

EPOS for Scientists and researchers

Researchers are addressing the complexity of the Earth systems in multi-disciplinary projects examining the origin of the planet, its magnetic field, composition, structure, and evolution. Earth scientists know that it is important to consider both surface deformation and flows deep in the Earth's interior, and their interactions, in order to understand the planet. Global change highlights the impact on human society of long-term changes at the Earth's surface. The volume of data and breadth of physical and chemical processes involved demand new integrated approaches to collaboration.

Considerable advances in information technology now make an integrated approach possible, easing access to the deluge of data and products available across Earth science and related fields. Accessible datasets will bring novel cross-fertilization of ideas and leads to innovative research that is the key to future success.

EPOS delivers a strategic distributed research infrastructure which will link existing and new infrastructure and data in solid Earth science across Europe and interface with other global projects. It will promote innovative approaches for a better understanding of the physical processes controlling earthquakes and volcanic eruptions and provide fundamental data that will allow scientists to better inform society on natural hazards, such as earthquakes, volcanic events, tsunamis and major land movements.

From a scientific research perspective, EPOS will inform about the driving forces of global tectonics and associated Earth surface dynamics. From a technical point of view, the EPOS long-term integration plan consists of integrating existing national research infrastructures, such as seismic and geodetic permanent monitoring networks, in situ volcano observatories, and analytical and experimental laboratories, as well as facilities for data integration and numerical simulations. EPOS will provide open access to geophysical and geological data, and to the most advanced modelling tools, while promoting crossdisciplinary approaches to Earth science studies.

- EPOS will link research communities, including IT, through an efficient, multidisciplinary research platform
- EPOS will provide new ways to access data, quality assured metadata and tools for analysis
- EPOS will promote the development of new data products and services