



eGY and Virtual Observatories in Geosciences: Progress and Opportunities in Europe

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This presentation will define the virtual observatory (VO) as it has now evolved in areas of geoscience, explain its general concepts and the paradigm it has introduced. Within the context of the (eGY - www.egy.org): the purpose of a Virtual Observatory is to increase efficiency, and enable new science by greatly enhancing access to data, services, and computing resources. As currently implemented, a Virtual Observatory may have a single subject (for example, the European Grid for Solar Observations) or several grouped under a theme (the Virtual Solar-Terrestrial Observatory, <http://www.vsto.org/>). A Virtual Observatory typically takes the form of an internet portal and web services, offering users features among the following: Tools that make it easy to locate and retrieve data from catalogs, archives, and databases worldwide; Tools for data analysis, simulation, and visualization; Tools to compare observations with results obtained from models, simulations, and theory; Interoperability: services that can be used regardless of the clients computing platform, operating system, and software capabilities; Access to data in near real-time, archived data, and historical data; and Additional information - documentation, user-guides, reports, publications, news, and so on.

We present some opportunities for the European geosciences community to learn more about building VOs and what the future holds for the general paradigm and what potential technical challenges remain.