderstorms using satellite products


Curious about how we spot dangerous storms before they strike? Join our interactive African Weather Briefing, where we'll dive into identifying and tracking severe weather using satellite data and NWP models. This session is perfect for meteorologists and forecasters looking to sharpen their skills and make a real difference in protecting lives and communities across Africa!

To join the 2nd briefing of this year, please use the link below to register!






ASMET
African Satellite Meteorology
Education and Training




Save the Date!
01 December 2025
0900 UTC




Identification of Tropical Weather Systems using Satellite Products



ASMET
African Satellite Meteorology
Education and Training






Save the Date!
30 March 2026
08h00 UTC

Use Satellite Products to support Impact-based Forecasting

		Likelihood		
		Unlikely	Possible	Likely
Impact	Minor	Unlikely	Possible	Likely
	Moderate	Moderate	Likely	IMPACT-BASED WARNING
	Severe	Extreme	Extreme	

Impact-Based Forecasting



SAWS RTC Contribution to MTG Capacity Development in Africa



South African
Weather Service

Strengthening operational satellite meteorology training and forecasting capacity across the African region.



The **SAWS Regional Training Centre** played a leading role in supporting the transition from MSG to MTG satellite applications across Africa.



Training activities focused on **operational forecasting, severe weather monitoring, nowcasting, and impact-based forecasting** using MTG products.



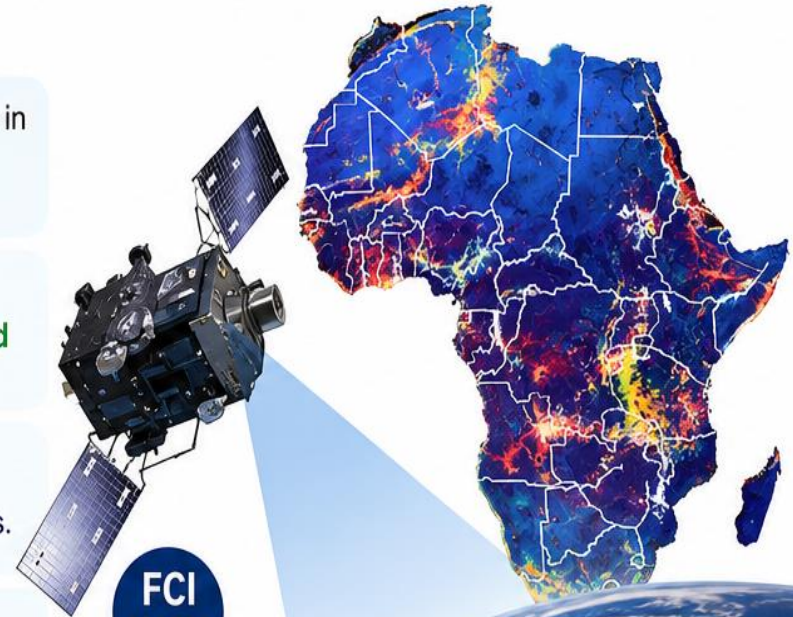
The RTC collaborated with **EUMETSAT, WMO, WISER, and EAMAC** to strengthen regional forecasting competencies.



SAWS experts contributed directly to MTG training facilitation, case study development, and operational forecasting support.



Training was delivered through **online learning, face-to-face workshops, quarterly weather briefings, and practical forecasting exercises.**



FCI Instrument
Flexible Combined
Imager