

# SPATIAL AND TEMPORAL VARIATIONS OF THE GEOMAGNETIC FIELD

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*More than 98% of the observed geomagnetic field, referred to as the main field, has its origin in the deep interior of the Earth, due to currents flowing in the electrically conducting liquid outer core of the Earth, while the remainder arises from currents flowing in the ionized part of Earth's upper atmosphere: the ionosphere, and magnetosphere. The main field creates a cavity in interplanetary space, which is the magnetosphere that defines the region of influence of the Earth's magnetic field. Variability of the geomagnetic field over a large range of spatial and temporal scales is linked with a wide variety of physical phenomena, occurring in the interior of the earth, in Earth's atmosphere, ionosphere, magnetosphere, and on the Sun and in interplanetary space. Hence geomagnetic observations contain fundamental information about the solid Earth as well as geospace - the region of space that stretches from Earth's upper atmosphere to the outermost reaches of the Earth's magnetic field, and its relationship with the Sun. This article describes some facets of geomagnetic field variability.*

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