

**Date:** Thursday, November 9, 2006

**Attendees:** Rebecca Boger, Roelof Bruintjes, Dave Gochis, Stefanie Hermann, Paul Kucera, Arlene Laing, Ben Lamptey, Mitch Moncrieff, Raj Pandya, Mohan Ramamurthy, Bob Roesch, Mel Shapiro, Tom Warner, Marianne Weingroff, Tom Yoksas,

**Purpose:** Decide upon components of proposal to UCAR President's Council

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#### I. General points and questions

- Would the 200-300K target budget include NCAR/UCAR overhead?
  - A. We will prepare a budget as if it does not.
- Need to distinguish between fast track and slow track projects both in terms of how they will meet the evaluation criteria laid out in the agenda and in terms of proposal to UCAR and future proposals to NSF
- Proposed projects should be of clear benefit to African people & UCAR, and should build on existing UCAR expertise without requiring significant ramp-up
- Very important to collaborate with current AMMA, NOAA, & WMO efforts so as to be sure we are not duplicating existing programs.
- Importance of timing, Ben Lamptey heading back to Ghana potentially to hold high level meteorological position; we should be setting up projects that Ben could then watch over in Ghana
- Disseminating products to stakeholders must be specifically addressed in any proposal.
- Need to assess constituency rather than sector before creating products, focus on designing programs that will identify and respond to needs, rather than focus on creating products
- NSF willing to fund bringing together scientists and defining scientific priorities, but often offers less support for international capacity building. Usually NSF eager to fund conferences.

#### II. Synopsis of Ideas

- A. Mohan Ramamurthy- Extending data sharing bi-directionally through UNIDATA (specifically real time meteorological data, global data with a regional emphasis, and data from GTS and WMO), would not require much money
  - Applications to education and policy
  - Form of capacity building in information technology, technology transfer, community building
  - Audience is universities and researchers (at the moment, universities and researchers in Africa often lack access to meteorological data)
  - UNIDATA would be a good network for disseminating and distributing data throughout Africa
- B. Funding for UCAR scientists to attend Jan 2007 WMO Ouagadougou meeting
  - Roelof will be attending and running a workshop during the time between the African Economic Forum and WMO meeting. He will use current funding to

- make proof of concept regarding integrating radar data into UNIDATA and presenting it at the workshop
- Send 4 or more UCAR folks to the meeting, in order to provide some very hands-on demonstrations of our ideas and “ground truth” the discussion at UCAR.
  - Would be an ideal vehicle to bring education and outreach partners (GLOBE, COMET) into the discussion
- C. Updating and maintaining Mali and Burkina Faso radars =100K
    - Much discussed in previous meetings, group was familiar with this idea
  - D. Case study of 1-2 monsoons
  - E. Support MIT Radar for 1-2 years, tied to a science project and to be used as a bridge (low priority project)
    - The group expressed reluctance to pay for MIT radar for one more year, would rather invest in radars that will stay in country
  - F. Tom Warner- Improve operational weather prediction in West Africa, set up mesoscale model prototype at NCAR with 15km resolution to test physics and forecasts and provide products to African Stakeholders. This proposal includes purchase and delivery of an 8 node PC cluster, modest travel, and monitoring
    - Would make datasets available to stakeholders (universities and forecasters)
    - Overall goal of Africans running models, tailoring needs, creating outputs
    - Some time pressure, as Millennium Challenge Corporation has 5 million earmarked for initiatives in Ghana improving environmental agricultural forecasting. In order to be eligible for grant one must have presence in Ghana already with demonstrated commitment. Thus, need to start this project now so that we can apply for larger grant.
    - Alternately, talk to SCD about helping set up first cluster here in Boulder, bringing Ghanaians to NCAR to train on cluster and return to operationalize.
  - G. Survey of UCAR universities and their activities in Africa with goal of working with university researchers and building on their current connections rather than creating our own from scratch. Also foster connections with AMMA, recognizing that some UCAR universities are already working in AMMA-US. = 20K
    - Penn State already has a well developed network in Africa (climate is small portion of this).
    - We have unique products to offer but we need to bring them through existing efforts
  - H. a research component to link the radar data and the modeling. There is a need to do more than deliver products but rather to evaluate the mesoscale scale model using regional radar data: assessing whether the model is reproducing the properties of the precipitation, e.g., rain rates, propagation statistics, diurnal cycle, and organizational model of convection. This would be a long-term evaluation that leads to improvements in the model parameters, with collaborators in Africa
  - I. Long term visitors from Africa to UCAR
    - Greg Holland of MMM willing to fund visitor to work on **data analysis (?)**
  - J. Paul Kucera: Funds to invest in maintaining rain gauges in Senegal, community based model =10-15K

- GLOBE can connect in with education around community involvement and upkeep of rain gauges.
- K. Learning about what African universities have done to collaborate, to prioritize together, and integrate ideas, and furthering that effort. Goal of building relationships through domestic and African universities in order to build Pan African radar network
- L. COMET modules to be distributed via CDrom, internet, or paper
- M. Marianne Weingroff- DLESE portal for African weather
- N. Rebecca Boger- GLOBE will work with whatever projects are pursued in order to bring in educational products and community engagement

### III. Consensus & Action Items

- Team will prepare proposal for November 17<sup>th</sup> Presidents Council Meeting
- Initial proposal will include:
  - Updating and maintaining Mali and Burkina Faso radars (C above)
  - Improving operational weather prediction in West Africa through a mesoscale model prototype. (F above)
  - Aspects of UNIDATA data sharing will be incorporated into both of these projects. (A above)
  - 25K allotted to send UCAR scientists to January meetings in Africa and to survey current effort by UCAR universities, AMMA, and WMO. (B, G, L, M, N above)
  - Long term visitor to UCAR and support of rain gauges in Senegal (I above)
- Roelof, and Tom will each write one page summary of their projects, and Arlene and Mel will write an introductory page laying out a long-term science vision and societal impact, by Tuesday 11/14/07. Mohan will work with Roelof and Tom to integrate in data sharing.
- Everyone will send Annaliese news of upcoming Africa weather conferences so they can be posted on AI website
- Raj will present the groups recommendation to the President's Council on 17 November.

### IV. General Discussion

- Need to carefully highlight different aspects of program for different funders.
- In order to address criteria #5&6 (on the criteria used to evaluate ideas) we should highlight US AMMA, and bring them to NSF's attention. Much of the work defining the scientific questions of global significance that depend on African data and participation. These questions include the global impact of Sahel on everything from coral reefs to ocean layers to Amazon fertilization and aerosols; these are important global questions that can only be answered by building capacity in Africa in weather and climate research