

Summary of Earth Observation and Remote Sensing methods used in FP7 EOMINERS

Project Name	EO-MINERS
Concept & Method	EO-MINERS Indicators
Short description	<p>Indicators provide a metric of the state of (complex) systems or issues or for trends of their development, when measurements are repeated over time. Indicators are useful tools to reduce a complex set of diverse data into a manageable set for policy decisions and to monitor changes that policy implementation may or may not effect (but it should be kept in mind that every process of indicator selection or aggregation inevitably includes both, a gain in clarity but also a loss of information). Indicators need to have a number of qualities and properties in order to be useful and they must have a clearly defined purpose. The EO-MINERS indicators presented here are : A- Land Use, B- Mass Flows, C- Energy Flows, D- Air quality and other nuisances, E- Water Quality, F- Transport, G- Geotechnical hazards and accidents, H- Industrial and other accidents, I- Social Impacts, J- Regional development, K- Economic vulnerability.</p>
Link	http://www.eo-miners.eu/prelim_results/pr_indi_application.htm

Project Name	EO-MINERS
Concept & Method	Optical satellite data
Short description	Information about the optical satellite data of the EO-MINERS project.
Link	http://www.eo-miners.eu/earth_observation/optical.htm

Project Name	EO-MINERS
Concept & Method	Radar satellite data
Short description	Information about radar satellite data of the EO-MINERS project.
Link	http://www.eo-miners.eu/earth_observation/radar.htm

Project Name	EO-MINERS
Concept & Method	Airborne imaging spectroscopy / Airborne geophysical methods
Short description	Information about airborne imaging spectroscopy and airborne geophysical methods of the EO-MINERS project.
Link	http://www.eo-miners.eu/earth_observation/airborne.htm

Project Name	EO-MINERS
Concept & Method	Time-lapse electrical resistivity tomography (ALERT)
Short description	Information about an innovative 4D electrical imaging system known as ALERT (Automated time-Lapse Electrical Resistivity Tomography) and its use for the EO-MINERS project.
Link	http://www.eo-miners.eu/earth_observation/alert.htm

Project Name	EO-MINERS
Concept & Method	In situ Monitoring Tools
Short description	Information about in situ monitoring tools in the EO-MINERS project.
Link	http://www.eo-miners.eu/earth_observation/insitumontools.htm

Project Name	EO-MINERS
Concept & Method	Geographic Information Systems
Short description	Information about geographic information systems in the EO-MINERS project.
Link	http://www.eo-miners.eu/earth_observation/gis.htm

Project Name	EO-MINERS
Concept & Method	Geophysical methods
Short description	Geophysics is the practical application of physical methods to determine the properties of rocks, and in particular, to detect physical differences between different geological materials, whether in their natural context or worked over by man. Many of these methods were originally developed for exploration purposes, but can also be applied e.g. in a mine site remediation context.
Link	http://www.eo-miners.eu/earth_observation/eo_eof_eom_geophysical.htm

Project Name	EO-MINERS
Concept & Method	Geo- and hydrochemical methods
Short description	Chemical analytical methods aim at the identification and quantification of chemical elements, compounds and their species.
Link	http://www.eo-miners.eu/earth_observation/eo_eof_eom_geoandhydrochem.htm

Project Name	EO-MINERS
Concept & Method	Mineralogical methods
Short description	The mineralogical composition can be an important factor determining the environmental behaviour and geotechnical properties of rocks and sediments. Some of the methods described here, therefore, straddle the fields of geochemistry and geotechnics/soil mechanics.
Link	http://www.eo-miners.eu/earth_observation/eo_eof_eom_mineralogical.htm

Project Name	EO-MINERS
Concept & Method	Hydrogeological and Hydrological methods
Short description	While hydrochemical investigations address the quality of ground- and surface waters, hydrogeology and hydrology are concerned with origin and quantity of waters. The majority of investigations are carried out in the field, but may be supported by some laboratory experiments.
Link	http://www.eo-miners.eu/earth_observation/eo_eof_eom_hydrogeoandhydro.htm

Project Name	EO-MINERS
Concept & Method	Geotechnical methods
Short description	Geotechnical methods encompass the fields of rock and soil mechanics. Of relevance are the properties of the materials as such and their behaviour in the field. Compressive, tensile and shear strength are the main parameters of interest that are determined inter alia by the mineralogical composition, cementation of grains, grain-size distribution, porosity (distribution), water retention capacity etc.
Link	http://www.eo-miners.eu/earth_observation/eo_eof_eom_geotechnical.htm

Project Name	EO-MINERS
Concept & Method	Geographical methods
Short description	Information about geographical methods in the EO-MINERS project.
Link	http://www.eo-miners.eu/earth_observation/eo_eof_eom_geographical.htm

Project Name	EO-MINERS
Concept & Method	Biological methods
Short description	A wide range of methods exist to assess the state of the 'biosphere'. These methods assess the quantity and quality of faunal, botanical, and fungal constituents of ecosystems. These methods also assess the interaction between those constituents, drawing conclusions on the state of the respective ecosystem.
Link	http://www.eo-miners.eu/earth_observation/eo_eof_eom_biological.htm

Project Name	EO-MINERS
Concept & Method	Electromagnetic remote sensing
Short description	Information about electromagnetic remote sensing in the EO-MINERS project.
Link	http://www.eo-miners.eu/earth_observation/eo_eof_rst_electrmag_remote_sensing.htm

Project Name	EO-MINERS
Concept & Method	Overview of remote sensing techniques
Short description	Overview of remote sensing techniques in the EO-MINERS project.
Link	http://www.eo-miners.eu/earth_observation/eo_eof_rst_techniques.htm

Project Name	EO-MINERS
Concept & Method	Airborne - Spaceborne remote sensing comparison for optical electromagnetic sensors
Short description	Comparison of remote sensing airborne / spaceborne for optical electromagnetic sensors in the EO-MINERS project.
Link	http://www.eo-miners.eu/earth_observation/eo_eof_msa_airbourne.htm

Project Name	EO-MINERS
Concept & Method	Remote sensing methods and sensors
Short description	Remote sensing sensors vary in their platform (ground, air or space), in their spatial resolution, ground swath width, spectral resolution, spectral coverage and more. This section will give a brief description of the major EO remote sensing methods and sensors available today.
Link	http://www.eo-miners.eu/earth_observation/eo_eof_msa_methodsandsensors.htm

Project Name	EO-MINERS
Concept & Method	Forthcoming system - a short review
Short description	A short review about the forthcoming systems in the domain of remote sensing.
Link	http://www.eo-miners.eu/earth_observation/eo_eof_msa_forthcoming_review.htm

Project Name	EO-MINERS
Concept & Method	Remote sensing application
Short description	A remote sensing application in the EO-MINERS project.
Link	http://www.eo-miners.eu/earth_observation/eo_eof_msa_remote_sensing_apps.htm