GlobWetland Africa: Implementing Sustainable Earth Observation Based Wetland Monitoring Capacity in Africa and Beyond

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Hide abstract

Lack of data, appropriate information and challenges in human and institutional capacity put a serious constraint on effective monitoring and management of wetlands in Africa. Conventional data are often lacking in time or space, of poor quality or available at locations that are not necessarily representative for wetlands. Therefore, the Ramsar secretariat, the global coordinating body of the Ramsar Convention on Wetlands, has long recommended making more use of new and innovative technologies, such as those offered by remote sensing. Yet, access to suitable remote sensing data for monitoring wetlands in Africa has also traditionally been constrained either because of high costs or, especially in Equatorial Africa, owing to frequent cloud cover. To meet these challenges the European Space Agency has launched GlobWetland Africa as a major initiative to facilitate the exploitation of satellite observations for the conservation, wiseuse and effective management of wetlands in Africa and to provide African stakeholders with the necessary EO methods and tools to better fulfil their commitments and obligations towards the Ramsar Convention on Wetlands.

The main objective of GlobWetland Africa (GW-A) is to provide the major actors involved in the implementation of the Ramsar Convention of Wetlands in Africa with EO methods and tools to better assess the conditions of wetlands under their areas of jurisdiction/study, and to better monitor their trends over time. To this end, an open source wetland observing system, referred to as the GW-A Toolbox, will be developed, implemented and validated for a series of geo-information products over a number of representative pilot sites in North, West, Central and East Africa. The GW-A toolbox unifies proven and stable open source software into a single graphical user interface that will enable the users to: [i] access and exploit Sentinel data and other relevant contributing missions e.g. ERS, ENVISAT, Landsat and ALOS; [ii] operationally map, assess and inventorize wetlands through a number of dedicated wetland information products and indicators needed for effective wetland management and decision support, [iii] receive a freely available, open, flexible and modifiable framework for easy establishment of new wetland observatories, for easy integration in existing observatory infrastructures and for easy adaptation to new requirements, e.g. changes in management processes.