

## WMO Severe Weather Forecasting Demonstration Project

### NCEP Report February 2008

The National Centers for Environmental Prediction (NCEP) acts as a global center for the WMO SWFDP. The African Desk of NCEP located at the Climate Prediction Center (CPC) has been expanded since the fall season of 2006 to include short and medium range weather forecasting for Africa in support of the SWFDP. The African Desk has since continued to deliver routine NWP products from the NCEP global forecasts system (GFS) and the global ensemble forecast system (GEFS) to National Meteorological and Hydrological Services (NMHSs) via the Internet. Two web sites specifically tailored to the needs of weather forecasters in southern Africa have been developed. For a quick reference, the addresses are:

For GFS: [http://www.cpc.ncep.noaa.gov/products/african\\_desk/swdfp/day0/00/gfs.shtml](http://www.cpc.ncep.noaa.gov/products/african_desk/swdfp/day0/00/gfs.shtml)

For GEFS: [http://www.cpc.ncep.noaa.gov/products/african\\_desk/swdfp/day0/00/gfs\\_ensm.shtml](http://www.cpc.ncep.noaa.gov/products/african_desk/swdfp/day0/00/gfs_ensm.shtml)

The ensemble web page is being improved. Rainfall forecasts expressed in terms of probability of exceedance for week-1 have recently been added. Additional ensemble products will follow.

The curriculum of the African Desk training program has also been expanded to include a weather component. During Fiscal Year 2007 from October 2006 to September 2007, four professional meteorologists from South Africa, Tanzania, Botswana, and Mozambique received training in the weather section of the African Desk. They learned how to use and interpret NCEP NWP guidance and how to use ensembles in operational weather forecasting. They further received training on how to access and download NCEP GFS historical data to perform case studies. In Fiscal Year 2008, the African Desk has so far hosted two visitors from Tanzania and Madagascar in its weather section and a third visitor from Mozambique is expected to arrive in March 2008. As part of the training, the visitors write daily forecasts bulletins that are posted on the African Desk web site and shared with forecasters in Africa. The trainees have also been working on case studies.

The demand for the African Desk residency training program is far greater than NCEP's capacity to provide it. Hence, as part of the US contributions to the WMO Voluntary Cooperation Program (VCP), NWS organized a joint workshop with the South African Weather Service (SAWS) in October 2007 on weather research forecast modeling (WRF) and the use of ensembles in operational weather forecasting. The goal of the workshop was to help build capacity at NMHSs on limited area modeling and to teach participants techniques to incorporate ensemble products in the forecast decision. Both the WRF and the ensemble training were hands on, and heavily geared towards practice, based on case study exercises from southern Africa during the 2006-2007 rainy season. This training effort is viewed as complementary to the SWFDP training program. All training materials are being made available to the public through the African Desk web site. Web links to both the WRF and the ensemble training materials are available on the African Desk web site:

[http://www.cpc.ncep.noaa.gov/products/african\\_desk/workshop/workshop.shtml](http://www.cpc.ncep.noaa.gov/products/african_desk/workshop/workshop.shtml)

NWS is also working with UCAR/COMET to turn the training materials into COMET online distance learning NWP modules with focus on southern Africa.