



IGAD Climate Prediction & Application Centre  
P O Box 10304, 00100 Nairobi, Kenya; Tel: 254-20-3514426  
E-mail: [director@icpac.net](mailto:director@icpac.net) Website: [www.icpac.net](http://www.icpac.net)

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## **TERMS OF REFERENCE**

### **REGIONAL NUMERICAL WEATHER PREDICTION (NWP) EXPERT**

#### **1 Background**

The IGAD Climate Prediction and Applications Centre (ICPAC) is a specialized Institution of the Inter-Governmental Authority on Development (IGAD). The mission of ICPAC is to foster climate services and knowledge to enhance community resilience for prosperity in the Greater Horn of Africa

Hydro-meteorological hazards account for over 90% of disasters of natural origin in Eastern Africa region, impacting most socio-economic sectors and nearly every country. These hazards have several unique characteristics, including being recurrent and trans-boundary in nature; hence regional impacts. They are caused or aggravated by climate and therefore are highly sensitive to climate variability and change.

The Satellite and Weather Information for Disaster Resilience in Eastern Africa (SAWIDREA) Eastern Africa project component has been prepared with a regional wide coverage to provide the National Meteorological and Hydrological Services with relevant data and numerical prediction capability to facilitate provision of severe weather early warning in order to meet the needs of Disaster Risk Management. It will contribute to improved livelihood in the region through reduction of risks related to severe weather in building resilience and adaptation capacity of the communities. It is funded by African Development Bank within the framework of Climdev-Africa Special Fund (CDSF).

#### **2. The objectives of the project**

- i. To enhance NWP regional capacities including assimilation of high resolution satellite data;
- ii. To enhance capacities of the NMHS in the Horn of Africa to receive NWP model or to run national-scale NWP model in order to raise relevant warnings of extreme weather events to their respective DRM agencies;
- iii. Demonstration on the use of severe weather forecasts in risk management (e.g., flood prevention) and expand the use of lesson learned on all the territories through NMHS.
- iv. Support to the Regional Climate Outlook Forum for integrating DRM aspects.

#### **3. Duties of the Regional Numerical Prediction Expert**

- To establish, Numerical Weather Prediction system at ICPAC;
- Review WMO pilot Severe Weather Forecast Demonstration Projects (SWFDP);
- Post processes the NWP model ensemble data and create archive mass store of the model runs. Prepare map patterns of the NWP model outputs for the eastern Africa region and assess skills of key NWP models;
- Develop Extreme Forecast Indices (EFI) for key weather parameters;
- Design techniques to translate EFI into severe weather forecasts;
- Support the National Meteorological and Hydrological Services (NMHSs) to strengthen NWP capacity;

- Build capacity of the region in sub-seasonal to seasonal predictions of extreme weather and climate;
- Develop a vision for the medium term and long term evolution of such systems and their use in generation of severe weather forecasts;
- Define and develop, whenever feasible, justifications and scenarios for the development of emerging application systems using Numerical Models and observations;
- Establish a list of the observations/geophysical parameters (including characteristics) available from Ensemble Prediction System (EPS) and Meteosat Second Generation (MSG) required for initialization and validation purposes.

#### **4. Language Skills**

Proficiency in English Language is required, and French language skill is an asset

#### **5. Functional Responsibility**

The Regional Numerical Weather Prediction Expert will report to the Project Team Leader

#### **6. Duration**

The duration of the assignment will be for two (2) years with a possibility of renewal.

#### **7. Remuneration**

A Lump sum amounting to Euro 4410 per month without any other benefits.

#### **8. Qualification and experience**

- PhD degree in Meteorology with specialization in NWP;
- Five (5) years of working experience in operational NWP;
- Evidence of good knowledge and applications of NWP models

#### **9. Key Skills and Competencies**

- Excellent computing skills under Unix and Linux operating systems, including working with Fortran and other compiled computer languages such as. C, C++, Java, etc. are necessary
- Good programming systems
- Ability to communicate effectively orally and in writing
- Ability to prepare written reports in a clear, concise and meaningful manner
- Ability to work with minimum supervision

#### **10. Work Station**

ICPAC in Nairobi, Kenya. Missions to IGAD member states might be necessary.

Applications in the form of a Motivation letter, detailed CV with at least 3 references should be sent to the ICPAC Director ([director@icpac.net](mailto:director@icpac.net)) by close of Business 30 September 2017.

Only shortlisted candidates will be contacted.

**Dr Guleid Artan**  
**DIRECTOR**