



Development of services for irrigation management: the experience with the users

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Irrigated agriculture is the main user of freshwater resources (30% in Central Europe, 60% in the South). Efficient water management is therefore of essential importance, especially where water scarcity and water quality are becoming severe challenges. To achieve a successful and effective use of resources, farmers and water managers require easy-to-use decision support tools and reliable information. Our approach is based on Earth observation (EO) techniques and decision support tools. Generally, the service concept is based on two main components: i) the processing of time-series of high spatial resolution (10-30-m pixel size) images from satellite, currently available from public and commercial data providers, to timely monitor the crop growth and to estimate the crop water requirements throughout the growing season; ii) the adaptation and integration in local management practices & tools of easy to use geo-spatial technologies to make the information available to users and to support the decision-making process in near-real-time. The participation and feedback we receive from the users is fundamental to develop and provide easy-to-use technologies that can be embedded in standard approaches.

In this paper, we briefly describe some examples of pre- and fully operational applications at field and irrigation scheme level and report some success stories of cooperation between decision makers and scientists. The paper includes the outcomes of ongoing activities such as Irrisat (www.irrisat.it), a regional operational service supported by rural development funds in Southern Italy and EO4Water (www.eo4water.com), a case study of knowledge and technology transfer in Eastern Austria funded by the Austrian Space Application Programme.

The new capacities we develop to assist farmers in monitoring their crops are a step towards a better integration of tools and production. More technical advice and recommendation regarding sustainable land and resource use could then be given in the future. The concept exposed here would be beneficial for farmers by providing detailed information for further allocation of resources (investments, work-load, infrastructure, etc.) and in creating comprehensible data for the irrigation decisions process.