



## **Center for Advanced Studies, Research and Development in Sardinia, Italy**

CRS4 is an interdisciplinary research centre developing advanced simulation techniques and applying them, by means of High Performance Computing, to the solution of large scale computational problems in science and engineering, and developing innovative applications in the field of the Information and Communications Technology.

Since 1992, the Environmental group (today named Energy and Environment Program) of CRS4 has gained extensive experience in developing highly effective environmental applications by means of numerical modelling, and GIS-DB technologies. The CRS4 activities in this field are today centred on the development and application of numerical models (soil and water contamination, superficial hydrology, extreme events and hydrogeological risk) and other computational tools, such as Geographical Information System, Relational Database, and Decision Support Systems, for the analysis of environmental data and for the simulation of the dynamics of hydrological and meteorological state variables. Specific skills are focused on the development of web based portals for the environmental sciences and application of numerical models, large scale simulations and high performance and parallel computing solutions.

### **The project will essentially be implemented by:**

- Ernesto Bonomi (Advanced Master's degree in Physics and Ph.D. in Theoretical Physics) is the Director of three highly-motivated groups (Imaging and Numerical Geophysics, Water Resources and Management, and Process Engineering and Combustion), which include about 20 research staff, developing and applying numerical simulation models and data analysis tools for earth exploration and imaging, hydrology and territorial planning, meteorology, and chemical and combustion processes.
- Pierluigi Cau is an hydraulic engineer graduated at the University of Cagliari. Researcher for the Water Resources Management group, Energy and Environment Program of CRS4, since 2000.
- Simone Manca is a software engineering for CRS4 since 2000. He has worked in more than ten years projects on C/C++, scripting language, GIS (Geographical Information System) and environmental applications
- Marino Marroccu (Degree in Nuclear Physics at the University of Cagliari) is a senior researcher since April 2003 and head of the Water Resource Management Area.
- Andrea Piras. (Master's degree in Computer Science Technologies, University of Cagliari) is a researcher in the Network Distributed Applications area of CRS4.

- Giuditta Lecca is a senior researcher of the Hydrology and Water Resources Management Group of CRS4 where she has been working since 1992. She got a degree in Civil Engineering at the University of Cagliari in 1991.

### **Role in the project:**

CRS4 is involved in the gridification of SWAT in task 2.5 of WP2. The main role of CRS4 is to lead the “Black Sea Catchment Observation System for decision-makers” task in WP6 and the related deliverables.