



Project Report

**Report of the 5th Session of the VACS Panel
Meeting Report**

Cape Town 21-23 November 2011

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CLIVAR is a component of the World Climate Research Programme (WCRP). WCRP is sponsored by the World Meteorological Organisation, the International Council for Science and the Intergovernmental Oceanographic Commission of UNESCO. The scientific planning and development of CLIVAR is under the guidance of the JSC Scientific Steering Group for CLIVAR assisted by the CLIVAR International Project Office. The Joint Scientific Committee (JSC) is the main body of WMO-ICSU-IOC formulating overall WCRP scientific concepts.

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ACTION ITEMS

ACTION: Nominate panel members for missing liaison with some key programmes (Chair, ICPO)

ACTION: Submit an article to the Bulletin of the American Meteorological Society (BAMS) outlining the priorities and justification of VACS science priorities (R. Washington to lead)

ACTION: Show priorities on VACS website (ICPO)

ACTION: Build links with WMO PR for Region 1 in order to establish extent to which climate data from Africa can be obtained (P. Lamb, S. Mason)

ACTION: Develop a strategy to use Global Framework for Climate Services as vehicle to obtain data since most African NMHSs have signed to it (S. Mason)

ACTION: Build a centrally available data set of rainfall, relative humidity, temperature for Africa based on available data (P. Lamb to lead, J. Mutemi, R. Anyah, M. Rouault)

ACTION: Develop a review paper on predictability of intraseasonal/extremes in various sub-regions of Africa (J. Mutemi and W. Landman to lead)

ACTION: Develop a scientific paper of trends in observed variables, particularly in relation to climate change (S. Mason to lead, M. Shongwe)

ACTION: CLIVAR to develop a thematic issue on Africa climate science for Exchanges, and collaborate with GEWEX on publication of articles on Africa climate science in both Exchanges and GEWEX Newsletter in a synchronized manner (ICPO)

ACTION: Build on the development of an email list for distribution of news and events on African science (ICPO)

ACTION: Develop proposal for a conference in 2012-13 on the African climate system (A. Tall to build proposal, J. Mutemi to contribute, P. Lamb to explore US funders)

ACTION: Request CORDEX data for model diagnostics (R. Anyah)

ACTION: Request CORDEX data for integration with GEWEX hydrological data (R. Anyah, GEWEX IPO)

ACTION: Extend the VACS African Climate Atlas with CORDEX and CMIP5 datasets (R. Washington, M. Shongwe)

ACTION: Circulate the draft science plan for a comprehensive observational demonstration project at Lake Victoria basin for comments from panel members (F. Semazzi)

ACTION: Circulate the draft science plan for a comprehensive observational project at Lake Victoria basin for comments from panel members (F. Semazzi)

ACTION: Report to panel members on the status of projects in Southern Africa (M. Rouault)

ACTION: Report to WCRP JSC the suggestion of organisational structure for the panel and name change to African Climate Panel (ICPO, Chair)

VACS Panel Meeting Report

Cape Town 21-23 November 2011

Timing and Location

The VACS panel meeting was held in Cape Town from 21-23 November 2011. The meeting was hosted by the Oceanography Department, University of Cape Town.

Background and Purpose

The meeting agenda is included in Appendix 1. The agenda was carefully discussed and developed over a series of teleconferences staged over several months prior to the panel meeting in Cape Town. The purpose of the careful preparation was to maximise use of the time spent in Cape Town, and identify approaches and activities which would enable the panel to have clear deliverables. The agenda was able, therefore, to be quite directed and prescriptive.

There were four components to the meeting. These are briefly described below and will be covered in more detail in the bulk of the meeting report.

1. WCRP briefing: Sam Benedict (GEWEX), Nico Caltabiano (CLIVAR), Fred Semazzi (JSC) and Willem Landman (WGSIP) briefed us on WCRP related directions and movements. VACS is currently under CLIVAR governance but it is proposed that the panel more properly belongs between GEWEX and CLIVAR.
2. Update on large international programmes in Africa: While the VACS panel has a reassuringly strong hand in numerous international programmes and initiatives in African climate, this session ensured the whole panel was aware of key activities so that VACS activities could be best positioned.
3. Climate Science Priorities: Panel members were charged with preparing their own list of the top three climate science priorities in Africa. A substantial part of the panel meeting was given over to deriving consensus on the priorities.
4. Panel Actions and Activities: The panel was tasked with drawing up a set of actions and activities for the short to medium term.

WCRP briefing

The World Climate Research Programme (WCRP) is preparing its new structure and identifying changes to its core programmes. The proposed WCRP's new structure suggests four core projects, with CLIVAR focusing on "ocean-atmosphere", GEWEX on "land-atmosphere", CliC on the "cryosphere" and SPARC on the "stratosphere-atmosphere". At the 33rd WCRP's Joint Scientific Committee (JSC) meeting, "grand" scientific questions have been identified that will drive the activities and interactions of WCRP and its core projects:

- Past and future changes in water availability (hydrological cycle, including water security; drought information; water balance over oceans)
- Attribution and prediction of extremes
- Improved simulation of clouds/aerosols/ precipitation/radiation and climate sensitivity
- Regional sea level rise
- Provision of skilful future climate information on regional scales; includes decadal and polar
- Cryosphere response to climate change (including ice sheets, water resources, permafrost, carbon)

The JSC has provided an opportunity for VACS to propose a setup and coordination that would best serve WCRP needs in Africa. A close interaction between CLIVAR and GEWEX has also been strongly suggested, and the panel should take into account CLIVAR and GEWEX Imperatives.

International Programmes

The table below shows the programmes which were presented and discussed by the panel. VACS has a key involvement in many of these initiatives and is represented in the majority. However, some of these activities e.g. ACMAD, need to have a stronger VACS representation. A mechanism for VACS to connect with Regional Climate Outlook Forums (RCOFs) is also needed as the forums are an important structure in Africa. It is likely that in the short term the links will be adhoc with some VACS members (e.g. Richard Anyah, Joseph Mutemi).

ACTION: Nominate panel members for missing liaison with some key programmes (Chair, ICPO)

Programme	Description	VACS rep	Presented by?
ACMAD	Activities in ACMAD	Yes	Arame Tall
ICPAC	Activities in ICPAC	Yes	Joseph Mutemi
SADCC	Activities in SADCC	Indirectly through Mxolisi Shongwe	Mxolisi Shongwe
CLIMDEV	Major multi-million dollar Pan-African programme on African Climate linking ECA-AU and AfDB. Progress slow.	In the set-up phase – no direct link	Richard Washington
ClimDev_AfriClimServ	A support from AfDB to African Climate Institutions. 30 Millions US Dollars grant for such project to strengthen the capacity of 4 institutions (ACMAD, ICPAC; DMC/SADC & AGRHYMET) 2011-2014	Direct in the case of ACMAD, ICPAC	Richard Washington

AEWACS/ VIGIRISC)	A 4 million Euros project conducted by ACMAD funded by many partners and mainly the French FEM with 2 M. Aims to build climate services in 4 sub Saharan regions	Arame Tall	Arame Tall
<i>WASCAL</i>	Aims at strengthening the research, educational and policy capacity and competency of West-African countries..... in partnership with German institutions	Arame Tall	Arame Tall
Lake Victoria Basin: Weather and Climate Services	Covers the spectrum from improved early warning to longer term climate issues relating to water management	Yes	Fred Semazzi
DFID-Met Office Africa programme	Multi-million dollar Pan-African programme with key focus on improving climate model simulations of African climate. Has capacity development component.	Richard Washington on steering committee. and Project Assurance Team	Richard Washington
AMMA2	Follow on to AMMA	Richard Washington on steering committee	Richard Washington/Arame Tall/Ernest Afiesimama
Fennec	Major multi-million dollar observational and modelling programme on central Sahara with key links to WAM	Richard Washington is PI	Richard Washington
RCOFS	Regionally staged climate outlook forums linking service providers and users	Through ICPAC and ACMAD reps	Joseph Mutemi, Simon Mason
CORDEX	Regional downscaling project with key domain over Africa	Mxolisi Shongwe	Mxolisi Shongwe
Vulnerability and Capacity Assessments	Red Cross and UNISDR	Arame Tall	Arame Tall
CCAFS	Multi-million dollar programme with 2 of 3 initial regions in Africa (West and East) on Climate change and Food Security but with strong interests on interannual timescales	Richard Washington	Richard Washington

Science Priorities

Part of the panel meeting was dedicated to the presentation and discussion of climate science priorities for Africa. Each panel member had been primed well in advance of the panel meeting to consider climate science priorities either for the region they represented or the continent as a whole. Some of the priorities had been partially discussed in teleconferences prior to the panel meeting. Panel members were also encouraged to discuss the science priorities with colleagues not on the panel prior to the panel meeting. After initial, individual presentations, science priorities were clustered in cases where considerable overlap was obvious and then discussed again by the panel. Also, some activities linked to these priorities have been discussed and agreed; two general activities that will be developed in order to highlight and promote these priorities are preparing an article to outline them and show their justification (by Spring 2012), and list them on the VACS website.

ACTION: Submit an article to the Bulletin of the American Meteorological Society (BAMS) outlining the priorities and justification of VACS science priorities (R. Washington to lead)

ACTION: Show priorities on VACS website (ICPO)

- **Data: Combined (blended) high quality data sets**
Data underpins climate science but data unavailability acts as a particular constraint in Africa.

ACTION: Build links with WMO PR for Region 1 in order to establish extent to which climate data from Africa can be obtained (P. Lamb, S. Mason)

ACTION: Develop a strategy to use Global Framework for Climate Services as vehicle to obtain data since most African NMHSs have signed to it (S. Mason)

ACTION: Build a centrally available data set of rainfall, relative humidity, temperature for Africa based on available data (P. Lamb to lead, J. Mutemi, R. Anyah, M. Rouault)

- **Mechanisms: Improved understanding of weather/climate interface**
Rainfall is a key variable in African climate science. Rainfall comes from weather systems not climate. Efforts to connect across the interface of weather and climate are fundamental to progress in prediction but evidence of direct attempts is scant.
- **Models: what is the source of model errors and uncertainty**
Models are key to prediction. Model errors undermine the usefulness of prediction. A vital step in dealing with model errors is the diagnosis of their source.
- **Enhanced seasonal prediction capability**
Seasonal prediction is the route through which climate and society connect most closely in Africa. Several issues limit progress. The root causes of the limitations need to be made clear alongside deliberate strategies for undoing the limitations.

ACTION: Develop a review paper on predictability of intraseasonal/extremes in various sub-regions of Africa (J. Mutemi and W. Landman to lead)

- **Attribution of recent climate changes (inc. Extremes) in Africa**

It is often said that Africa is hardest hit by climate change and claims abound as to weather and climate anomalies which purport to have their provenance in climate change. Rigour in this vital area is lacking and this climate science priority needs to promote the application of such rigour.

ACTION: Develop a scientific paper of trends in observed variables, particularly in relation to climate change (S. Mason to lead, M. Shongwe)

- **Services: production of climate and weather services that are better targeted to end user needs across all time scales**

The future of the climate science enterprise in Africa hinges on applications.

Panel Activities

The panel has discussed activities in several fronts, seeking better interaction with other groups/communities and developing research programmes that would support the scientific thrusts identified in the Science Priorities.

During the discussion at the meeting, it has been highlighted that it is necessary to pull together the research community in Africa. There is a clear need for outreach and networking activities involving African scientists. CLIVAR Exchanges can potentially act as a good source for improving communication of science activities in Africa, showcasing key projects and activities and raise VACS profile. CLIVAR should also work closely with GEWEX in order to coordinate the publication of VACS topics in both Exchanges and GEWEX Newsletter in a synchronized manner. Another activity that has already started before the meeting is the development of an email list for distribution of related news and events.

ACTION: CLIVAR to develop a thematic issue on Africa climate science for Exchanges, and collaborate with GEWEX on publication of articles on Africa climate science in both Exchanges and GEWEX Newsletter in a synchronized manner (ICPO)

ACTION: Build on the development of an email list for distribution of news and events on African science (ICPO)

Members of the panel spent some time discussing the need of a larger event that would aim at bringing experts together to discuss solutions to climate priorities in Africa. The target group for such conference would be climate experts and funders, in addition to end users of climate products. One point made clear is that the organisation of such event should be staged in conjunction with review articles that VACS is proposing.

ACTION: Develop proposal for a conference in 2012-13 on the African climate system (A. Tall to build proposal, J. Mutemi to contribute, P. Lamb to explore US funders)

One particular issue that the panel discussed at length was the interaction with CORDEX activities. CORDEX aims at generating an ensemble of high resolution regional climate simulations and future projections for Africa (first target area) based on selected CMIP5 GCMs. The CORDEX output will be potentially useful across many African regions and for use by the science, impacts, adaptation and vulnerability research communities. Although some panel members have been in contact and participating in CORDEX activities, there has not been much interaction between both groups and the panel recognises the need for stronger interaction. VACS members have found that little is known regarding CORDEX activities, and that those that have not been well documented or advertised. It will be important to request from WCRP clarification and details on where information on CORDEX activities can be found.

CORDEX is the process of generating a large dataset from its activities but at the moment, there is some uncertainty from panel members if those datasets will be available for general use or if it can only be used by researchers already linked to the project. VACS panel members would like to have access to the data since it can be very useful for model diagnostics that would support VACS activities. In the same context, CORDEX datasets can also be valuable in order to integrate and expand GEWEX hydrological datasets.

ACTION: Request CORDEX data for model diagnostics (R. Anyah)

ACTION: Request CORDEX data for integration with GEWEX hydrological data (R. Anyah, GEWEX IPO)

With the availability of CORDEX datasets and CMIP5 model runs, there is scope for the update of the VACS African Climate Atlas (<http://www.geog.ox.ac.uk/~clivar/ClimateAtlas/>). The panel considers this an important activity and strongly support this activity.

One particular focus, for VACS and GEWEX is the joint use of CORDEX data as a springboard for mutually benefiting collaboration to develop projects on;

(i) Vegetation/ (land use/cover changes) and impacts on regional climate: Land surface-atmosphere interactions especially over the Congo Basin, Lake Victoria and entire Nile Basin, etc.

(ii) Impact of the diurnal cycle of land surface-atmosphere interactions on regional climate, including African easterly waves

ACTION: Extend the VACS African Climate Atlas with CORDEX and CMIP5 datasets (R. Washington, M. Shongwe)

Research Programmes

Panel members also discussed several research programmes that are either in place or in development, and that could be supported by VACS as an important activity that would contribute to a better understanding of the African climate system.

CORDEX Intraseasonal analysis (R. Anyah to lead)

The CORDEX-Africa is spearheading and bringing together climate change scientists and users from adaptation community together in order to take advantage of the CORDEX initiative. Whereas the primary focus of CORDEX-Africa is to coordinate and customize high-resolution climate change projections for different adaptation communities in different parts of Africa, another benefit of CORDEX data of relevance to VACS would be to deploy the multi-model ensemble data for process studies and investigate some of the outstanding climate science questions on the African climate system. To facilitate this, the VACS panel agreed that it would require a close cooperation (perhaps sanctioned at the highest level of WCRP) between CORDEX-Africa and VACS in order to share data and information. For VACS, CORDEX data would form the first-of-its kind regional climate model data at 50km resolution that can be useful for diagnostic studies by scientists across the continent to address key climate science questions hitherto not clearly understood, but critical in the predictability and prediction of the African climate from sub-seasonal to inter-annual time scales. Some of these issues that a process-driven studies utilizing CORDEX data could focus on include, but not limited to,

(i) Topographic influence on the regional climate

(ii) Convergence of flows originating from surrounding tropical Oceans and the atmospheric circulation control on precipitation processes. This could include specific focus on delineation of moisture sources that contribute to regional climate, with respect to; Indian Ocean moisture sources, Atlantic Ocean moisture sources, and Tropical (Congo) Forest moisture sources.

(iii) The influence of the cross-equatorial low level, Somali Jet on the intra-seasonal and seasonal climate variability

(iv) The physical and dynamical drivers of the East African “dipole mode” pattern on Greater Horn Africa precipitation characterized by drying/wetting south/north of the equator

(v) Surface-atmosphere coupling and impacts on regional climate: The role of land-ocean coupling over west Africa, the Horn of Africa, and southern Africa with regard to, Land surface forcing, Ocean surface forcing,

(vi) Vegetation/ (land use/cover changes) and impacts on regional climate: Land surface-atmosphere interactions especially over the Congo Basin, Lake Victoria and entire Nile Basin, etc.

(vii) Impact of the diurnal cycle of land surface-atmosphere interactions on regional climate, including African easterly waves

(vi) Groundwater water process and how they are impacted by regional climate variability

(vii) Fluctuations of the Lake Victoria levels and how they are associated with rhythms of regional climate patterns and global climate regimes.

(viii) The dynamics of the African and Asian monsoons and their relationships with rainfall variability over parts of Africa

(ix) Regional and local scale circulation processes including Congo Air mass alongside meso-scale systems.

Lake Victoria hydrologic budget process demonstration study (F. Semazzi to lead)

Already well developed research programme on Lake Victoria, with a feasibility study that has identified major weaknesses in the provision of meteorological services for marine navigation safety and exploitations of natural resources in the Lake Victoria basin. Based on the feasibility study results, a plan has been developed for the enhancement of the meteorological services. It comprises three projects.

Navigation Early Warning System (NEWS) Pilot Project: The objective of this project is to test a pilot system for the provision of early warning alerts for fishermen navigational needs, based on the prediction of severe weather and hazardous marine conditions over Lake Victoria. The main legacy for climate studies will be the implementation of a sustained observing system in the area.

Hotspots Atlas Project: one stop atlas, with provision of basic meteorological information including CORDEX-based climate projection products, and sector-specific climate information for several industries (fisheries, marine navigation, tourism, agriculture, etc...)

Marine and Atmospheric Special Observing Period (SOP): it will address the common need among the research and operational communities to develop a joint, limited-period observational network to be sustained by the Eastern African Countries governments through intergovernmental funding arrangements after the SOP. This project will help to fill a major gap in the GEWEX Regional Hydroclimate Projects over East Africa.

ACTION: Circulate the draft science plan for a comprehensive observational demonstration project at Lake Victoria basin for comments from panel members (F. Semazzi)

Thresholds of Change (R. Washington to lead)

Since the establishment of the United Nations Framework Convention on Climate Change in 1992, which in Article 2 declares its goal as the avoidance of ‘dangerous anthropogenic interference’ (DAI) with the climate system (UN 2009:4); international negotiations have sought concentrations of greenhouse gases and associated global mean temperature (GMT) level to which climate change should be limited in order to avoid DAI. Over 100 countries have settled on a ‘2°C guardrail’. The 2°C was founded on the results of the Second

Assessment Report (SAR) of the Intergovernmental Panel on Climate Change (IPCC) in 1995, which projected serious impacts from a scenario with a GMT increase of 2°C by 2100. Fifteen years later, 2°C was reaffirmed in the Copenhagen Accord.

The majority of climate prediction research has presented the impacts of global warming in “time slices” with the ability to identify changes averaged over 2080-2100, but not to isolate the impact of 2°C, let alone compare 2°C with 1°C or 3°C. Policy-makers can develop adaptation strategies for specific decades, but are not able to judge what degree of global warming might be dangerous from a regional perspective. Previous work may therefore be valuable for planning, but less so for mitigation. Consequently, international debates about whether to limit global warming to 1.5°C or 2°C have taken place without scientific backing and could continue to do so, as the Copenhagen Accord contained an intent to reconsider 1.5°C in 2015 (UNFCCC 2010). It is therefore in response to a pressing political need that this studies which map African climate change onto degrees of global warming are needed.

Weather and Extremes Attribution (R. Washington to lead)

The link between climate change and extreme weather events is central both to the formulation of evidence-based adaptation policies and to assessment of the true cost of human influence on climate. Recent studies have tried to quantify the role of changing atmospheric composition in observed weather events, such as the 2003 European summer heat-wave, the 2000 UK floods and the 2010 Russian heat-wave. Africa has not been part of these studies. The overall approach is to simulate, accounting for uncertainties, the statistics of weather in the observed climate and of the weather that “might have been” without specific external drivers of climate change. Robust attribution modelling will have significant socio-economic consequences in terms of environmental justice and migration alone. An ultimate goal in Africa is the development of an attribution inventory of extreme events in Africa that is robustly developed and which is not methodologically dependent.

Southern African research programme

There has been a lot of activity and several projects have been developed in Southern Africa. Several of these research projects can clearly benefit from coordination with VACS and need to be entrained. Also, VACS needs to serve as a centre for information so that researchers involved in those projects become aware of other activities in the region and similar activities in other African regions.

ACTION: Report to panel members on the status of projects in Southern Africa (M. Rouault)

Panel business

The WCRP JSC has requested that VACS propose what panel members believe is the best framework for WCRP activities in Africa, including where the panel would be in WCRP’s

organisational structure. After discussion, and with the proposed science priorities in context, panel members would suggest that VACS should be renamed “African Climate Panel” and would still be under CLIVAR. However, the panel recognises that a strong interaction with GEWEX is necessary for the accomplishment of the science priorities.

ACTION: Report to WCRP JSC the suggestion of organisational structure for the panel and name change to African Climate Panel (ICPO, Chair)

MEETING PARTICIPANTS

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Appendix 1: Meeting Agenda

VACS Panel Agenda: Cape Town 21-23 November 2011

Venue: Department of Oceanography, RW James Building, University of Cape Town

Day 1: Monday 21 November 2011

0830 Bus leaves Waterfront in Cape Town for UCT campus

0915 Welcome, Introductions and Orientation (Richard Washington and Mathieu Rouault)

0930 Panel Meeting Aims and Objectives (Richard Washington)

Discussion of meeting aims & objectives and final comments on agenda

0945 WCRP – CLIVAR & GEWEX and the Africa Panel (Nico Calabiano - CLIVAR, Sam Benedict - GEWEX, Willem Landman – WGSIP, Fred Semazzi - JSC)

Aim: Overview of new directions within WCRP – consequences for regional panels and immediate requirements from panels – notably VACS.

1030-1100 Coffee and Tea

1100 Current African Climate Activity: Overview of current climate related activities and programmes in Africa. Maximum 5 minutes per item.

Aim: Brief synopsis of key programmes and initiatives in Africa to provide context for subsequent agenda items, particularly VACS activities. ‘Programmes’ is broadly defined. It is expected that programmes are multi-annual and multi-institutional. Please indicate the central aims, African institutions involved and the level of involvement, status of each programme, funding sources, etc.

Also for consideration: how should VACS interface with these programmes effectively? Do we wish to actively promote some of them? For example, the list below might form the basis for a table on the VACS webpage.

Programme	Description	VACS rep	Presented by?
ACMAD	Activities in ACMAD	Yes	Mohammed Kadi, Arame Tall, Ernest Afiesimama
ICPAC	Activities in ICPAC	Yes	Joseph Mutemi
SADCC	Activities in SADCC	?	Mxolisi Shongwe
CLIMDEV	Major multi-million dollar Pan-African programme on African Climate linking ECA-AU and AfDB. Progress slow.	In the set-up phase, but not now. Contact needs to be made.	Richard Washington + anyone else!
ClimDev_AfriClimServ	A support from AfDB to African Climate Institutions.		Mohammed Kadi/ Arame Tall

	30 Millions US Dollars grant for such project to strengthen the capacity of 4 institutions (ACMAD, ICPAC; DMC/SADC & AGRHYMET) 2011-2014		
AEWACS/ VIGIRISC)	A 4 million Euros project conducted by ACMAD funded by many partners and mainly the French FEM with 2 M. Aims to build climate services in 4 sub Saharan regions		Mohammed Kadi/ <i>Arame Tall</i>
<i>WASCAL</i>	Aims at strengthening the research, educational and policy capacity and competency of West-African countries..... to deal with issues of climate change through adapted land use on a scientific basis..... in partnership with German institutions		<i>Mohammed Kadi/ Arame Tall</i>
Lake Victoria Basin: Weather and Climate Services		Yes	Fred Semazzi
DFID-Met Office Africa programme	Multi-million dollar Pan-African programme with key focus on improving climate model simulations of African climate. Has capacity development component.	Yes, on steering comm. And Project Assurance Team	Richard Washington
AMMA2	Follow on to AMMA	Yes	Richard Washington/Arame Tall/Ernest Afiesimama
Fennec	Major multi-million dollar observational and modelling programme on central Sahara with key links to WAM	Yes	Richard Washington
RCOFS	Regionally staged climate outlook forums	Yes	Joseph Mutemi, Simon Mason
CORDEX	Regional downscaling project with key domain over Africa	Initially yes, but contact not direct. Needs attention	Mxolisi Shongwe

Vulnerability and Capacity Assessments	Red Cross and UNISDR	Yes	Arame Tall
CCAFS	Multi-million dollar programme with 2 of 3 initial regions in Africa (West and East) on Climate change and Food Security but with strong interests on interannual timescales	Yes	Richard Washington
NOAA	East Africa Programme		Sidney Thurston
ACMAD	Key directions	Yes	Arame Tall
ICPAC	Key directions	Yes	
SADCC	Key directions	Indirectly?	Mxolisi Shongwe

1230-1400 Lunch in University Club (in Sports hall building, a short walk from Oceanography Department)

1400 Science Priorities in Africa: Presentations

Aim: Panel members present her/his top three climate science priorities for Africa. Justification for choice is required. Maximum of 20 minutes per presentation. In some cases it may be appropriate for panel members to join forces to offer a regional perspective. In other cases, panel members will present her/his own perspective. It is strongly recommended that you consult with colleagues who are engaged in African climate work prior to the panel meeting.

Ernest Afiesimama
Richard Anyah
Mohamed Kadi
Peter Lamb
Simon Mason
Joseph Mutemi
Mathieu Rouault
Fred Semazzi
Mxolisi Shongwe
Arame Tall
Richard Washington

1600 Tea and Coffee

1620 Science Priorities Continued/Discussion and Consensus

It may be necessary for working groups to be formed to develop science priorities.

1700 Day 1 Close:

**Panel Members to continue informal discussion of science priorities and sleep on ideas.
Bus leaves UCT campus for Waterfront in Cape Town**

Day 2: Tuesday 22 November 2011

0830 Bus leaves Waterfront in Cape Town for UCT campus

0900 Consensus on Science Priorities: Production of Final List

Aim: Derive a consensus of priorities.

Final Discussion. Four writing teams to record the priorities. Priorities to form basis of review paper.

1030-1100 Coffee and Tea

1100 VACS Activities and Actions

Aim: To develop a set of actions and activities with named panel members as champions to take the action forward.

Each panel member will be called up to present their preferred action/activities

In addition to a declared set of climate science priorities for Africa, VACS needs to develop a set of activities and actions. Some of these actions and activities may be in support of the science priorities but this does not need to be so. In each case, the outputs (tangible products which we as a panel will produce directly) and the outcomes (consequences for the African climate community) need to be clear. Some may be defined in relation to the climate science priorities.

The list below, which builds on VACS panel discussions earlier this year, is offered to begin the process. Discussion is by no means restricted to these.

- 1) Goal: **Framework of agreement for the construction of a monthly gridded temperature and rainfall data set** for the continent. The existence of a gridded data set unlocks research on modes, mechanisms, predictability, model capability – in fact it underpins much of climate research. Rainfall is particularly important to stakeholders. Note that the aim does not feature the actual creation of a gridded data set – this is a research task and needs to be funded. But what hampers funding of such research efforts at the moment is that agencies are sceptical of the task given the many barriers to obtaining agreements from custodians of data. VACS could make a major contribution to the diplomacy necessary to set up such a task and make it viable. With its links to regional centres, VACS has the potential to take this forward. A champion within the VACS panel is needed.
- 2) Goal: **Portal/mechanism to make CMIP5 and similar data (CORDEX?) available to African researchers.** VACS developed ‘The African Climate Atlas’ which is a menu driven system for plotting basic climate data. There are several such portals. The CMIP3 component of the Atlas, which offered ensemble mean model data, has been heavily used within Africa. The Atlas could be extended to more recently released data sets. Other mechanisms/portals could be considered.
- 3) Goal: Catalogue of **observed climate change in Africa.** Both detection and attribution studies are needed, partly to steady potentially damaging claims about popularly accepted examples of anthropogenic climate change on the continent. ‘Catalogue’ might be a step too far – framework for research might be more appropriate or at least ‘promotion of’. This is a highly visible issue. Needs champion. Note ‘weatherathome’ experiment.
- 4) Goal: **Seasonal, Intra-seasonal and decadal Prediction.** Major focus for >10 years and locus of attention within African climate community. Specific goal needs to be discussed. Champion needed.
- 5) Goal: Documentation of successful **application of climate science information in Africa.** To help climate science to pay for itself in Africa, examples of successful

application are needed. Some key work ongoing. What can VACS do to promote this work further?

- 6) Goal: **Consensus on climate change**. CMIP3 led to numerous studies on projected climate change in Africa. Many studies were overlapping and some contradictory. A lot of replication led to wasted funds, particularly in consultancy work. Need to do better for CMIP5. Probably strong overlap with CORDEX. What mechanisms can VACS put in place?
- 7) Capacity development in African climate science now has an established history. There are numerous ongoing, overlapping efforts. Oversight of the history of these efforts, the funders involved and the resulting products are not easily obtained. VACS may play a key role in documenting capacity development, polling for needs and steering strategic development.

1230-1330 Lunch in University Club

1330 Resume Discussion of VACS Activities and Actions

1600 Tea and Coffee

1615 Overview and Discussion of Activities and Actions thus far

1700 Day 2 Close

Panel Members to continue informal discussion of panel actions and activities and sleep on ideas.

Bus leaves UCT campus for Waterfront in Cape Town

Day 3: Wednesday 23 November 2011

0830 Bus leaves Waterfront in Cape Town for UCT campus

0900 Review of Actions and Activities

0930 Writing teams record Actions and Activities

1100 Coffee and Tea

1115 Presentation of Final list of Actions and Activities

1200 Meeting Summary (Nico Caltabiano)

Any Other Business

1300 Meeting Closes