

# Geoscience jobs projected to grow by 14% in next decade, faster than average for all careers

Geology courses integrated with advanced pedagogy, with field-based learning may lead to diverse career options, write **Annapurna Boruah** and **Atul Kumar Patidar**



**H**ave you ever gazed at the mountains and wondered how they were formed, or have you ever thought about how water, oil, minerals, and natural gas are discovered between the layers of rocks deep inside the earth. If you are curious about the planet and have a positive mindset to help protect it, geology or geoscience could be a perfect career option for you.

Geology, also known as geoscience, is the scientific study of the Earth, its formation processes, internal structure, plate movements, rock and landform development, the mysteries of deep oceans, million-year-old fossils, past climatic conditions, natural resources, causes of natural disasters, and more.

In our daily lives, we rely on LPG (petroleum), energy,

minerals, and water which are products of geological exploration. Today, in the age of digitalisation and energy transition, the critical minerals, fuels, and metals have become essential components. From sourcing the materials needed for solar panels and electric vehicles to exploring wind, nuclear, and clean energy solutions, geologists help us prepare for future changes. Capturing carbon from industrial emissions and safely storing it beneath the earth's surface requires extensive geological investigation.

Geologists play a crucial role in understanding climate change, proposing solutions to mitigate its risks, and studying how it affects soils, landscapes, biodiversity, ecosystems, groundwater, and more. You might be astonished to learn

## Explore Earth

Geology is not just a profession, it is a lifelong journey of exploration, adventure, and love for planet Earth. Whether you are hiking through the Himalayas, exploring oil beneath the deep ocean, analysing rocks under a microscope, or working on clean energy projects, every day brings a new opportunity to learn and contribute to a better future. So, if you have a curious mind and a passion for uncovering the mysteries of our planet, geology might just be the perfect career for you.



doing wonders exploring other planets and moons, expanding our knowledge of the universe.

## Career opportunities

According to the US Bureau of Labor Statistics, Geoscience jobs are projected to grow by 14% over the next decade, faster than the average for all careers. In India, geology offers opportu-

nities in both public and private sectors. Major Public Sector Undertakings (PSUs) include ONGC, NTPC, HPCL, CIL, IOCL, and GAIL, while private sector companies include RIL, Cairn, Sunpetro, ExxonMobil, Shell, Halliburton, and Chevron. The mining sector also offers roles in companies such as Vedanta, Coal India, Hindalco, Hindustan Copper, GMDC, and more.

Geologists with expertise in Geographic Information Systems (GIS), remote sensing, and hydrogeology are actively involved in national projects such as Digital India, the SVAMITVA Scheme, Smart Cities, Swachh Bharat, Jal Shakti Abhiyan, Nadi Utsav, Clean Ganga, Namami Gange, and others.

## Immersive education

Undergraduate and postgraduate degrees in geology integrate advanced pedagogy with field-

based learning, offering immersive education and opening doors to diverse career opportunities. Graduates may work as geologists, hydrologists, mineralogists, sedimentologists, reservoir geologists, mining geologists, geochemists, glacial geologists, palaeontologists, engineering geologists, geotechnical analysts, geophysicists, GIS analysts, GIS programmers or developers, GIS database administrators, remote sensing specialists, environmentalists, hydropower geologists, astrogeologists, oceanographers, volcanologists, energy specialists, planetary geologists, consultants, advisors, or entrepreneurs.

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