FP7 GLOWASIS – A COLLABORATIVE PROJECT AIMED AT PRE-VALIDATION OF A GMES GLOBAL WATER SCARCITY INFORMATION SERVICE

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keywords: drought, water scarcity, GMES, forecast

The main objective of the project GLOWASIS is to pre-validate a GMES Global Service for Water Scarcity Information. It will be set up as an open data one-stop-shop portal for water scarcity information, in which focus is put on:

- monitoring data from satellites and in-situ sensors;
- improving forecasting models with improved monitoring data;
- linking statistical water data in forecasting;
- promotion of GMES Services and European satellites.

In European and global pilots on the scale of river catchments it will combine hydrological models with in-situ and satellite derived water cycle information, as well as government ruled statistical water demand data. With existing platforms European Drought Observatory and PCR-GLOBWB for medium- and long-term forecasting, GLOWASIS' information will contribute both in near-real time reporting for emerging drought events as well as in provision of climate change time series. More awareness for the complexity of the water scarcity problem will be created and additional capabilities of satellite-measured water cycle parameters can be promoted.

The service uses data from GMES Land and Marine Core Services, in-situ data from GEWEX' initiatives, agricultural and industrial water use and demand (statistical) and additional water-cycle information from existing global satellite services.

The project runs until December 2012 and with partners Deltares (coordinator), CNR-ISAC, ECWMF, JRC, NEO, University Utrecht, TU Wien, TNO, University of Santiago de Compostela, IMGW, and University of Kwazulu-Natal.

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MANAGING AGRICULTURAL SYSTEMS FOR BIODIVERSITY CONSERVATION

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Agricultural systems impact heavily on the conservation of biodiversity but, nevertheless, farming landscapes host a large share of the planet's biodiversity. It is necessary to raise awareness of the role of biodiversity components in agricultural systems in order to foster adapted agricultural management practices. Some of the linkages between agriculture and biodiversity are: co-evolved wild species depend on agro-ecosystems; wild species and natural habitats are directly or indirectly linked to agro-ecosystems; wild species' genomes may contribute to the continued productivity and quality of crop species.

An important goal of ecological compensation measures in agricultural areas is the conservation and enhancement of regional biodiversity. However, the main constraint needed for the effectiveness of these measures is the existence of remnants of natural and semi-natural habitats (and vegetation). They can contribute to regional biodiversity as: essential habitats for specialised species, stepping stones and potential of vegetation restoration.

We have studied agricultural land use and land cover changes in an olive agro-system in Estepa (Andalusia, Spain) during the last 50 years. To quantify these changes we have used landscape metrics (Fragstats 3.3) and transition matrices. Results have shown an increase of olive crops (mostly irrigated), a decrease of arable lands and a decrease of native vegetation. In order to enhance biodiversity, remnant patches of natural or semi-natural habitats (and vegetation) provide the most important source populations and potential restoration of native vegetation. An agricultural landscape planning should be focused on conserving farm genetic resources, agricultural ecosystem services and biodiverse agricultural landscape.

Keywords: agri-environment schemes, ecological restoration, landscape management, olive crops