General objectives: The scientific aim of the EnviroGRIDS project is to assemble an observation system of the Black Sea catchment that will address several GEO Societal Benefit Areas within a changing climate framework. This system will incorporate a shared information system that operates on the boundary of scientific/technical partners, stakeholders and the public. It will contain an early warning system able to inform in advance decision-makers and the public about risks to human health, biodiversity and ecosystems integrity, agriculture production or energy supply caused by climatic, demographic and land cover changes on a 50-year time horizon.

Technical objectives: The generic technical objectives of the EnviroGRIDS project are to:

- run a gap analysis of existing regional observation systems to prepare recommendations for improvement of networks of data acquisition in each region/country,
- build capacity on observation systems in the Black Sea catchment,
- improve regional network to coordinate the efforts of partners active in observation systems
- link, gather, store, manage and distribute key environmental data,
- develop the access to real time data from sensors and satellites,
- create spatially explicit scenarios of key changes in land cover, climate and demography,

- distribute large calculations and datasets on large computer clusters,
- streamline the production of indicators on sustainability and vulnerability of societal benefits,
- provide a standard for integrating data, models and information and communication tools,

- provide policy-makers and citizens with early warning and decision support tools at regional, national and local levels.
- produce innovative tools to visualize and interpret data and results of integrated models,
- alert citizens concerning exposure to environmental risks,
- build capacities in the implementation of many new standards and frameworks (INSPIRE, GEOSS, OGC,..).

Beyond state-of-the-art: EnviroGRIDS is clearly going beyond the state of the art in the Black Sea region by adopting a catchment approach and by tackling several societal benefits areas together. By using the most powerful computer network of the world it is clearly showing the direction on how to analyse the increasing amount of global data made available throughout the planet. It is bringing crucial information in a relatively data-poor region on future scenarios of expected climate, demographic and land cover changes. Based on the outputs of these scenarios it is building geoprocessing services in key societal benefits areas that will be

connected back to the GEOSS.

Main innovations:

- Contribute to free publicly-funded data through interoperable databases and services
- Streamline data process from data warehouses, to scenarios, hydrological models, impacts assessments and finally to disseminations tools.
- Use grid enabled computer technology to store and analyse environment data
- Gridify the code of hydrological model calibration and validation
- Create regional scenarios of development in function of expected climate, land cover and demographic changes
- Build efficient virtual and life trainings on EnviroGRIDS main topics
- Make available useful open source software and data on DVD and on Internet
- Raise public and decision-makers awareness through innovative collaborative systems
- Provide an early warning system to inform the citizens and decision-makers on environmental vulnerability and risks associated to selected Societal Benefit Areas