EnviroGRIDS - Black Sea Catchment Observation and Assessment System supporting Sustainable Development

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Objectives:
Infrastructure of massive environmental data for Black Sea Catchment Basin. Calibrate and execute large scale and high resolution distributed hydrological models. Parallel and distributed processing of huge spatial data over Grid infrastructure (e.g. hydrological models, and satellite images). Develop early warning and decision support tools at regional, national and local levels
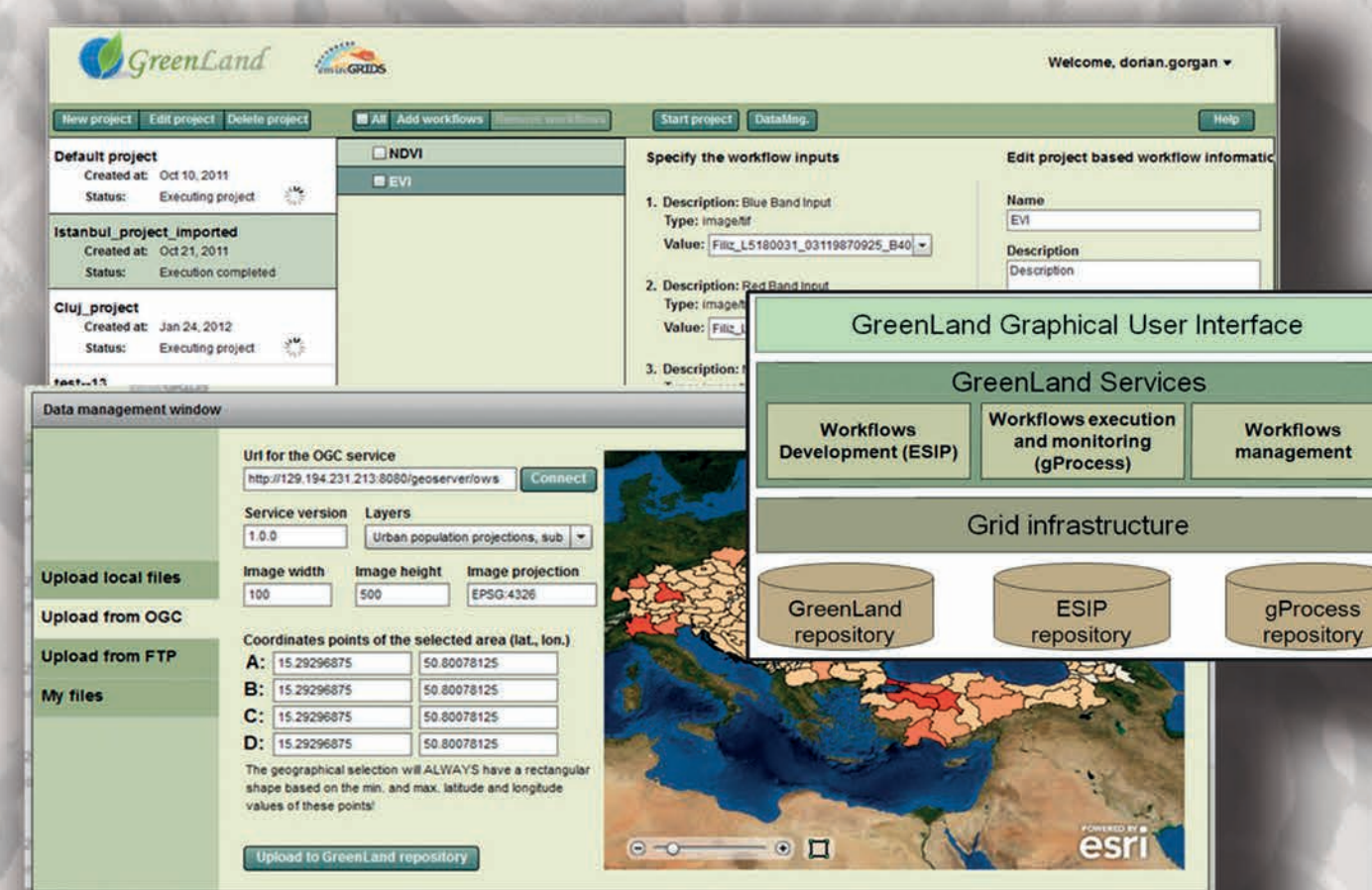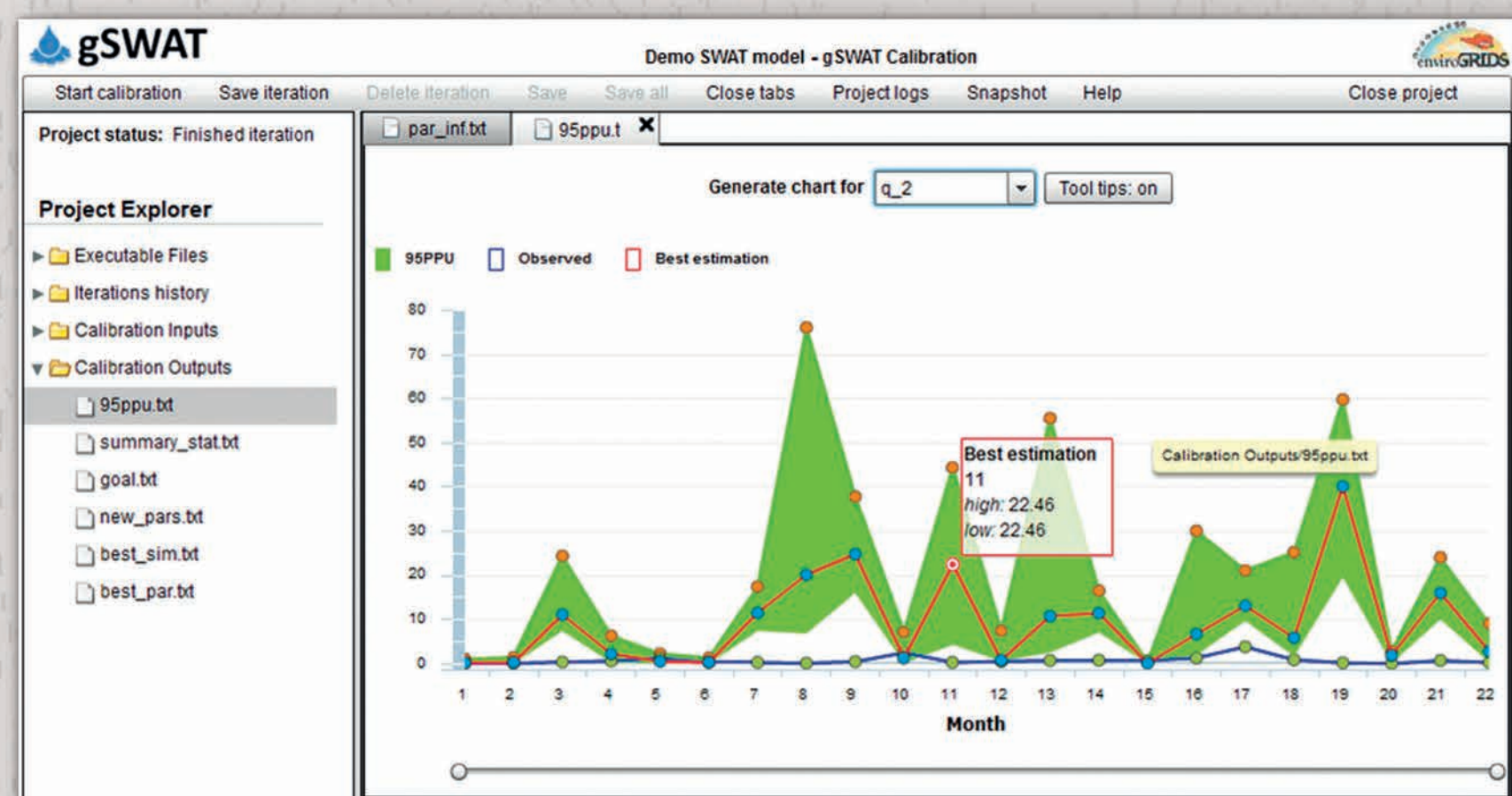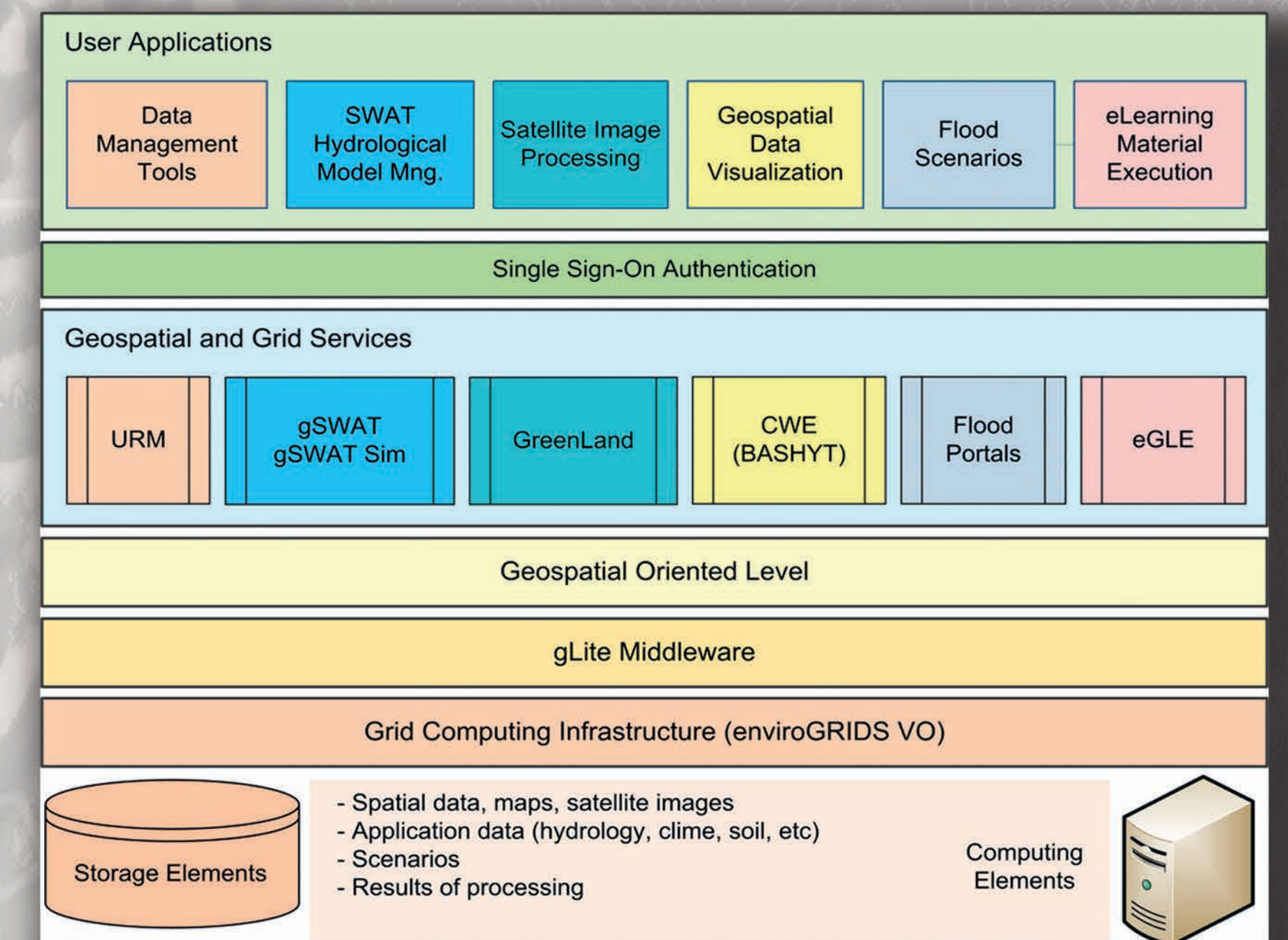
Achievements:
Support interoperability between the Geospatial and Grid infrastructures on security, heterogeneous data access, and distributed data processing. Spatial data processing over high performance computation infrastructure (i.e. Grid, Cloud, Multicore, Cluster). First calibrated SWAT model of the Black Sea Catchment Area and Danube River. Provide the Black Sea Catchment Observation System (BSC-OS) Portal and applications to Earth Science community. Develop Grid based environment oriented tools and applications for Black Sea Catchment Basin:

gSWAT – platform and application allowing the user to calibrate and execute the SWAT hydrological models in a flexible and interactive manner by taking advantage of the Grid infrastructure.
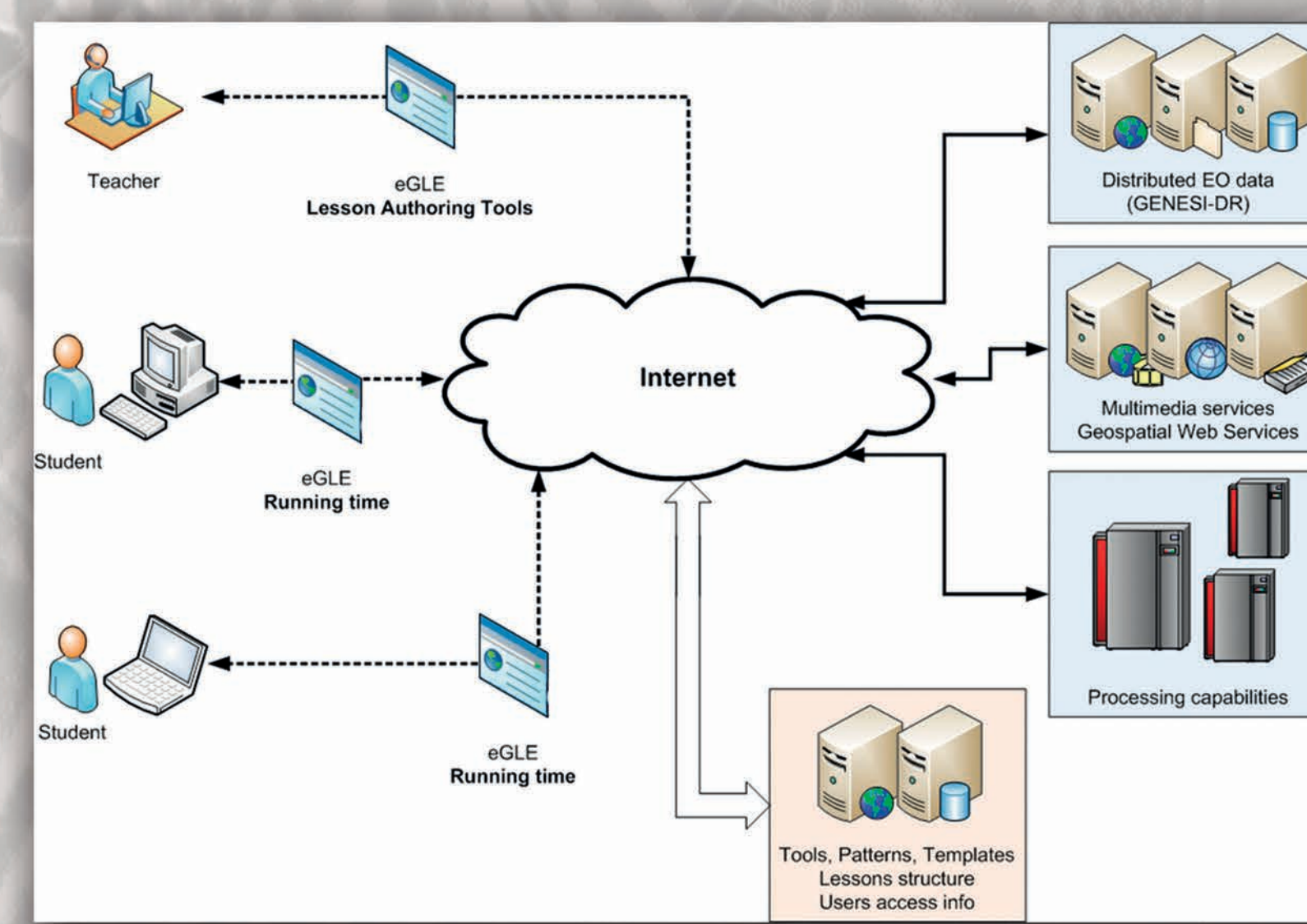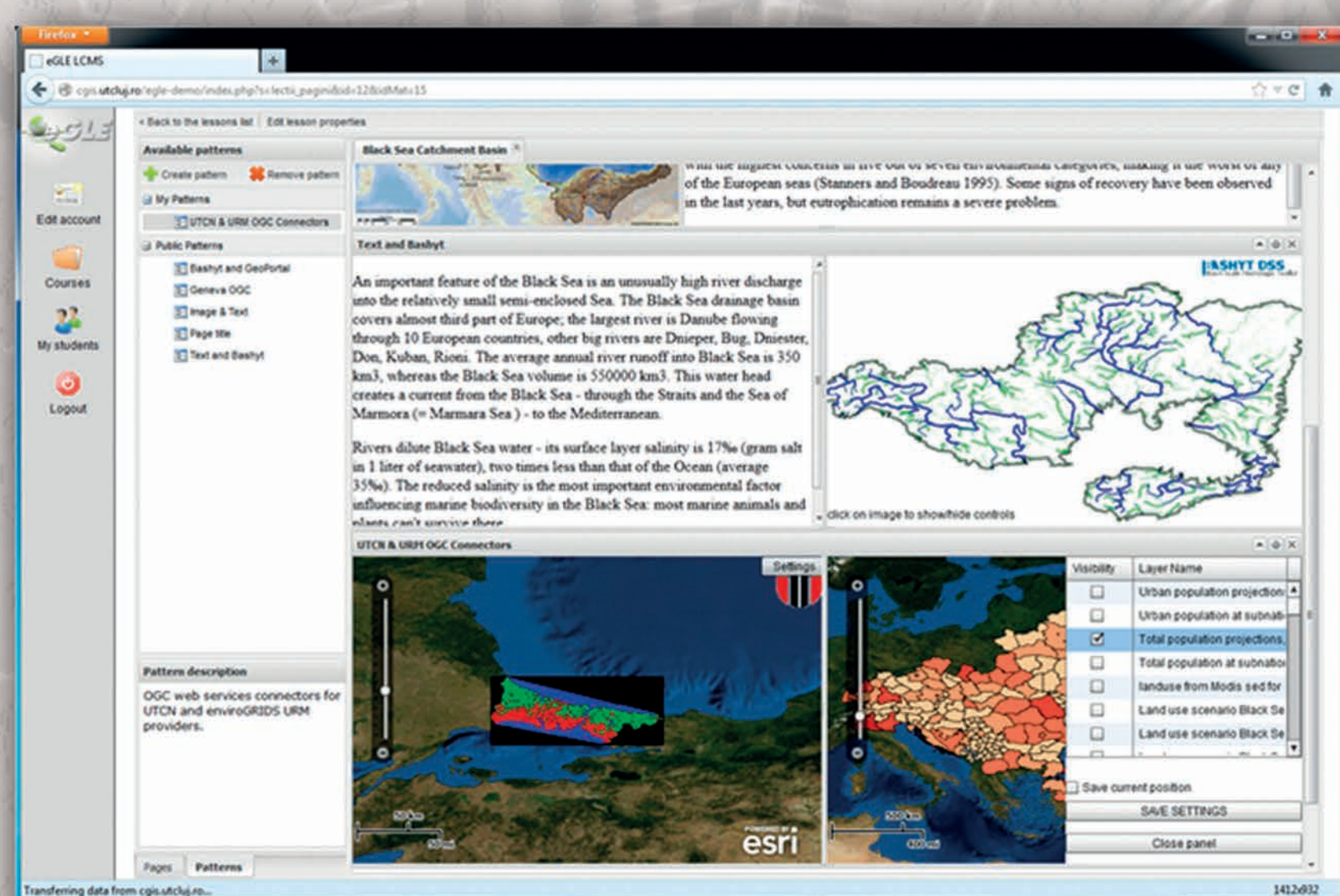gSWATSim – is a collection of Web services supporting the Grid based calibration and execution of the SWAT hydrological models.

GreenLand – platform and application for Grid based satellite image processing and visualization.

eGLE – eLearning Platform for Earth Science domain.

Application fields:
Earth Science data processing over high performance computation infrastructures, software platforms development for sustainable environment.
Dissemination:
More than 40 papers published in journals and conference proceedings. Tutorials on enviroGRIDS tools and applications in Delft, Sofia, Thessaloniki, Batumi, Rabat, Novi Sad and Istanbul.
Related projects:
BIGEARTH - Flexible Processing of Big Earth Data over High Performance Computing Architectures. PECSA - Experimental High Performance Computation Platform for Scientific Research and Entrepreneurial Development. GISHEO - On demand Grid services for high education and training in Earth observation.