

## Wave Phenomena



The Geophysical Applications team is a talented multidisciplinary ensemble of experts in mathematics, geosciences, physics and computer science that aims to exploit the benefits of massive parallel computing for geophysical forward and inverse problems.

## Objectives

Geosciences are among the scientific disciplines which benefit the most from high performance computing. From earthquake scenario simulations to mantle convection or geophysical data processing, the dynamics of

the solid Earth can be captured by means of large scale computer models. To that goal, at BSC there is a continuous effort to develop the best strategies that combine accurate mathematical algorithms, a sound physical interpretation of geophenomena and state-of-the-art computing capacity. In particular, our long-term objectives are:

1. Research and development of algorithms for exploration, seismology, seismic engineering and other geophysical problems
2. Development of professional geophysical imaging applications for HPC environments
3. Promotion of the transfer of state-of-the-art HPC technology to the geophysical exploration industry

Barcelona Supercomputing Center - Centro Nacional de Supercomputación

---

**Source URL (retrieved on 10 Mar 2025 - 12:41):** <https://www.bsc.es/es/discover-bsc/organisation/scientific-structure/geophysical-applications>