

Geological Survey of India [UPSC Notes]

The Geological Survey of India is one of the scientific agencies of India. It is frequently in the news, especially with regard to earthquake occurrences and other events. In this article, you can read all about the Geological Survey of India for the [UPSC exam](#).

Geological Survey of India

The Geological Survey of India (GSI) is a scientific agency established in 1851, for conducting geological surveys and studies of India, and also is the prime provider of basic earth science information to the government, industry and the general public.

- It was primarily set up as an institution to find coal deposits for railways during the British occupation.
 - After independence, GSI's activities in mineral exploration as well as baseline surveys have increased manifold with an intention to sustain the momentum of national economic development and to meet the increasing demands of various resources.
 - Later the task of GSI was stretched to the creation and updation of national geoscientific information and mineral resource assessment.
- Currently, the Geological Survey of India is an attached office to the Ministry of Mines.
- These objectives are achieved through ground surveys, air-borne and marine surveys, mineral prospecting and investigations, multi-disciplinary geoscientific, geo-technical, geo-environmental and natural hazards studies, glaciology, seismotectonic study, and carrying out fundamental research.
- GSI is headquartered in Kolkata. It has six regional offices located at:
 - Lucknow
 - Jaipur
 - Nagpur
 - Hyderabad
 - Shillong
 - Kolkata
 - State Unit offices in almost all States of the country
- The GSI is headed by the Director General, GSI.

Geological Survey of India Vision and Mission

The GSI's vision and mission are as under:

- Baseline Geoscience, Data Collection

- Systematic Geological Mapping (SGM) is the most important and basic mapping programme performed by the Geological Survey of India. It has covered 98.52% of the total mappable area of the country.
 - Multisensor Airborne Geophysical surveys are carried through Twin Otter Airborne Survey System (TOASS) and Heliborne Geophysical Survey System (HGSS) as a significant aid in exploring mineral resources, particularly base metals.
 - Natural Resource Assessment
 - GSI acknowledges the ramification associated with the increasing use of fossil fuels and thereby focuses its attention on renewable, non-conventional energy resources such as geothermal hot springs.
 - Mineral resource assessment projects include Ferrous Minerals, Base Metals, Precious Metals & Minerals, Non-Ferrous and Strategic Minerals and Industrial & Fertilizer Minerals.
 - Geoinformatics
 - The Geological Survey of India has covered almost all accessible parts of the Indian subcontinent by systematic geological mapping and through other specialised geoscientific activities. The multi-thematic data thus collected are also used for geospatial modelling for targeting mineral reserves or to solve geo-environmental problems.
 - The geoscientific data acquired by the Geological Survey of India from various field and laboratory-based investigations are disseminated to the scientific community through various categories of publications.
 - Multidisciplinary Geosciences
 - Fundamental Geoscience involves carrying out research in principal branches of fundamental Geoscience like Petrology, Palaeontology and Geochronology & Isotope Geology and allied earth science-related subjects with an aim to better understand and appreciate the earth's processes.
 - Desertification and its impact assessment, Geo-Environmental appraisal of mine and other anthropogenic contamination areas, and Arsenic and Fluoride contamination studies of groundwater in parts of the country are some of the socio-environmentally relevant studies which figure prominently in the annual programme of GSI.
 - GSI is entrusted with undertaking and coordinating landslide investigations and formulation of mitigation measures by developing strategy/methodology for all types of landslide investigations in the country.
 - Training and Capacity Building
 - GSI is engaged in the task of providing training and capacity-building programmes for the resources.
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