

Summary and recommendations from WG1

(Arona Diedhiou, Serge Janicot, Peter Lamb)

94 contributions widely distributed between African, European and American communities

1) FORMAT OF WORKING SESSION

- Statement of general objectives and specific objectives (Serge Janicot)
- Statement of purpose of session and introduction of 3 presentations (Arona Diedhiou)
- Presentation of Nick Hall (LTHE, CNRS) on analysis and predictability of the different weather types determining the intraseasonal variability ; showing also that WAM is modulated by weather systems originating outside of West Africa
- Presentation of Hervé Douville on West African climate variation to global warming; considerations on the limitations of the simulations exercise to understand climate variability.
- Presentation on regional modelling by Matthew Fulakeza, Abdoulaye Sarr, Philippe Peyrillé

2) DISCUSSION ISSUES AND RECOMMENDATIONS

a) *synoptic-mesoscale phenomena*

- need for research and identifying relative importance of various “wave modes” for West African precipitation including validation using historical data
- This is needed to underpin forecasting, including for AMMA SOPs if time permits
- Discussions about areas of convective system initiation (Chad, Ethiopia)
- Discussion about forecast users need and difficulty of moving from basic research to use of key results

b) *Climate change uncertainties*

- Noted previous IPCC reports did not convincingly. Presentation indicated by current IPCC processes will offer no useful guidance about the evolution of West African climate in the coming decade because models being used have not captured 1950-2000 climate variations.
- Presentation focused on ways to attend, to reduce the uncertainties but this will be challenging and not likely yield much clarification in the foreseeable future.
- It was recognized that “process studies” (like AMMA, ARM and the others) are crucial for reducing uncertainties in model physical parameterizations that are relevant for West African (clouds, convection, air-sea and land-atmosphere interactions, aerosols)

c) *Regional Climate Modelling*

- Obtain listing of the RCMs being applied to West Africa by West African organization
- Discussion of operational potential of RCMs versus use of high resolutions GCMs (for Africa).
- Recognition of importance of aerosols in recent modelling research and need for more work in that area.

- Noted challenge for convective parameterization in environment of relatively weak low – level convection
- Need for strong linkage with seasonal forecasting community.

3) ACTIONS

- Work with the Modelling Community (see working session on GCM Evaluation) to define a modelling strategy
- Meeting/workshops ?? : 2006 is the SOP year ; No AMMA session at EGU. Objective AMS January 2007 with special session on West African Monsoon ?
- Distribute information through International Web Site of AMMA; E-mails list ; AMMA newsletter,...
- A specific work to do for identifying source of funding

4) PRELIMINARY PROPOSITION FOR THE COMPOSITION OF THE CORE GROUP

Main issues :

- Modeling
- Aerosols
- Regional scale of the monsoon (including eastern and central Africa)
- Intraseasonal predictability

Group composition :

AFR : A. Diedhiou
 EU : S. Janicot
 US : P.J. Lamb

Modeling : K. Cook (also in VACS)
 Aerosols : TBD
 Chemistry : TBD : ask to EU_WP2.4 coordinators
 Ocean : C. Reason (also in VACS and CLIVAR/ATL)
 Central Africa / Guinean Region : TBD ask to PIAF coordinators
 Linkage with WG4 (predictability) : TBD ask to WG4 coordinators
 Linkage with WG5 (Impacts) : ?? ask to WG5 coordinators