



14TH EUMETSAT USER FORUM IN AFRICA

Organised by EUMETSAT: ufa@eumetsat.int

Online Forum :

28-29 September 2021 Interactive sessions

6-7 October 2021 : Plenary sessions

LIST OF RECOMMENDATIONS

Arranged as follows:

- Data access - recommendations #1 to #3
- Meteosat Third Generation – recommendations #4 to #8
- Training and RAIDEG – recommendations #9 to #11
- Climate / Nowcasting / Atmospheric composition – recommendations #12 and #17
- Capacity building programmes - recommendations #18 to #24

Data Access

Recommendation #1 - PUMA 2015 stations (MSG)

The Forum notes that the results of the various surveys performed on the operational status of the PUMA and MESA stations shows that there is a need of maintenance activities for several PUMA stations. The Forum recommended

- to AUC to proceed with the signature of the contract maintenance of PUMA and MESA stations and to provide resources in future programs to continue to support countries and regions to enable them to exercise their station maintenance responsibilities,
- to EUMETSAT to perform a software upgrade for Nowcasting RDT and CRR and Instability products,
- to NMHS to participate and fill-in the 2021 survey on status of PUMA stations as well as the forthcoming surveys and to EUMETSAT to communicate the results of the survey.

Recommendation #2 - Future PUMA-202X-MTG stations

The Forum notes the need to upgrade the satellite data reception infrastructure (namely the PUMA reception stations) in order to receive, display and process the MTG data. The Forum therefore very much welcomes and supports the plan presented by AUC to upgrade the PUMA stations in the 2023-2024 timeframe in the framework of intra-ACP ClimSA programme. When designing the technical specifications of the future PUMA-202X-MTG Stations, the Forum recommended to AUC, EUMETSAT and RAIDEG:

- to take into account PUMA-2015 lesson-learned,
- to consider the need for the future PUMA Stations to be both MTG and MSG compatible,
- to consider to have an increased data storage and processing capacity,
- to consider to be compatible with EUMETCast-C-Band Africa and EUMETCast TERRESTRIAL and other means to access data (e.g. NWC SAF Hubs),
- to clarify the scope of the PUMA-202X-MTG upgrade (SW + PCs, but not antennas and LNB),
- to clarify and communicate to all NMHSs the deployment schedule and list of beneficiaries.

Recommendation #3 - New data services:

The Forum notes and welcomes the new data services put recently in place by EUMETSAT in support to data access, processing as well as open knowledge repositories.

EUMETView is widely used as a back-up and in complement to PUMA. The Forum invited African NMHSs to try the new online data access services, new 'EUMETView'¹, Data Tailor and the Data Store,

Participants of the Forum expressed a great interest in Cloud computing. The Forum encouraged EUMETSAT to provide basic awareness & training, as some barriers to Cloud Computing were identified (e.g. need of a stable internet connectivity, or cost),

Several NMHS expressed interest in EUMETCast-Terrestrial as it might allow access to all MTG data & products. The Forum recommended to identify potential users, their NREN representative and to perform test connection.

The Forum encouraged NMHS to consult the EUMETSAT User Support Knowledge-Base² to get more acquainted with data and satellite services.

¹ <http://view.eumetsat.int>

Meteosat Third Generation

Recommendation #4 - Transition Roadmap

The Forum notes and welcomes the updated roadmap for the transition from MSG to MTG presented by EUMETSAT. The Forum recommended to AUC and EUMETSAT to complete the deployment of the new PUMA 202X-MTG by mid-2024 as then the transition from MSG to MTG could be completed by end of 2024.

Recommendation #5 - MTG contribution to service improvements

The Forum notes the new capabilities of the FCI and LI MTG instruments, as well as the current list of MTG products prioritised by the RAIDEG for inclusion in the EUMETCast-Africa dataflow. The Forum recommended to NMHS to consider potential improvement of their services based on FCI and LI instruments

Recommendation #6 - Support documentation for the transition to MTG

The Forum welcomes the various support documents that are made available by EUMETSAT in support to MTG transition notably the MTG Africa Products User Guide [AfricaPUG], the MTG Africa webinar organised in March 2021. The Forum encouraged all the MTG African users and recommended all NMHSs experts to get more familiar with the new MTG products by:

- familiarizing with the MTG Africa Products User Guide [AfricaPUG]³,
- accessing and studying available on-line resources and,
- attending or re-watching on-line webinars on MTG⁴.

Furthermore, the Forum recommended to EUMETSAT to create a repository of (technical) documents relevant to MTG in Africa (MTG-Africa data sets, PUMA related documentation, transition roadmap, calendar, etc).

Recommendation #7 - Training needs and transition to MTG

The Forum notes that an important training efforts are needed to accompany the transition to MTG. The Forum recommended to EUMETSAT and African VLab CoE to organise, support and perform additional training sessions to MTG African users on :

² <https://eumetsatspace.atlassian.net/wiki/spaces/EUM/overview>

³ <https://www.eumetsat.int/media/47571>

⁴ e.g MTG in Africa webinar:

https://www.eventsforce.net/eumetsat/frontend/reg/tvenue.csp?pageID=10401&ef_sel_menu=177&eventID=24

- Training on PUMA system administrator. These training should be organised in a more intense and regular basis,
- Training on use of new products (i.e. LI, and increased FCI resolution) for Nowcasting applications,
- Training on use of new PUMA-202X station for various applications.

Recommendation #8 - MTG and North Africa

The Forum notes the EUMETSAT to continue efforts in supporting NMHSs of North Africa into the transition to MTG. The Forum recommended to continue having specific meeting (and attending MTG-UP meetings), with a focus on specification for infrastructure upgrade

RAIDEG and Training

Recommendation #9 - RAIDEG

The Forum recognizes the crucial role of the RAIDEG⁵ on the optimization of data flows transmitted via EUMETCast, on the identification of needs in terms of data, functionalities of tools and training. The Forum notes, however, that RAIDEG can only fully exercise its mandate if proper communication is ensured between RAIDEG members and NMHSs as well as RCCs. The Forum therefore recommended to NMHS to designate a RAIDEG national contact person and liaise with the RAIDEG regional representative.

Recommendation #10 - Training needs on satellite meteorology

The Forum recognizes that the needs for training on satellite meteorology remains high. The Forum identified, through discussions and interactions among the experts, specific modules and thematic to be developed and proposed for training:

- modules related to new data access mechanism (EUMETView, Terrestrial and cloud computing),
- satellite meteorology combined with NWP,
- climate monitoring on use of satellite-based products for climate monitoring (e.g. TAMSAT and CM_SAF),

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<https://community.wmo.int/activity-areas/wmo-space-programme-wsp/ra-i-dissemination-expert-group>

- use of some Nowcasting products, with priority focus on RDT and CRR and instability index.

Recommendation #11 - Online Training opportunities

The Forum welcomes the status of the African Satellite Meteorology training programme⁶. The Forum recommended to African users to seize on-line training opportunities, which have increased.

Climate / Nowcasting / Atmospheric composition

Climate monitoring

Recommendation #12 - Climate data

Participants of the Forum notes that EUMETSAT satellite data, products and tools could be used into the development of science-based climate services. The Forum recommended that awareness shall be increased on the use of satellite-data for climate monitoring in Africa, with focus on TAMSAT and CM-SAF (and other SAFs) data and their combined used with Climate Data Store.

Recommendation #13 - EUMETSAT Climate Data cube

Participants of the Forum express interest in the prototype EUMETSAT data cubes that allows notably to monitor drought and vegetation. The Forum recommended to EUMETSAT to extend its Climate Data-Cube on Africa and consequently to engage with African users for collaboration and demonstration of this tool.

Recommendation #14 - ClimSA JRC Climate Station

The Forum welcomes the new ClimSA-JRC Climate Station. Therefore the Forum recommended to NMHS to contribute to the JRC survey dedicated to the design of the C-Station and further to collaborate in its implementation.

Nowcasting

Recommendation #15 - Guidelines for Nowcasting applications in Africa

Participants of the Forum have been informed about recent and planned activities related to nowcasting through novel initiatives, techniques and data. Participants of the Forum express a large interest in using the products resulting from the NWC SAF (e.g. RDT and CRR). The Forum recommended, as some countries are willing to install the NWC SAF for local use, to share with all NMHSs the SWIFT experience and lesson-learnt in the form of a Guidelines for Nowcasting applications in Africa.

Recommendation #16 - African Hub(s) and NWC SAF products

⁶ see <https://asmet.africa/> and <https://training.eumetsat.int/>

The Forum notes that, due to EUMETCast C-Band limited bandwidth, it might be difficult to access all necessary MTG data to feed the NWC SAF software. The Forum recommended that each NMHS could access via regional centre (e.g. RSMC South Africa) Hub concept for providing NWC SAF products. These hubs should be consolidated for the MTG era in each region and should be considered as a precursor for an African Meteorological Satellite Application Facility (AMSAT).

Atmospheric composition

Recommendation #17 - Atmospheric composition monitoring

The Forum recognizes that Air pollution is an increasing issue in many African countries, and more specifically in cities, as it has an impact on the health of the inhabitants. The Forum notes also the contribution of meteorological satellites in the monitoring and forecast of the atmospheric composition. In particular, participants of the Forum has been informed about the current and future EUMETSAT and Copernicus missions and instruments dedicated to the monitoring of air pollution. The Forum recommended to Agencies and Institutions (e.g. CAMS, AC-SAF consortium) that can provide data, products and services for Africa :

- to engage in coordinated awareness raising of their offer for service and science across Africa,
- to ensure ease of access and provide tools to support data access and manipulation to support service and science and support the exploration of the co-development of future regional products (in the context of the AMSAT).
- to engage in capacity development and training on integration and downscaling of in situ, satellite and model data, access to data and processing infrastructure as well as to coordinate on atmospheric composition science and services in their activities as a priority.

Capacity Building programmes

GMES&Africa

Recommendation #18 - Contract maintenance of PUMA and MESA stations

The Forum notes that the results of the various surveys performed on the operational status of PUMA and MESA stations shows that maintenance activities are needed for several stations. The Forum recommended to AUC to proceed with the signature of the contract maintenance of PUMA and MESA stations.

Recommendation #19 - GMES & Africa Second Phase

The Forum welcomes the status of implementation of the GMES&Africa services by the 12 regional Consortia. The Forum recommended to consolidate and expand the successful services in the next Phase of the programme.

Recommendation #20 - Cross-fertilization with other Earth Observation Capacity Building Programme

The forum notes the important effort made by the GMES & Africa programme on Service Development and Capacity Building, Outreach and awareness raising among other aspects. Therefore, the Forum recommended to AUC and Regional Consortia to share GMES&Africa positive experience with other Earth Observation Capacity Building programmes.

ClimSA

The Forum notes the status of implementation of the Intra-ACP ClimSA programme in Africa and in the 5 regions (ECCAS, ECOWAS, IGAD, IOC and SADC).

Recommendation #21 : Involvement of North Africa in ClimSA

The Forum recommended to AUC to see how North Africa countries could join of benefit from ClimSA.

Recommendation #22 : Engagement of NMHSs with their RCCs

The Forum recommended Countries to continue engaging with their RCC (and reciprocally) to discuss the Climate services to be implemented within ClimSA.

SAWIDRA

The Forum welcomes the recent progresses achieved by the SAWIDRA projects, however the Forum notes also that most of the infrastructure were installed towards the end of the project, not allowing the projects to fully exploit it and start benefiting from it.

Recommendation #23 - SAWIDRA-Follow-on

In order to sustain the results achieved, the Forum recommended AfDB, with the support of EUMETSAT and the RCC, to start preparation for a second phase of the project and to mobilize resource for strengthening and continuing operations of RARS-Africa network.

Recommendation #24 - RARS-Africa network operationalization and GTS

In order to contribute to the enhancement of regional and global NWP, the Forum recommended to ACMAD, RCCs and Hosting Sites with the support of EUMETSAT and WMO to:

- operationalize the RARS-Africa network and ensure data sharing data through the WMO/GTS.
- build capacity for African scientists on satellite data assimilation in global and regional NWP



- support the development of NWP and other applications based on the data collected by the RARS network of 4 stations (including the use of polar orbiting imagers instruments on NOAA, Metop satellites for vegetation, agriculture, drought monitoring, water management, etc).