

IAF EARTH OBSERVATION SYMPOSIUM (B1)
International Cooperation in Earth Observation Missions (1)

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INTER-CONTINENTAL COOPERATIONS AND SYNERGIES ON GEOSPATIAL APPLICATIONS
TO SUPPORT WATER RESOURCES MANAGEMENT AND WATER SUSTAINABILITY IN AFRICA

Abstract

Every year, millions of people, including children, die from diseases caused by lack of water, sanitation, and hygiene. Water is an essential resource for food production. The growth of crops requires large amounts of water. Without sufficient, good quality, and easily accessible water, agri-food production is threatened. With over two billion people living without clean water and around four billion people suffering from severe water scarcity for at least one month a year, achieving water for all is a huge challenge. And, coupled with a growing world population and climate change, it will likely become even more difficult. Through remote sensing and ground-based techniques, Earth observation can support global efforts for clean and accessible water for all and water quality monitoring. Geospatial data from Earth observation satellites helps provide accurate geospatial data, thereby increasing capacity building, investments in water technologies, sanitation management, and international cooperation. Earth observation also helps analyze global water cycles, map rivers, and monitor and mitigate the effects of floods and droughts. The right amount of irrigation is, of course, a primary factor in keeping crops healthy. Using geospatial technologies, crops suffering from water stress can be identified, even before visible signs of damage have appeared. Sustainable water management helps support global development and reduce diseases caused by water pollution or lack of clean water. To support the sustainable management of water, natural resources, environmental monitoring, and food security, the EU-Africa partnership has led to the commitment to provide European infrastructures and installations to African, Caribbean, and Pacific (ACP) countries, by improving decision-making through the use of Earth Observation (EO) data within the framework of the Copernicus program. Geospatial technologies are also used to monitor the amount of water used for irrigation to ensure that water use remains sustainable. The geospatial data provided by satellites also helps to understand natural disasters such as floods and to understand the migratory factors of droughts, thus making it possible to predict future disasters, and therefore to limit the damage.