

African Water Authorities Training EO

Around 30 water authorities from more than 15 African countries gathered in Nairobi, Kenya, from 26 to 30 November, to attend an advanced ESA TIGER training course on utilising Earth Observation technology to overcome water-related problems.

The course provided an overview of the different applications of Earth Observation (EO) technology for improving integrated water resource management, with special attention placed on the needs of Africa. European and African experts discussed various topics, such as catchments characterisation, hydrological modelling, water quality and drought forecasting.

The training course was organised in collaboration with ITC (International Institute for Geo-Information Science and Earth Observation), the African Water Facility (AWF) of the African Development Bank and the World Hydrological Cycle Observing System (WHYCOS), a programme of the United Nations' World Meteorological Organization (WMO).

ESA launched the TIGER Initiative in 2002 following the World Summit on Sustainable Development in Johannesburg. The initiative's primary objective is to help African countries overcome problems faced in the collection, analysis and dissemination of water related geo-information by exploiting EO technology.

Water resources are scarce across Africa where the hydrological network is the world's least developed. Water resources are also unevenly distributed across the continent, with western and central Africa enjoying much higher rainfall than Northern Africa, the Horn of Africa and southern Africa. The Democratic Republic of Congo has a quarter of all African freshwater on its territory, while arid Mauritania has just 0.001%.

During the last few years ESA and its partners (Committee on Earth Observation Satellites (CEOS), United Nations Educational, Scientific and Cultural Organization (UNESCO), the UN-Water/Africa group, the African Development Bank and more than 100 African representatives from water authorities, universities and technical centres) have been working together under the auspices of African Ministerial Conference on Water (AMCOW) developing the capacity in Africa to improve integrated water resource management by exploiting the advantages of EO technology.

For instance, ESA is currently working with water authorities in Egypt and the Lake Victoria Basin to design, develop and implement EO-based capacities for the operational monitoring of water quality in Lake Manzalah and Lake Victoria. Because lakes are a precious source of freshwater, the usage of lake water must be carefully managed to satisfy a variety of different, and often competing, domestic, agricultural and industrial uses.

These projects will both provide a set of comprehensive water quality products derived from EO data on turbidity, chlorophyll-a concentration, suspended sediment concentration, aquatic vegetation cover and reclaimed areas.

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