



The EGEE earth sciences & geophysics communities support five specific domains: Geoscience, Hydrology, Earth Observation, Climate, and Solid Earth Physics. These two closely related communities operate two VOs: the ESR (Earth Science Research) VO is devoted to academic institutes and related partners, while EGEODE (Expanding GEOsciences on DEMand) was initiated by the private company, CGG (Compagnie Générale de Géophysique) in France and supports EGEE's first industrial application.

Each domain in Earth Science Research (ESR) has at least one application deployed on EGEE and GILDA:

- **Earth Observation** has deployed the GOME satellite to collect ozone profiles and also uses data from the ERS/SAR satellite experiment, which collects information for oil spill detection. The Grid assists the analysis of ozone profiles by providing a single computing environment for the different steps and allowing the data to be easily shared between different 'producers' and 'consumers'.
- The **Solid Earth Physics** applications deal with earthquake mechanisms and the numerical simulation of earthquakes in complex 3D geological models.
- The first **Hydrology** application on EGEE investigates the impact of exploitation uncertainty on seawater intrusion in a coastal aquifer of the Mediterranean basin, using Monte Carlo simulations based on a 3D density-dependant groundwater flow and salt transport model.
- In relation to **Climatology**, a flood forecasting application is being migrated from the CrossGrid test bed to EGEE. The application consists of a cascade of simulations that are initialised with experimental data and use meteorology, hydrology and hydraulic models to provide the results.

**Geocluster**, an industrial seismic processing solution, is the first industrial application successfully running on the EGEE Grid Production Service. It is accessible on the EGEE infrastructure through the EGEODE Virtual Organisation. EGEODE is dedicated to research in Geosciences for both public and private industrial research and development as well as academic laboratories. It enables researchers to process seismic data and to explore the composition of the Earth's layers.

EGEE is keen to consider other applications. For further information on how to participate, as well as more information about the applications running on EGEE, visit the User and Application Portal at <http://egeena4.lal.in2p3.fr/>.