

OVERVIEW

Seismology studies earthquakes and the propagation of seismic waves through the Earth and other planetary bodies.

This discipline enables researchers to model earthquake sources, probe the internal structure of the Earth, assess seismic hazards critical for mitigating risks and protecting communities.

A COLLABORATIVE FRAMEWORK

Seismology in Europe is underpinned by a robust network of national and regional observatories dedicated to continuously monitoring seismic activity and promptly disseminating vital earthquake information to governmental agencies and the public.

INFRASTRUCTURE AND SERVICES

The Thematic Core Service (TCS) for Seismology, as part of EPOS, provides standardized FAIR data services by coordinating with key European infrastructures providing open access to their services:

ORFEUS (Observatories & Research Facilities for European Seismology): seismic waveform data and metadata collection, archival and distribution in the Euro-Mediterranean region.

EMSC (European-Mediterranean Seismological Centre): Integration and rapid dissemination of seismic event information across Europe and beyond.

EFEHR (European Facilities for Earthquake Hazard and Risk): Access to data, models, and tools for seismic hazard and risk assessment.



www.epos-eu.org/tcs/seismology

SOCIETAL IMPACTS

Enhanced Hazard Assessment: Informs disaster preparedness strategies

Scientific Innovation: Provides open, harmonized data for cutting-edge research

International Collaboration and Funding: through a network of global partners

Community Engagement: Supports capacity building through workshops, training, and grants

FUTURE VISION

Adoption of next-generation sensors, real-time analytics, and advanced big data archiving and processing.

Commitment to **community engagement**, robust **data governance** and **sustainable**, global **data-sharing** initiatives.

EPOS | European Plate Observing System

A multidisciplinary, distributed research infrastructure that ensures long-term access to solid Earth science data and services, addressing some of the most pressing geo-hazard and geodynamic challenges in Europe.

