

**WMO OMM**

World Meteorological Organization
Organisation météorologique mondiale
Organización Meteorológica Mundial
Всемирная метеорологическая организация
المنظمة العالمية للأرصاد الجوية
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Subject: Towards the Operational Phase of ClimWeb

Dear Sir/Madam,

As part of World Meteorological Organization (WMO)'s ongoing effort to support its members, the Regional Office for Africa with the kind support of NORCAP (part of the Norwegian Refugee Council) led the development of a prototype Content Management System (CMS, known as ClimWeb) as part of the digital transformation of National Meteorological and Hydrological Services (NMHSs) effort. ClimWeb is an open-source software package that contains a website template, a Common Alerting Protocol Alerts Composer (CAP Composer), and data visualization tools, among other functionalities – allowing the NMHSs in the region to easily setup a modern, user-friendly, and services-oriented website. It was developed following an agile approach, and actively engaged experts from NMHSs throughout a pilot phase, allowing the creation of a solution tailored to meet the specific operational needs of the NMHSs in the region. I would like to thank NMHSs that contributed to the co-design and implementation of ClimWeb on their servers. The developed ClimWeb is an open-source under the MIT license and is hosted on GitHub at <https://github.com/wmo-raf/nmhs-cms>. The user guide is available at: https://nmhs-cms.readthedocs.io/en/latest/_docs/Home.html.

While the Regional Office for Africa lead the design and development of this prototype up to now, it is important to realize that once the handover to the NMHS is complete, the responsibility on the proper function of this software, the hosting, the domain name registration and Secure Sockets Layer (SSL) certificates, the configuration and the utilization of the tools, the operational procedures to update it, the cyber security protections that need to be installed, as well as procedures for backup and contingency plans lies with the NMHS. Hence, I warmly recommend that the above functionalities and responsibilities be properly allocated to the appropriate staff in the NMHS and that the proper procedures be written down and put in place. The Regional Office will be happy to consult you about the proper way to get prepared to perform these tasks independently.

Your IT experts are also invited to engage with the software development process by suggesting new features or improvements via our GitHub repository: <https://github.com/wmo-raf/nmhs-cms-init>, and tracking upcoming updates and new releases in the product backlog: <https://github.com/orgs/wmo-raf/projects/2>. The current CMS is available for pre-operational use and the first operational version of the ClimWeb (version 1.0) is planned to be released in December 2024.

I am delighted to inform you that after a series of iterations, feedback integration, and bug-fixing, the CAP composer has been updated to its latest and most robust version, improving both the efficiency and reliability of the warning dissemination process. Yet, the CAP composer's integrity does not ensure that warnings will be issued and disseminated properly.

It is the responsibility of the NMHS to set up the procedures and guidance for the forecasters on when and how to issue warnings - on which phenomena, on which thresholds, how to set their various attributes (such as urgency and severity), how to set their validity

To: Permanent Representatives of Togo, Benin, Mali, Burkina Faso, Malawi, Sudan, South Sudan, Niger, Seychelles, Burundi, Chad, Zimbabwe, Ethiopia, Ghana, Kenya, Guinea Bissau, The Gambia, Democratic Republic of Congo. (Limited distribution).

time and geographical extent, when to amend them, when to cancel them etc. The NMHS is of course also responsible for the various warning dissemination pathways, including backups and validation that the warnings had arrived at the intended recipients. The Regional Office will be happy to consult you about the proper way to establish proper warning procedures, and how to adopt best practices in the needed interactions with the emergency authorities and the public before and during a significant weather event (following the guidelines of SERCOM).

I would like to take this opportunity to thank you again for your support and commitment to this important project. Your partnership has been instrumental in creating a tool that will benefit not only your country but also many others around the world.

Please direct all comments you may have to Dr Mariane Diop Kane, Programme Manager of the Regional Office for Africa (mdiopkane@wmo.int).

I thank you for your continued support in promoting the activities of WMO, working together to serve the public good.

Yours faithfully,

A handwritten signature in black ink, appearing to be 'C. Saulo', written in a cursive style.

Prof. Celeste Saulo
Secretary-General