Royal Netherlands
Meteorological Institute
Ministry of Infrastructure and the Environment

RCC-development and the CREWS initiative

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The Climate Risk and Early Warning (CREWS) initiative aims to build seamless multi-hazard early warning systems and risk information capacities in developing countries. The initiative is supported by development of WMO RCCs, providing information on climate-change-related risks from extreme events, such as heat waves, extreme precipitation, and coastal flooding. A draft plan is written for a CREWS project, twinning European and African Meteorological Services, that includes the development of RCC-node proving climate data for Western Africa.

The International Climate Assessment & Dataset (ICA&D) aims to provide quality-controlled regional climate datasets and monitoring information; all key products of WMO RCCs. ICA&D builds on the software developed for the European Climate Assessment & Dataset (ECA&D) and is already applied in four regions of the world. ECA&D is the system for WMO Region VI, SACA&D for WMO Region V (Southeast Asia), and LACA&D for WMO Region III (Latin America).

ICA&D serves as a climate monitoring tool for climate change studies, and as a web portal for daily station data and derived indices brought together in regional cooperation. Maps of gridded daily data are constructed providing basic climatic information for applications in sectors like water, health and agriculture. ICA&D is a showcase for GFCS.

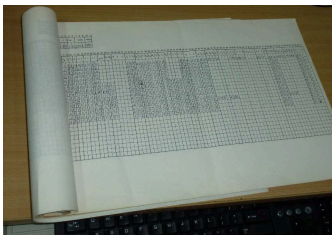

***Figure 1**: Data rescue activities within ICA&D support the development of climate services*

Europe – ECA&D is developed in a collaboration between European Met. services and universities providing daily data for inclusion in a central database. ECA&D has been operational since 1998.

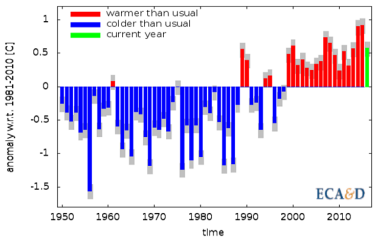

***Figure 2**: Annual mean European temperature based on ECA&D*

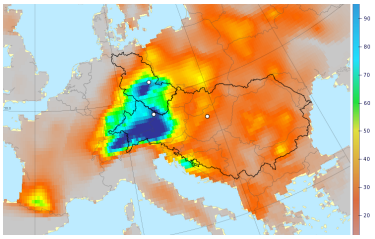

***Figure 3**: Extreme precipitation observed in Spring 2013 leading to large-scale flooding of major European rivers (from ECA&D)*

Southeast Asia – SACA&D is led by the Indonesian and Dutch meteorological institutes, BMKG and KNMI, in collaboration with 16 countries in Southeast Asia.

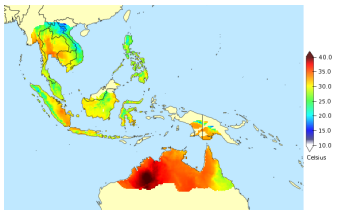

***Figure 4**: Maps of daily temperature based on ±4000 stations in Southeast Asia*

Combining regional networks of stations, allows to monitor e.g. the trends of extremes of key climate variables and indicators. SACA&D is used to investigate the relation between health, food security, and climatic change in the region.

Latin America – LACA&D is the ICA&D-concept applied to South America, hosted by CIIFEN, Ecuador.

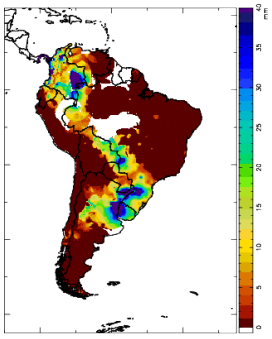

***Figure 5**: Precipitation on 12/10/2007 based on LACA&D*

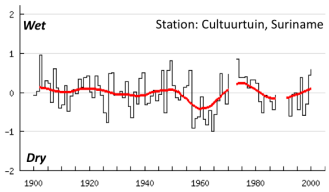

***Figure 6**: Climate indicator for drought (source: LACA&D)*

CREWS RCC-twinning

The Climate Risk and Early Warning Systems (CREWS) initiative, launched at the Paris Climate conference in 2015, aims to significantly increase the capacity for Multi-Hazard Early Warning Systems (MHEWS). The focus is on LDCs and SIDS to enable them to issue crucial warnings to national and local authorities and residents.

In this context, a plan is drafted to improve the regional and national capacities for MHEWS, by strengthening National Meteorological and Hydrological Services (NMHSs) through twinning WMOs' RCC network in Europe and West Africa. If approved, the plan will provide for a regional implementation of ICA&D at ACMAD making available essential climate information and analyses of high-impact weather extremes, serving the NMHSs and other authorities in West Africa.

Other building blocks of the proposed project include short-term and seasonal forecasts, climate projections, capacity building and institutional strengthening

***Figure 7**: Capacity building by hands-on training and lectures assist in the set-up of regional ICA&D systems and part of the RCC-twinning initiative in CREWS*

Additional information:
ECA&D: www.ecad.eu
SACA&D: sacad.database.bmkg.go.id
LACA&D: lacad.ciifen.org
CREWS: newsroom.unfccc.int/media/ 454809/climate-risks-early-warning-systems-flyer.pdf
WMO-RCCs: http://www.wmo.int/pages/prog/wcp/wcasp/rcc/rcc.php