

STATUS OF IMPLEMENTATION OF THE RECOMMENDATIONS RESULTING FROM THE 11TH EUMETSAT USER FORUM IN AFRICA – V2 – SEPTEMBER 2016

1 INTRODUCTION

The 11th EUMETSAT User Forum in Africa held South Africa from 8 to 12 September 2014 formulated thirty-four (34) recommendations. This document provides the status of implementation of these recommendations. Final status will be presented at the 12th EUMETSAT User Forum in Africa that takes place from 12 to 16 September 2016 in Rwanda. This document is based on the information available at EUMETSAT in September 2016. Each recommendation is referred to one of the 12th Forum session, which will allow the participants to further address the topic of the recommendation.

2 OVERVIEW OF THE STATUS OF THE RECOMMENDATIONS

The 34 recommendations were regrouped under six different themes:

1. EUMETSAT programme and RAIDEG – recommendations #1 to #3
2. Climate and GFCS – recommendations #4 and #5
3. RARS Africa project – recommendations #6 to #12
4. MESA project (inc. North Africa) – recommendations #13 to #19
5. Marine applications – recommendations #20 to #23
6. Training and Research activities – recommendations #24 to #30
7. Space and Earth Observation – recommendations #31 to #34

This paragraph presents a summary of the progress made under each theme.

1. EUMETSAT programmes and RAIDEG (recommendations # 1 - #3)

The two first recommendations are implemented: (1) ensuring the continuation of the Indian Ocean Data Coverage, and (2) initiating preparation for Meteosat Third Generation (MTG) in Africa. During the 12th EUMETSAT Forum, a full session is dedicated to MTG in Africa. Regarding the third recommendation, RAIDEG is now fully recognised as technical advisory body of the WMO RA I, which recognised the good work performed since 2010.

2. Climate and GFCS (recommendations # 4 and #5)

Following the Benoni statement, the GFCS ACP Task Team has prepared for the formulation of a project focusing on regional dimension of the GFCS Implementation Plan (including link with global and national dimensions). This included also fund mobilisation for this project. In the mean time, the ACMAD-AU MESA Climate Services became operational and EUMETSAT conducted first course on Climate gridded data in Africa.

3. RARS Africa project (recommendations # 6 - #12)

All regional climate centres (including the newly created Central Africa RCC) have submitted their SAWIDRAs (Satellite and Weather Information for Disaster Resilience in Africa) proposal to the African Development Bank (AfDB). The status of the various proposals will be presented during a dedicated session of the 12th EUMETSAT User Forum in Africa. SAWIDRA will support NMHS in strengthening capacity to predict extreme weather event and providing

relevant information to DRM agencies. Progress is still needed to ensure that African can benefit from International Charter “Space and Major Disaster”.

4. MESA project (inc. North Africa) (recommendations # 13 - 19)

All recommendations related to the MESA programme have been implemented. Lessons learned from AMESD regarding the PUMA station and associated training were addressed. This should lead to an improvement once the PUMA 2015 stations will be deployed and NMHS staff trained. This will be subject to a specific session during the 12th EUMETSAT User Forum in Africa.

5. Marine applications (recommendations # 20 - 23)

Several activities have been implemented based on these recommendations. For example, a dedicated training course and MOOC modules are being developed. Two new satellites recently put in orbit (Sentinel-3 and Jason-3) ensure continuity of data in their respective domain. Progresses are also made in ensuring data access and exploitation in Africa.

6. Training and Research activities (recommendations # 24 - 30)

Training and research are two key aspects to ensure long-term sustainability in the use and exploitation of satellite data in Africa. Most of the recommendations raised during the last Forum will be addressed again during the Workign Group #1 session (data and training) by the Regional Vlab Training Centres.

7. Space and Earth Observation (recommendation #31 - #34)

During the January 2016 African Union Summit, the African Head of States and Governments adopted the African Space Policy and the African Space Strategy. Earth observation and the consideration of user needs are important elements in these two documents. In parallel, discussion between the EC, AUC and EUMETSAT, within the framework of the Joint EU-Africa Strategy, led to positive decision for the dissemination of Sentinel-3 marine data over EUMETCast-Africa.

3 DETAILED STATUS OF THE RECOMMENDATIONS

The present paragraph provides a detailed status of the recommendations, which is based on the information available at EUMETSAT in February 2016. For each recommendation the status is provided as follow:

- CLOSED: the recommendation has been implemented (30 recommendations)
- ON-GOING: activities are currently on going to implement the recommendation (4)
- OPEN: no activities undertaken or reported yet on the recommendation (0)

A summary table is provided at the end of the document.

1. EUMETSAT Programme and RAIDEG

Recommendation #1 IODC continuation

Taking note of the on-going international discussions in the World Meteorological Organization (WMO) Coordination Group for Meteorological Satellites (CGMS) framework (in particular between EUMETSAT, China Meteorological Administration (CMA), Indian Space Research Organisation (ISRO), and ROSHYDROMET) to secure continuity of the Indian Ocean Data Coverage (IODC) beyond the end of Meteosat-7 decommissioning at end of 2016, the Forum recommended CGMS, via EUMETSAT:

- to come up with a timely solution in order to avoid any data gap over the region;
- to ensure that the new satellite(s) covering the IODC will provide at least similar coverage as the current IODC, in terms of imagery and Data Collection Service;
- to inform the African user community about the solution and the corresponding calendar, so that users can prepare themselves for the transition;
- to ensure dissemination of the IODC data, from whatever satellite, through EUMETCast-Africa for a seamless transition;

Status: CLOSED	see 12UFA - SESSION #1
Partners involved: CGMS, via EUMETSAT	
Theme: EUMETSAT Programme and RAIDEG	
<ul style="list-style-type: none">- At its 2015 annual meeting, CGMS adopted a Roadmap for the continuity of IODC¹;- This roadmap includes the provisions for a similar coverage as today for both imagery and DCS;- The main elements of this roadmap were reported to WMO Congress, and during the “EUMETSAT and Africa” side-event organised at Congress on 29 May 2015.- At the end of June 2016, EUMETSAT Council decided that Meteosat-8 will be moved at 40-degree East and that Meteosat-8 data will be disseminated via EUMETCast-Africa;	

Recommendation #2 MTG preparedness

The Forum took note of the capacities of the new Meteosat Third Generation (MTG) programme, whose first satellite is expected to be launched in 2019. The Forum recommended:

- EUMETSAT to initiate the MTG user preparedness activities, in particular through an initial study that would highlight the potential benefits of MTG for various applications in Africa;

¹ See:

http://www.eumetsat.int/website/wcm/idc/idcplg?IdcService=GET_FILE&RevisionSelectionMethod=LatestRelease&Rendition=Web&dDocName=CWPT_1341

- the African meteorological user community, through RA-I Dissemination Expert Group (RAIDEG), to come-up with their priorities in terms of MTG applications on the basis of the study;
- EUMETSAT to take into account these African priorities when designing MTG preparatory activities on various topics (training, data dissemination, etc)
- the African meteorological user community and EUMETSAT to initiate discussions related to the upgrade of the user infrastructure to MTG (inc. meteorological data display system, MTG data processing and assimilation), engaging with the African Union Commission (AUC), the Regional Economic Communities (RECs) and potential donors in their discussions;
- EUMETSAT and RAIDEG to report on the outcomes of these activities at the next EUMETSAT User Forum in Africa.

Status: CLOSED**see 12UFA - SESSION #3****Partners involved: EUMETSAT and RAIDEG****Theme: EUMETSAT Programme and RAIDEG**

- A “MTG Africa Preparatory Study” (MAPS) was started by EUMETSAT in 2015, based on this recommendation;
- A dedicated MAPS Workshop took place in August 2015 with RAIDEG and the MAPS team in order to discuss African priorities related to MTG;
- The Study will be concluded in October 2016, taking into account the outcomes of the discussion at the RAIDEG and 12th EUMETSAT User Forum in Africa;
- The discussion related to upgrade of the use infrastructure for MTG will take place at the Forum;
- A dedicated session is planned during the 12th EUMETSAT User Forum in Africa to report on and discuss the outcomes of the MAPS.

Recommendation #3 RAIDEG within WIGOS

The Forum noted and supported the recommendations of the 5th RAIDEG meeting as presented during the Forum and call upon all relevant partners to respond to these recommendations before the next meeting of the RAIDEG planned in mid-2015.

In particular, the Forum recommended WMO RA-I to recognise RAIDEG in the Regional working structures of WMO Integrated Global Observing System (WIGOS), as further recommended by the Commission on Basic Systems (CBS), at its next conference, and to ask each country to nominate a focal point to interface with the representative of their region within the RAIDEG.

Status: CLOSED see 12UFA – SESSION #1 (EUMETSAT programme)

Partners involved: WMO RA-I

Theme: EUMETSAT Programme and RAIDEG

During its sixteenth session, held from 3 to 9 February 2015 in Praia, Cap Verde, the WMO Regional Association I agreed to consider RAIDEG as a technical advisory body of the RA I Working Group on Observations and Infrastructure as elaborated in the RAIDEG Terms of Reference given in the Annex I to the RA-I report². It encouraged all Members to nominate points of contact as an interface to the RAIDEG representative of their respective sub-region.

2. Climate and GFCS

Recommendations #4

Benoni statement on GFCS-ACP

The Forum welcomed the Benoni Statement on the Implementation of the Global Framework for Climate Services in Africa, and its call for initiating a GFCS-ACP project targeting the regional level of the GFCS in Africa, under the understanding that a strong regional component will facilitate national level GFCS activities. The Forum noted that AUC and the Republic of South Africa will draw the Statement to the attention of the African Ministerial Conference on Meteorology (AMCOMET) or relevant Specialised Technical Committees (STC), WMO, Intergovernmental Board Climate Services (IBCS), RECs, ACP Secretariat and the European Union.

The Forum recommended the GFCS-ACP Task Team:

- to ensure that the strengthening of regional and national institutions focuses on creating links with the global and with the national components and aims at supporting the national level which is central to a successful and sustainable implementation of the framework;
- to continuously engage with their member states during the project preparation process, i.e. to inform and consult in order to ensure that the national needs are conveyed and integrated into the implementation of the framework, and in particular to ensure the integration of all the priority application areas such as health, agriculture, disaster risk management and water resources, etc.;
- to ensure that training and building capacity is an integral part of the implementation of the framework at regional and national levels;

The Forum also recommended all Forum participants to draw the Benoni statement to the attention of their authorities and to encourage them to initiate the implementation of GFCS at national level, following the example from various countries.

Status: CLOSED

See UFA12 – SESSION #7 (Climate)

Partners involved: GFCS ACP Task Team

Theme: Climate and GFCS

² See: <https://drive.google.com/file/d/0BwdvoC9AeWjUZkphOWFOd3g1QzA/view?usp=sharing>

Subsequent to the Benoni meeting, the GFCS Task Team met in Praia in February 2015 and in Brussels in November 2015. This led to the drafting of Terms of Reference of a Formulation Study for a GFCS ACP project. The elements of this recommendation were considered as follow in the ToR:

- The study will consider the links between global-regional and national dimension as per the GFCS Implementation Plan. Although the project will concentrate firstly on regional level, it will ensure appropriate links with the national level so that all countries can benefit;
- Some national institutions will be visited during the Formulation Study and RECs will indicate regional priorities;
- Building capacity should be at the heart of the GFCS ACP project;

The 12th EUMETSAT User Forum in Africa includes a session on Climate, with a call for contribution. NMHS are invited to present paper to report on national implementation.

Recommendation #5 Climate data sets applications

The Forum recommended that the Regional and National climate institutions explore the application of gridded climate datasets derived from satellite sources in their product generation and further requests those with such data to support training in the Region.

Status: CLOSED **See 12UFA – SESSION #7 (Climate)**
Partners involved: Regional and national climate institutions
Theme: Climate and GFCS

EUMETSAT organised a training workshop on the application of the CM SAF gridded data for Africa was held June 2015. This course was hosted by the Centre of Excellence / RTC in Pretoria. The course shows the applicability of such gridded data and the high demand for future training. Regional and national climate institutions were invited to provide presentation for the Climate session of the 12th EUMETSAT User Forum in Africa.

3. RARS Africa for Disaster Risk Management (DRM)

Recommendation #6 Preparation of RARS-DRR projects

The Forum recommended ACMAD, AGRHYMET, ICPAC, ECCAS and SADC-CSC to expedite the preparation of their “Application for funding” under the CDSF that would lead to one continental project (ACMAD) and four regional projects (Western, Central, Eastern and Southern Africa);

Status: CLOSED **See 12UFA – SESSION #4 (SAWIDRA)**
Partners involved: ACMAD, AGRHYMET, ICPAC, ECCAS and SADC-CSC
Theme: RARS Africa for DRM

The five partners have submitted their applications for funding under the ClimDev Afruca Special Fund (CDSF) in November 2014, in line with this recommendation from the Forum (one continental and four regional projects). The African Development Bank, who manages the CDSF, assessed the applications, and is currently proceeding with final approval process. This should lead to the launch in the coming months of five SAWIDRA (SAtellite and Weather Information for Disaster Resilience in Africa) projects. Status will be reported as part one of the session during the Forum.

Recommendation #7**Use of EUMETCast for model boundary conditions**

Taking into account the existing infrastructure and capability of the network of EUMETCast stations within the African continent, the Forum recommended that EUMETSAT together with Regional centres explore the potential use of this network for the delivery of model boundary condition information (including data from ACMAD) to the wider NMHS community in Africa.

Status: CLOSED**See 12UFA – SESSION #4 (SAWIDRA)****Partners involved: EUMETSAT and RCCs****Theme: RARS Africa for DRM**

This recommendation was discussed during the last RAIDEG meeting with the representatives of Global Producing Centres of Long-Range Forecasts (GPCLRFs) (ECMWF, MF, UK Met) and DWD. It resulted in the dissemination of additional Model outputs through EUMETCast-Africa.

This recommendation was also taken into account by ACMAD in its applications for SAWIDRA project under CDSF. The dissemination of ACMAD NWP model output through EUMETCast will be subject of a dedicated discussion during the project.

Recommendation #8**Building upon existing capabilities and exchanging knowledge and expertise**

Recalling the success of the Severe Weather Forecasting Demonstration Project (SWFDP), the Forum recommended that these RARS-DRR projects leverage on existing SWFDP national and regional structures, which are seen as best practice.

Noting the importance of model forecast data in the generation of Severe Weather Forecasts (SWF) and Extreme Forecast Indices (FMI), the Forum recommended that regional centres and national NMHSs request training support through the WMO Centres of Excellence in the use and interpretation of NWP data.

Status: CLOSED**See 12UFA – SESSION #4 (SAWIDRA)****Partners involved: RCCs and national NMHS****Theme: RARS Africa for DRM**

This recommendation was taken into account by the RCC during the preparation of the SAWIDRA proposals. Training on use and interpretation of NWP data for the NMHS are included in all regional SAWIDRA projects.

Recommendation #9**Engaging with DRM community and contributing to Disaster Risk Reduction (DRR) strategies**

Recognising the need for DRM authorities to understand the potential and limitations of the SWF they receive, the Forum recommended:

- to countries, with the support of AUC and RECs, to take into account these projects as a contribution to the implementation of the African regional strategy for disaster risk reduction and its programme of action (which is in line with the Hyogo Framework for Action), and support its alignment with other programmes and services.
- to the NMHS providers to recognise the critical role that the African Regional Strategy and its programme of action play in advancing DRR on the continent and support its implementation;
- to regional centres to develop a communication and awareness plan to promote the activities and benefits of the EU-AUC RARS-DRR projects for national government agencies and citizens alike;
- to regional centres and NMHSs to engage with DRMs to ensure cross-fertilisation of activities within and between regions, and to establish best practices

Status: CLOSED	See 12UFA – SESSION #4 (SAWIDRA)
Partners involved: AUC, RECs, RCC and NMHS	
Theme: RARS Africa for DRM	
<p>This recommendation was fully taking into account while preparing the SAWIDRA proposals. The implementation of the SAWIDRA project in the coming years should ensure their full implementation. The detailed status is as follow:</p>	
<ul style="list-style-type: none">- AUC and RECs were informed about the status of the SAWIDRA project during the 8th meeting of the African Working Group on Disaster, and are considering them;- The NMHS will be informed in more details about the project through the RCCs, as part of the SAWIDRA activities;- The RCC will develop such a plan as part of the SAWIDRA activities, with the support of the RECs;- This is also planned as part of the SAWIDRA project.	

Recommendation #10**Sustainability of the project activities**

Noting that the intra-ACP programme on Building disaster resilience project is of limited duration, the Forum recognised the importance of building for a sustainable future, and recommended that, through the projects, infrastructure, procedures and research expertise are developed and enhanced in such a way that allows for continuation beyond the boundaries of the project. Efforts should also be made to enhance synergy among institutions working within Africa, notably at continental level between ACMAD and AUC. Efforts should also be developed by the project to ensure the establishment of an appropriate framework at national level.

The Forum called upon the countries concerned to devote adequate human and financial resources at national level to ensure sustainability after the project lifetime.

Status: CLOSED	See 12UFA – SESSION #4 (SAWIDRA)
Partners involved: SAWIDRA projects	
Theme: RARS Africa for DRM	

Sustainability is a key aspect at the heart of the various development projects. ACMAD and AUC are cooperating hand in hands within the intra-ACP Disaster Resilience programme, as well as within MESA-AU Thema (Climate service for disaster risk reduction). The SAWIDRA regional projects provide a clear focus in strengthening national capacities.

Recommendation #11

The International Charter

The Forum recognised the importance of the Charter data and products in the event of a major disaster and welcomed EUMETSAT plans to disseminate the Charter Products on a routine basis via GEONETCast (EUMETCast-Africa). NMHSs are encouraged to promote the availability of the Disaster Charter service, and the Forum recommended NMHSs to engage with their national disaster management authorities on this aspect. EUMETSAT is invited to report on the use of the Charter data through EUMETCast in the African countries or region at the next EUMETSAT User Forum in Africa

Status: ON-GOING	See 12UFA – SESSION #1
Partners involved: EUMETSAT and NMHS	
Theme: RARS Africa for DRM	

Discussion took place between GEONETCast and the International Charter “Space and Major Disaster” and the possibility to disseminate Charter data via GEONETCast (i.e. EUMETCast Africa) is welcome. However, compliance to the Charter rules shall be respected. This means that in order to progress on this recommendation, there is a need for African countries to register as an Authorised User in the Disaster Charter (see <https://www.disasterscharter.org/web/guest/activating-the-charter>). Since last Forum, only Malawi did register as Authorised User, bringing the total number of African countries to three (Nigeria, Algeria and Malawi). Consequently, despite the number of natural disasters occurring in Africa, the Charter was activated only six times since September 2014: twice for Ebola, twice in Malawi (storm and floods), once in Madagascar (floods) and once in Egypt (airplane crash).

Recommendation #12

CDSF fund for NMHS

Further noting that the AfDB intends to issue a call for proposal under the CDSF before the end of 2014, the Forum recommended NMHSs to already initiate the preparation of “application for funding” taking into account the objective of the ClimDev programme, the CDSF Operation Procedures Manual and the template for the “application for funding” available under the website <http://www.climdev-africa.org>, as already done by Mali, Senegal and Ethiopia NMHSs.

Status: CLOSED **See 12UFA – SESSION #4 (SAWIDRA)**

Partners involved: NMHS

Theme: RARS Africa for DRM

The AfDB issued a call for proposal under the CDSF in October 2014, one month after the 11th Forum. EUMETSAT informed all Forum participants about this call via email.

At the deadline for applications, the AfDB received about 100 proposals. Some of them came from NMHS. The AfDB has analysed all proposals and started awarding contracts.

4. MESA project

Recommendation #13

Training Centres WMO and MESA RICs

The Forum recommended AUC (i) to engage with the WMO on the use of the Regional Training Centres by the MESA RICs and (ii) to establish agreement with the Training Centres as necessary.

Status: CLOSED **See 12UFA – SESSION #2 (PUMA 2015)**

Partners involved: AUC

Theme: MESA projects

The African Union Commission engaged with the WMO Regional Training Centres and exchanges of letters took place in order to formalise agreement for the use of the RTC for MESA training activities. The RTC will receive new equipments under MESA and several training courses are now planned to take place in the course of 2016 and 2017 in these RTCs.

Recommendation #14

Engaging the national level

As reaching national level is at the core of MESA, the Forum recommended MESA, and in particular its regional THEMAs, to ensure the appropriate engagement of national institutions, starting with appropriate communication.

The Forum also recommended MESA programme to facilitate cross-fertilisation of services from one region to another.

Status: CLOSED **See 12UFA – SESSION #5 (MESA)**

Partners involved: MESA (AUC and RICs)

Theme: MESA projects

Numerous contacts have been established between the MESA project and the national institutions. At least one National MESA workshop per sub-Saharan countries took place, and countries were encouraged to establish MESA national networks. Two to three representatives per country were also invited to attend the first MESA Forum, which took place in Kenya in September 2015. MESA newsletters are regularly sent out to national focal points and institutions.

Cross-fertilisation of services from one region to another is one of the Expected Results of MESA. Last reports (made by AUC at the Project Steering Committee) and the Mid-Term Evaluation have highlighted the actual progress made towards this Expected Result.

Recommendation #15

Sustainability at national level

The Forum also recommended national institutions (Focal points and NMHSs) to work in close collaborations, with MESA's initial support, in order to ensure long term sustainability at national level.

Status: ON-GOING **See 12UFA – SESSION #5 (MESA)**
Partners involved: MESA (AUC and RICs)
Theme: MESA projects

As indicated above, the MESA project encouraged the establishment of national network (NMHS are full members of these networks), where all countries in a region participate. Taking into account recommendation from the MESA Mid-Term Evaluation, an assessment took place from July to September 2016 on the impact of MESA at national level in twelve countries. The results of this assessment will be ready by end of September and presented to the MESA Steering Committee in November.

Recommendation #16

MEA and MESA to reach decision makers

Furthermore, the Forum recommended MESA to ensure that products and information be made available to and reach the decision makers in order to gain their commitment for long term sustainability. In this respect, the Forum further recommended the AU hub of the ACP programme on Capacity Building on Multilateral Environment Agreement (MEA) to coordinate with MESA, particularly for disseminating information, coordinating between focal points and raising awareness of parliamentarians on the MESA and MEAs activities.

Status: CLOSED **See 12UFA – SESSION #5 (MESA)**
Partners involved: AUC (MEA and MESA)
Theme: MESA projects

A comprehensive status of this recommendation was provided by AUC and is presented in the Annex I of this document.

Recommendation #17

RAIDEG involvement in PUMA upgrade

The Forum recommended MESA to invite RAIDEG experts for the evaluation of the offers for MESA infrastructure contract which will provide the new upgraded PUMA 2015 station, and of key implementation milestones such as the Factory Acceptance Test, to ensure that the new system will match current African meteorological user requirements for data processing and visualisation.

Status: CLOSED	See 12UFA – SESSION #2 (PUMA 2015)
Partners involved: MESA	
Theme: MESA projects	
RAIDEG representatives participated to the evaluation of the offers for the MESA infrastructure contract (held in January 2015), as well as to the Factory Acceptance Test (held in December 2015, at the contractor premises). This has allowed RAIDEG expert to provide their inputs in the process at the appropriate time.	

Recommendation #18
PUMA 2010 license keys

The Forum recommended MESA to speak with the contractor of the PUMA 2010 stations to seek replacement of broken licences keys at no cost, especially at the Training Centres, and to ensure that measures are taken for the PUMA 2015 to avoid such problems.

Status: CLOSED	See 12UFA – SESSION #2 (PUMA 2015)
Partners involved: MESA	
Theme: MESA projects	
Discussion took place between MESA (AUC) and the PUMA 2010 contractor, and concluded that the price requested for replacement of broken licences keys corresponded to the replacement costs. For the PUMA 2015, the licenses keys are considered as “hardware” (HW) and will be covered by the three years guarantee period.	
However, loss of license key is not covered by the HW guarantee. A lost key will be replaced at full cost (including license cost). Measures have been implemented to protect the key, and NMHS are encouraged to adequately protect access to PUMA stations.	

Recommendation #19
Activities in North Africa

Noting the status of discussion in North Africa for a MESA-like project, initiated following the 10th EUMETSAT User Forum in Africa, the Forum recommended the NMHS of Tunisia to pursue the discussion with EU towards the inclusion of some MESA-like activities in the framework of the Regional environmental programme on water management.

The Forum also noted that a first project under the GMES&Africa initiative, which is currently being formulated by EU and AUC, covers the full continent (inc. North Africa) and recommended EU and AUC to take into account the activities formulated in the MESA-North Africa and Maghreb concept for the formulation of this first GMES&Africa project.

Status: CLOSED	See 12UFA – Working Group #2 (EO Africa)
Partners involved: North Africa NMHS, EU and AUC	
Theme: MESA project	
North Africa is fully part of the GMES&Africa initiative led by the African Union Commission. Following the call for “concept note” issued by AUC, several Northern African institutions provided concept notes for activities in the region.	

5. Marines applications

Recommendation #20

Marine Data and Capacity Development needs

The Forum notes the critical satellite data/products and capacity development needs of the marine user community across several application areas. These needs are exacerbated by the lack of real time observation equipment in the region. The Forum recommended the WMO RAIDEG group to include a JCOMM representation or a Monitoring of Environment and Security in Africa (MESA) Marine RIC representation, so that dissemination and capacity development needs of the marine meteorological and oceanographic community are properly captured.

Status: CLOSED

See 12UFA – Working Group #1 (Data)

Partners involved: WMO RAIDEG

Theme: Marine applications

The RAIDEG Terms of Reference approved by the sixteenth session of the WMO Regional Association I includes a JCOMM representative as full member of the RAIDEG. The JCOMM representative is currently Georges Wiafe from the ECOWAS Coastal and Marine Resources Management Centre, hosted by the University of Ghana.

Recommendation #21

MESA Thema on marine (cross fertilisation between regional centres and beyond)

Noting the cooperation established between the two MESA Regional Implementation Centres for marine applications (University of Ghana and Mauritius Oceanographic Institute) within MESA, the Forum recommended that these MESA RICs engage with the CSIR South Africa and other African institution to explore how knowledge sharing (cross-fertilisation) can be achieved and formalised in order to cover the entire African continent, possibly through the first GMES&Africa project under formulation.

Status: CLOSED

See 12UFA – Working Group #2 (GMES&Africa)

Partners involved: MESA Marine RICs

Theme: Marine applications

The MESA marine RICs and the CSIR South Africa met and discussed at several instances (e.g. during the 4th MESA PSC meeting in Mauritius) during the GMES&Africa process with the objective to implement this recommendation. They have included all necessary elements in their response to the call for concept note issued by the African Union Commission. EU and AUC also took into account this recommendation by planning that GMES&Africa marine services will cover the entire African continent (inc. North Africa).

Recommendation #22

Maritime institution and NMHS coordination on real time data and products

The Forum noted the applicability of near real time meteorological data across maritime application areas and also the potential to develop real time maritime safety and surveillance products from these data. The Forum therefore recommended NMHSs of coastal countries to engage with their national and regional maritime organisations to discuss this potential in order to meet the needs of the maritime community.

The Forum encouraged South Africa Marine Safety Agency (SAMSA) to support the other countries within the region and the continent, through capacity building activities possibly under on-going project (such as MESA) and recommended JCOMM to report on this at the next Forum.

Status: ON-GOING**See 12UFA – SESSION #6A (Marine)****Partners involved: NMHS, SAMSA****Theme: Marine applications**

On EUMETSAT side, a training course on marine forecasting is currently being developed and training is planned to take place in Pretoria, South Africa in 2016. Furthermore, EUMETSAT is developing a MOOC on operational monitoring of marine environment from Space, and could fund short term mobility support. EUMETSAT hosted a visiting research from the University of Ghana (MESA Regional Implementation Centre) during 2016.

The Session 6A of the Forum (on Copernicus Marine and and Great Lakes forecasting) will further discuss this topic.

Recommendation #23**STCW training content review**

The Forum noted the meteorological requirements of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), and kindly requested EUMETSAT and the training centres to review the content of the STCW training courses, within the scope of the competencies described in the STCW Convention (1995) Chapter II, Section A-II/2, and propose additions to the STCW training providers based on satellite related systems, data and products available through national and regional institutions, EUMETSAT and other providers.

Status: ON-GOING**See 12UFA – Working Group #1 (training)****Partners involved: EUMETSAT and the Training centre****Theme: Marine applications**

This recommendation is taken into consideration when preparing the training course on Marine mentioned above. An analysis of compliance with STCW Convention (1995) Chapter II, Section A-II/2 is still pending.

6. Training and research activities**Recommendation #24****Training needs**

The Forum requested Training Centres (WMO RTC and the Centre of Excellence in Morocco) to address the training needs identified at the Forum, which includes training of trainers. The Forum requested centres to report progress at the next Forum. Furthermore, the Forum encouraged PRs and institutional directors to directly communicate their needs to the Training Centres.

Status: CLOSED	See 12UFA – Working Group #1 (training)
Partners involved: AUC, EUMETSAT	
Theme: Training and research activities	
Progress will be reported during the working group #1 meeting (on data and training) at the 12 th EUMETSAT User Forum in Africa.	

Recommendation #25
Internet for training

The Forum recommended that NMHSs ensure adequate internet bandwidth and staff time to allow their staff to appropriately follow and complete online training courses.

This will enable the Service to make full use of the available capacity building initiatives.

Status: CLOSED	See 12UFA – Working Group #1 (training)
Partners involved: NMHS	
Theme: Training and research activities	
The issue of internet access for distance learning is regularly discussed at the meetings of the WMO Vlab training centre. The Survey on PUMA stations included a question on internet bandwidth available at the NMHS. The result of the survey regarding this question will be communicated as part of the Forum report. NMHS will be asked .	

Recommendation #26
Training Centre Cooperation and Coordination across regions

The Forum noted the cooperation established between the Training Centres and recommended WMO CGMS Vlab to further enhance cooperation across regional economic groupings in Africa.

Status: CLOSED	See 12UFA – Working Group #1 (training)
Partners involved: WMO CGMS Lab	
Theme: Training and research activities	
The virtual laboratory management group, which includes the Centres of Excellence in Pretoria, Nairobi, Casablanca and Niamey met in 2016 and have discussed ways to enhance cooperation between the centres. .	

Recommendation #27
Training in French

The Forum noted the very strong need for training provided in French in certain countries to BIP-M and BIP-MT levels and recommended relevant PRs and francophone training centres, with guidance from the WMO secretariat, to explore ways forward.

Status: CLOSED	See 12UFA – Working Group #1 (training)
Partners involved: Francophone training centres	
Theme: Training and research activities	

The issue related to training BIP-M and BIP-MT levels is well known and goes beyond the scope of the EUMETSAT User Forum. Such recommendation is addressed in other Fora, but could be discussed as part of the Working Group #1, if brought forward by participant.

Recommendation #28

Information on training opportunities

The Forum noted the range of available training opportunities. The Forum recommended Training Centres (WMO RTC and the Centre of excellence in Morocco), with the support of the MESA programme, to better make available information (e.g. on AUC website) on what training is available from them, RICs and other partners, in a coordinated manner, and to propagate this information to NMHSs and other potential participants.

Status: CLOSED **See 12UFA – Working Group #1 (training)**
Partners involved: MESA, WMO RTC
Theme: Training and research activities

MESA, through its training contract, established a Learning Management System (LMS) as well as a MESA training website (<http://training4mesa.org/>), which provide access to numerous on-line training courses and materials, and inform all stakeholders about available training courses and calendar.

Recommendation #29

Develop research capacities

The Forum, noting the research skills gaps in the region, invited AUC to make accessible information on the support available to develop the capacity of researchers in meteorology and wider environmental field.

Status: CLOSED **See 12UFA – Working Group #1 (training and data)**
Partners involved: AUC/HRST
Theme: Training and research activities

In 2016, the AUC published a call for proposal for research project (“AU Research Grant”). The main focus on the call was on agriculture and food security. The call description was such that proposal to conduct research in agro-meteorology were possible. The AUC is currently analysing the proposals received under this call.

Furthermore, MESA is closely working with Universities to make available products and services for research in metrology and wider environmental fields. The following cooperations are established:

- BDMS/SADC: University of Zimbabwe, Botswana College of Agriculture, and Namibia Poly Technique, etc.
- AGRHYMET/ECOWS: University of IL Ife in Nigeria, etc.
- MOI/IOC: University of Mauritius,
- ICPAC/IGAD: University of Nairobi, Makerere University,
- ACMAD : University of Nairobi

Recommendation #30
Cooperation with research projects

Noting the presentations of the various projects from European institutions in Africa (e.g., TAMSAT, AGRICAB, SAFs, etc), the Forum encouraged them to strengthen collaboration and coordination among themselves and recommended NMHSs, RAIDEG and other relevant regional and national institutions to engage with these projects to establish partnerships and exploit the various data and information they provide.

The Forum recommended NMHSs and other users to respond to the next call for contributions that will be issued for the next EUMETSAT User Forum in Africa in order to present their collaborations with these projects.

Status: CLOSED **See 12UFA – Session #6 and #7**
Partners involved: NMHS, European projects
Theme: Training and research activities

A call for contribution was open in March 2016 to allow project, NMHS and other actors to present during the next Forum results of collaboration established through various projects. Most of the received contribution will be presented as part of Session #6 and #7 of the 12th EUMETSAT User Forum in Africa.

7. Space and Earth observation**Recommendation #31**
Coordination and collaboration

The Forum welcomed the coordination at AU level of policies and initiatives related to Space initiated by various African ministerial conferences (Conference for Ministers in charge of Communication and Information Technologies – CITMC, AMCOMET, African Ministerial Conference on Science and Technology – AMCOST). In particular, the Forum recommended AMCOMET Task Force on the African Regional Space Programme to continue collaborating with the AU Space Working Group in the development of the African Space Strategy, and to ensure consistency with the Integrated African Strategy on Meteorology (Weather and Climate Services).

Status: CLOSED **See 12UFA – Working Group #2 (EO Africa)**
Partners involved: AUC, AMCOMET
Theme: Space and Earth observation

Coordination between AMCOMET, the African Regional Space Programme, and the AU Space Working Group was subject to various meeting and coordination, notably during the 3rd session of AMCOMET and during the WMO Congress.

In January 2016, African Head of States adopted the African Space Policy and Strategy, which integrates all space-related aspects across Africa and should serve now as a reference for all space related activities in Africa.

Recommendation #32
User needs assessment

The Forum highlighted the importance of conducting regular user needs assessments and dialogues with data providers, and welcomed the process established under RAIDEG for meteorological applications, as a potential example for other user communities. In this respect, the Forum recommended RAIDEG to continue to assess and evaluate requirements for meteorological satellite data sets and products, and to report these requirements to the AMCOMET Task Force on the African Regional Space Programme.

Status: CLOSED **See 12UFA – Working Group #1 (data and training)**
Partners involved: RAIDEG and AMCOMET
Theme: Space and Earth observation

The RAIDEG continue to meet regularly (meeting in August 2015 and in September 2016) to assess and evaluate requirements for meteorological satellite data sets and products. RAIDEG reports are published under the WMO website, for further use.

The Task Force on the African Regional Space Programme met once in Geneva in June 2015 and again on the eve of the 12th EUMETSAT User Forum in Africa. RAIDEG members could participate to that meeting and coordination between RAIDEG and AMCOMET on user need assessments was discussed.

Recommendation #33
Data from EO initiatives in Africa

Welcoming the various on-going projects and initiatives (e.g., AfriGEOSS, MESA GMES&Africa) aiming at promoting the use of Earth Observation in Africa for several socio-economic sectors, the Forum recommended the main stakeholders of these initiatives, in particular the African GEO members and participating organisations, the GEO Secretariat and AUC departments (Rural Economy and Agriculture – REA and Human Resources Science and Technology – HRST):

- to promote, through these initiatives and projects, an open and free access to all relevant EO datasets;
- to coordinate data access and sharing at continental level, including harmonization of data format and protocol for data exchange, as well as exploring technical means for access and sharing;
- to focus capacity building effort on datasets available openly and freely to Africa;
- to coordinate their efforts in order to come-up with a unique African EO portal, which would, at least, catalogue all EO data available from and to Africa, planning also interoperability with other existing EO portal available across the globe.

Status: CLOSED **See 12UFA – Working Group #2 (EO Africa)**
Partners involved: GEO secretariat, AUC
Theme: Space and Earth observation

The long-term effort of AfriGEOSS and the recent adoption of the AU Space Policy and Strategy provide a framework that encompasses many elements of this recommendation:

- AfriGEOSS reaffirmed their commitment to support open and free access to EO data sets during the last Ministerial Summit in Mexico in November 2015;

The African Space Policy promotes “equitable access and data democracy that is cost-effective and acceptable to all member states”;

- The African Space Policy also underline the need for “data-sharing protocols [...] to be developed, adopted and implemented”, as AfriGEOSS also do;
- Open and freely available data sets are more likely to be used for capacity building efforts, as this ease sustainability;
- The MESA project, through the infrastructure contract Lot#2, is paving the way for an African EO portal. The efforts might be continued through the GMES&Africa initiative. The AU Space Policy also encourage such coordination.

Recommendation #34

Near real time Copernicus data for Africa

The Forum noted that the issue of near-real time physical access to Copernicus data and products (core services and Sentinel satellite data) was often raised in the presentations (marine and land applications). The Forum recommended AUC to coordinate and federate (possibly through the MESA project and GMES&Africa initiatives) specific African users requirements (by applications and with list of priorities), and to pursue its engagement with the EU to come up with concrete solutions for the near-real time access to some prioritised sets of Copernicus data and products.

Status: CLOSED

See 12UFA – SESSION #6 (Copernicus)

Partners involved: AUC

Theme: Space and Earth observation

The African Union Commission, with the support of the MESA project, coordinated and federated African user requirements, starting with Sentinel-3 marine data. On the basis, the AUC and the European Commission agreed on the dissemination of Sentinel-3 data via EUMETCast-Africa, in order to ensure operational and real-time access to these data.

Discussions are on-going for a more generic agreement on all Copernicus data and are progressing on Sentinel-3 Land data, as follow:

- In order to make information accessible, AUC identified the interest of MESA implementation centers (RICs/CIC) in Sentinel 3 land data and products for a sustained source of information in support to environmental, agricultural and water monitoring.
- A consolidated list of requirements for Sentinel 3 land data in 12 categories of product types have been prepared and AUC officially communicated Copernicus Program with a request to access all the necessary information related to Sentinel 3 land data and products for the benefits of the African experts and institutions.

4 SYNTHESIS

The various partners are kindly invited to provide additional information to EUMETSAT (email to vincent.gabaglio@eumetsat.int) on the status of the recommendations, to which they contribute. The detailed status of the recommendations will be regularly updated before the 12th EUMETSAT User Forum in Africa in Africa.

The current status shows that numerous recommendation have been taken into account by the various partners:

- 30 recommendations are flagged as CLOSED
- 4 recommendation are flagged as ON-GOING
- 0 recommendation are flagged as OPEN

The table below summarises the status of all recommendation and relates them to the various sessions of the 12th EUMETSAT User Forum in Africa (UFA).

12 th UFA sessions	Session title	Status of recommendation	
		On-going	Closed
WG#1	Data and training	#23 - Marine training	#20, #24, #25, #26, #27, #28, #29, #32
WG#2	EO policy in Africa		#19, #21, #31, #33
Session 1	EUMETSAT programme	#11 - Disaster charter	#1, #3,
Session 2	PUMA 2015		#13, #17, #18
Session 3	MTG Africa		#2
Session 4	SAWIDRA		#6, #7, #8, #9, #10, #12
Session 5	MESA	#15 - National network	#14, #16
Session 6	Copernicus (Marine and Land)	#22 - Marine forecast	#34
Session 7	Climate		#4, #5, #30

ANNEX I

Status of Recommendation #16 (MEA, MESA to reach decision makers)

What MESA did to ensure products and information be available to reach decision makers:

1. MESA Implementation Centers (RICs/CIC) organized policy dialogue days at regional and country levels to engage with decision makers. Examples:
 - a. University of Ghana - ECOWAS: Regional policy dialogue on strategies for monitoring activities of small fishing vessels
 - b. ACMAD and AGRHYMET: Policy Dialogue day in Ouagadougou for ECOWAS to promote the use of EO.
 - c. BDMS- SADC- National policy dialogue days organized in 9 SADC member countries and circular missions in 6 SADC countries.
 - d. AGRHYMET- ECOWAS: Circular missions in three countries and policy dialogue days in two countries to present the project to decision makers.
 - e. ICPAC- IGAD: Regional awareness raising workshop for policy and decision makers from 8 IGAD countries.
2. MESA Regional Steering Committees are established in all RECs, and national networks are established/reactivated in 87 % of the MESA beneficiary countries. These networks are used to engage with decision makers.
3. MESA prepares policy briefs to reach policy makers. These are:
 - a. ACMAD disseminate user friendly and tailored climate and climate change information to policy makers in the form of policy brief. These *Briefs for Policy and Decision Makers* are published regularly with the Seasonal Climate Forecast Bulletins.
 - b. Briefing Notes are published based on main findings of the MESA Continental Environmental Bulletin. These briefing notes aims to contribute to policy analysis and decision making processes in Africa.
4. MESA products and information are disseminated via automated mailing list to decision makers at continental, regional and country level. Examples of information disseminated via automated mailing list include MESA newsletters, Continental Environmental Bulletins, briefing notes, MESA success stories, etc.
5. MESA actively participates in high level meetings and side events/exhibitions to engage with decision makers. For example, in 2015 and 2016 AU- MESA participated in the following 18 events in which MESA participated in hosting exhibitions, making presentations and participating in side events. Participating in these meeting, exhibitions and side events resulted in valuable contacts and interests in the MESA project. Important links have been established with different decision makers across the continent.

Status of recommendations from the 11th EUMETSAT User Forum in Africa

S.No.	Event	Date	Place	Remark
1.	Third Session of the African Ministerial Conference on Meteorology (AMCOMET-3)	10-14 Feb 2015	Praia, Cabo Verde	MESA Presentation and Exhibition
2.	AMCEN Meeting	2-6 March 2015	Cairo, Egypt	MESA Exhibition
3	4th MESA PSC Meeting	27-29 April 2015	Port Louis, Mauritius	MESA Presentation and Exhibition
4.	SENTINEL-3 for Science Workshop	2-5 June 2015	Venice, Italy	MESA Presentation and Exhibition
5.	1st MESA Forum	31 August to 04 Sept 2015	Nairobi, Kenya	MESA Presentation and Exhibition
6.	The XIV World Forestry Congress	7-11 September 2015	Durban, South Africa	MESA Presentation and Exhibition
7.	Inaugural Conference of the Specialised Technical Committee on Agriculture, Rural Development, Water and Environment	5-9 October 2015	Addis Ababa, Ethiopia	MESA Presentation and Exhibition
8	Fifth Conference on Climate Change and Development in Africa (CCDA-V)	28-30 October 2015	Victoria Falls, Zimbabwe	Exhibition
9	UNFCCC COP 21	30 Nov -11 December 2015	Paris, France	MESA Presentation and Exhibition
10	TIGER Workshop 2016	1-2 February 2016	Addis Ababa, Ethiopia	MESA Exhibition
11	8th Session of Africa Working Group on DRR	16-19 February 2016	Addis Ababa, Ethiopia	MESA Presentation and Exhibition
12	Africa Environment Day 2016	03 March 2016	Addis Ababa, Ethiopia	MESA Visibility
13	Africa Climate Resilient Infrastructure Summit (ACRIS II)	20-21 April 2016	Addis Ababa, Ethiopia	MESA Presentation and Exhibition
14	MESA SADC THEMA 2nd Regional Training (Universities) in Namibia	14-18 March 2016	Windhoek, Namibia	MESA Presentation and Exhibition
15	AfriGEOSS Symposium 2016	27-29 April 2016	Victoria Falls, Zimbabwe	MESA Presentation and Exhibition
16	First Conference of The Great Green Wall for the Sahara and the Sahel Initiative Restoring Africa's Landscapes - The way forward	3-6 May 2016	Dakar, Senegal	MESA Exhibition
17	SADC Minister meeting and MESA exhibition, Gaborone, Botswana	27-29 June 2016	Gaborone, Botswana	MESA Presentation and Exhibition
17	6th Africa Water Week (AMCOW)	18-22 July 2016	Dar es Salaam, Tanzania	Exhibition
18	Third Africa Drylands Week	08-12 August 2016	Windhoek, Namibia	MESA Presentation and Exhibition

6. MESA is conducting an online survey on decision makers to understand access and use of MESA products and services. The survey also aims to address the needs of policy makers in terms of format by which they would prefer to receive information. This should make the MESA products and the way of communicating them more “demand driven”.
7. As part of the MESA capacity development plan, MESA policy dialogue workshop is organized in Sept. 2016 in Kigali, Rwanda. The main objective of this workshop is to reach out to policy makers and senior decision makers in order to promote that MESA services support informed decision making. MESA will again engage in a dialogue with national and regional policy/decision makers with the purpose of tailoring their services to match the expectations. The objective is to bridge technical side of the work with communication requirement for decision making.
8. Moderated E forum (web discussion forum) is established on AU MESA website which gives access to decision makers to discuss pertinent environmental issues.