

The South African Weather Service (SAWS) is a Section 3(a) public entity under the Ministry of Environment, Forestry and Fisheries (DEFF) and is governed by a Board. The organisation is an authoritative voice for weather and climate-related services in South Africa and is a member of the World Meteorological Organisation (WMO) to fulfil a range of international obligations of the government. SAWS strives to be a Weather and Climate Centre of Excellence, providing innovative solutions to ensure a weather-smart region, sustainable development, and economic growth.

The South African Weather Service is therefore seeking to appoint an efficient and enthusiastic person to undertake the role of:

**Scientist: Software Maintenance**

**Salary: Negotiable**

**Research Unit, Pretoria**

**Two Year Fixed Term Contract**

**(Ref: WS15/092024)**

**Job Summary**

Support the Research Department by ensuring that Numerical Weather Prediction (NWP) models, preprocessing, and postprocessing software needed to run the models and ensure software needed to develop products are running efficiently. This role involves optimizing, updating, and upgrading existing operational systems, data flows, and programming codes. In addition to contributing to the design and development of cutting-edge software solutions, the candidate will have the unique opportunity to assist in enhancing operational infrastructure performance, scalability, and reliability. The software scientist will also develop protocols to integrate scientific Research-to-Operational (R2O) tools within various forecasting systems. Experience in NWP modelling, supercomputing, dashboard development, data management, and systems monitoring will be highly beneficial for performing these tasks.

## **Key Performance Areas**

### **The candidate will be required to:**

- Participate in designing, developing, and implementing software solutions to address complex and time-sensitive challenges of producing numerical weather forecasts and products, as well as research and development.
- Conduct relevant research and experimentation to explore new technologies, algorithms, and methodologies.
- Collaborate with the design and implementation of data management systems and software tools for acquiring, storing, processing, and analysing meteorological, environmental, and geographical.
- Develop and maintain software applications, algorithms, and models for computing and visualising forecast products, ensuring accuracy, reliability, and scalability.
- Integrate software components with existing systems and data sources, ensuring compatibility and interoperability with relevant meteorological and environmental databases and platforms.
- Employ best practices in software development, version control, and documentation to ensure the reproducibility and traceability of research and analysis activities.
- Collaborate with senior scientists and researchers to understand software requirements, provide technical expertise, and contribute to the optimisation of systems.
- Stay informed about advancements in software development, data management, and scientific computing to identify opportunities to improve process efficiency and effectiveness.
- Write clean, efficient, and maintainable code, adhering to coding standards and best practices.
- Document technical specifications, design decisions, and implementation details for future reference and knowledge sharing.
- Troubleshoot, debug and resolve software issues and performance bottlenecks in collaboration with the operations team.

## **Minimum Requirements**

- An appropriate Honours graduate degree (e.g., Computer Science, Software Engineering, Environmental Science, or related fields, e.g. Atmospheric Science and Meteorology).

- Programming skills in at least one programming language (e.g., Python, Java, C/C++, JavaScript).
- Familiarity with supercomputing technologies and parallel computing concepts.
- Basic understanding of dashboard development using tools like Tableau, Power BI, or Grafana.
- Understanding of code version control processes and systems (e.g. Git).
- Knowledge of data management principles and practices, including storage, retrieval, and processing.
- Exposure to monitoring tools and techniques for tracking system performance and data quality, as well as,
- Basic knowledge of optimising and upgrading existing operational systems, data flows, and codes will be beneficial.

### **Behavioural Competencies**

- Excellent written and verbal communication skills, with the ability to work effectively in a collaborative team environment.
- Strong organisational skills and attention to detail, with the ability to contribute to multiple tasks and projects simultaneously.

### **Please Note:**

Register as user on our website using this link: <https://www.weathersa.co.za/home/vacancies> to apply for the above position and upload your (Comprehensive CV with certified copies of qualifications).

Enquiries for the above-mentioned positions must be directed to: Ms Thembisa Bixa, at Tel. (012) 367 6091.

**Closing Date: 11 October 2024**

Preference will be given to People living with disabilities in line with SAWS EE targets. This is an EE position and preference will be given to females, Africans, Indians and Coloureds (AIC). Correspondence will be limited to short listed candidates only. Candidates who have not been



contacted within 3 months after the closing date of this advertisement, please accept that your application was unsuccessful. The South African Weather Service is an equal opportunity employer.

<b>Record Reference</b>	HCM-READVERT-
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