EMS Annual Meeting Abstracts
Vol. 16, EMS2019-748, 2019

Competencies based innovative learning solutions for co-development of Climate Services in West Africa

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Since the establishment of the Global Framework for Climate Services in 2011 by the World Meteorological Organization (WMO), many initiatives have been implemented to support developing and emerging countries, particularly vulnerable to meteorological and hydrological extreme events, in the establishment of weather and climate services.
Funding agencies are sustaining this effort allowing a wide spreading collaboration among European institutions, including National HydroMeteorological Services (NHMS) research centers, universities, and homologue institutions in developing countries. Operationally, the implementation of climate services in developing countries is mainly pivoted on NHMS, even if with some exceptions and collaborations with other public or private organizations. According with the Status of Human Resources in NHMS, unmet learning demand impacts more than 20% of the global NMHS workforce.
The global scale of learning needs for climate services calls for innovative solutions and a range of flexible modalities to reach learners in a variety of ways, and for sharing resources and successful strategies within the global education and training community. In order to harmonize learning expected outcomes, WMO defined a competency framework for climate services, which can be used to implement training initiatives and knowledge-sharing tools and to allow key users to hone their skills and competencies.
This paper presents the strategical and methodological approach adopted in the implementation of the TOPACs, a new Knowledge-Based Distance Learning Initiative, developed with Moodle Platform using the COMPETENCY FRAMEWORK functionality. TOPACs originated from the recommendation of main stakeholders in West Africa, the Directors of Meteorological Services of 17 CILSS/ECOWAS Countries at the International Conference on Climate Services for West Africa in Rome, Italy, early 2019.
The main goal is to build Knowledge & Skills through customizable learning paths within the Climate Services Competencies framework of WMO ensuring coherence with other WMO education initiatives (Global Campus, other RTCs, etc.).
The methodological approach adopted is based on the competency-based approach to training, where competencies are composed by elements of Knowledge and Skill, according also with the European Qualifications Framework for Lifelong Learning. The WMO Climate Services competencies framework represents the competence level of the taxonomy of ToPacs. The overall taxonomy has been co-designed with stakeholders at different levels, while the learning paths are a further interactive opportunity for co-development of climate services within the ToPacs learning ecosystem, taking into account users' needs already risen thanks to WMO RTC previous training courses and those that will arise in the future. Indeed, the approach aims also to guide further instructional strategies and assessments and become a starting point to build a common language enabling a better cooperation and exchange between the different Climate Services training initiatives.