

## AMMA ANSWERS TO ET-EGOS COMMENTS TO THE AMMA ISP2

(JL Redelsperger, M. Kadi,)

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The AMMA ISSC would like to thank the Expert Team of EGOS for the ISP2 review which has been distributed to the Executive Committee and few experts. Following are our feedback on this review.

### 1) General comments

**ET-EGOS** *“ET-EGOS suggests that AMMA reviews the Rolling Review of Requirements (RRR) database and identifies key gaps between observational requirements and present/planned capability”*

**AMMA:** In regard to the ET-EGOS 5 Final report, though national & GCOS efforts exist, gaps between observational requirements and present capability, in the AMMA region remain important (no substantial recovery of observational networks has been implemented).

However, some planned actions and initiatives to improve performances and fill gaps (such as the project aiming to rebuilt and sustain the radiosonde network and the Weather Information For All – WIFA-) are undertaken by countries, regional bodies and within the the GCOS cooperation mechanism.

**ET-EGOS:** *“ET-EGOS encourages a relationship between ET-EGOS and AMMA similar to the one between ET-EGOS and THORPEX. This can also be done through direct contacts between the ET-EGOS Chair and the AMMA permanent International Executive Office (IEO), once established”*

**AMMA:** We agree that more direct contact between the AMMA programme and ET-EGOS would be useful. M. Kadi goes on to be the AMMA representative at ET-EGOS. The IEO can help to gather the informations. We are currently reviewing the ISSC membership to adapt it to the new challenges of the second phase of AMMA. We would review the list of people in charge to be the AMMA contact with international programmes and bodies.

**ET-EGOS:** *“ET-EGOS would like to support AMMA by providing assistance in steps towards sustainable operational observing systems. The new plan does not focus on contributions to basic operational observational networks of WMO; further discussion on this topic between WMO and AMMA is encouraged.”*

**AMMA: AMMA:** We agree. The AMMA representative (see above) seems the key person. Currently, we could need clear support to get funding from the UE/DG DEV. We have a proposal which helps to maintain the operational soundings developed during AMMA.

### 2) Second theme of AMMA, “study of predictability and improvement of meteorological, seasonal and climate forecasting,”

**ET-EGOS** *“Two activities are directly related to the work of ET-EGOS:*

- Improvement of use of available observations (including satellite observations);*
- Recommendation and implementation of permanent observing systems to improve monitoring capabilities and forecasts”*

⇒ *“ET-EGOS maintains user requirements for observations for Seasonal and Inter-Annual Forecasting. AMMA is encouraged to review and comment on these. “*

**AMMA:** The current requirements are available for centers using numerical modeling. The requirement need to be developed for other centers (in developing world) that produce operational seasonal forecast by using empirical and statistical methods. It is advisable that a specific SoG to support these systems be developed.

#### **ET-EGOS**

⇒ *ET-EGOS also works closely with GCOS on the user requirements for observations for Climate Monitoring and on the implementation of actions in the GCOS Implementation Plan. AMMA is encourage to comment on GCOS-IP as regards its adequacy for dealing with the scientific issues identified by AMMA.*

**AMMA:** As the AMMA program focuses on a region where difficulties remain in filling gaps in the networks of *in situ* observation needed for producing ECVs, the GCOS IP needs to include more efficient international cooperation mechanisms

#### **4) Section 2.d “Observations”**

**ET-EGOS** *“Key objectives are also proposed in section 2.d “Observations” e.g. maintaining the operational observations (upper air, continental surface, ocean) at a level as close as possible to the one reached during the first phase of AMMA and improving in areas where AMMA was not able to do so; or ensuring better linkages between research and operational observations and the satellite observations.”*

⇒ *ET-EGOS recommendations that all the data collected in AMMA should be available in near real time, if possible, for use by African NMSs and for dissemination to the global user community.*

**AMMA:** The AMMA meteorological observations as soundings are transmitted on the GTS since the its beginning. We faced however to many I technical issues of transmission, which still exist and cannot be solved by AMMA. (See Parker et al , BAMS 2008). AMMA GPS measurements are still operating and are not transmitted on GTS, though there could be useful for assimilation in NWP centers and for African NMSs to monitor the water vapor evolution (dry and wet periods)

#### **ET-EGOS**

⇒ *Radar data from systems operated as part of AMMA are of interest for operational nowcasting and NWP.*

**AMMA:** Presently there are no real operational radar operated by AMMA. We are only running research radars (2006 and 2007 monsoons season and plans in 2011-2012). These data are available on the AMMA database

There are other radars working in Africa but not linked with AMMA. They are dedicated to weather modification programmes and AMMA has not access to their data.

#### **5) Specific comments**

**ET-EGOS** - p.8, 9, 30, 31. *Best link between AMMA activities and satellite observations.*

– *What deficiencies are perceived in the current links?*

**AMMA:** We have the feeling that many satellite products used in West Africa, have not been enough calibrated and evaluated against *in situ* data. The AMMA dataset is unique for this purpose. .Another question concerns the tailoring of products for end users. Our ultimate objective of merging ground observations, satellite observations and modelling is to derive products that will enable a large community of scientists and decision makers alike to monitor the evolution of the climate and the environment over the region for a range of time scales. Ultimately this could lead to setup a SECAO West-African Cyber-Observatory (see <http://www.ncar.ucar.edu/cyber/> for more details on the Cyber-Observatory concept) as suggested above.

In parallel, we recommend that all AMMA observation sites be used as Tropical Africa CalVal sites for any relevant satellite mission.

**ET-EGOS**

– p.8, 30, 57. *Long-term maintenance of observing systems (lists of systems given)*

**AMMA:** We don't understand the comment

**ET-EGOS**

- p.22, 59 *Hydrological obs and their dissemination. What are their status and deficiencies?*

**ET-EGOS**

– p/31, 53-54, 56. *Plans to review obs networks needed (for weather forecasting, SIAF, decadal prediction and climate monitoring) – we encourage this – see section 1.*

**AMMA:** It is an important activity but AMMA is probably lacking human resources to do alone. Help from EGOS is welcomed to involve more large NWP centers in this activity over West Africa .

**ET-EGOS-** p.52, 54. *Support for maintenance and improvement of obs networks in W.Africa.*

**AMMA:** Efforts are being developed within a project submitted to EU (though we did not get feedbacks), but beyond the project the involved regional institutions are encouraged to coordinate their efforts to set up a joint unit for sustaining and improving observational networks in the area. One difficulty facing AMMA, is that the research money cannot support operational networks beyond from their research purpose. The sounding network is a good example. Using research money, AMMA with the regional and national services has restored the network over the West Africa. To maintain it, the funding needs to come from other sources. Help from EGOS is welcomed

**ET-EGOS-** p.55. *Advice from NWP centres on network density (of sondes, but this is a general issue)*

**AMMA:** We agree. We need more help and involvement of NWP centres (see above)

**ET-EGOS-** p.56. *Establish/maintain links with other bodies, incl. WMO.*

**AMMA:** We agree. We are interacting with around 15 different international programmes and bodies. We are thinking in fact to optimize and improve these collaborations. For example, to be more efficient, we would like to simultaneously work and report to GC, EGOS and WMO OSD with an unique corresponding people. Any advice and help from ET-EGOS will be appreciated

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