



Department of Mines and Geology



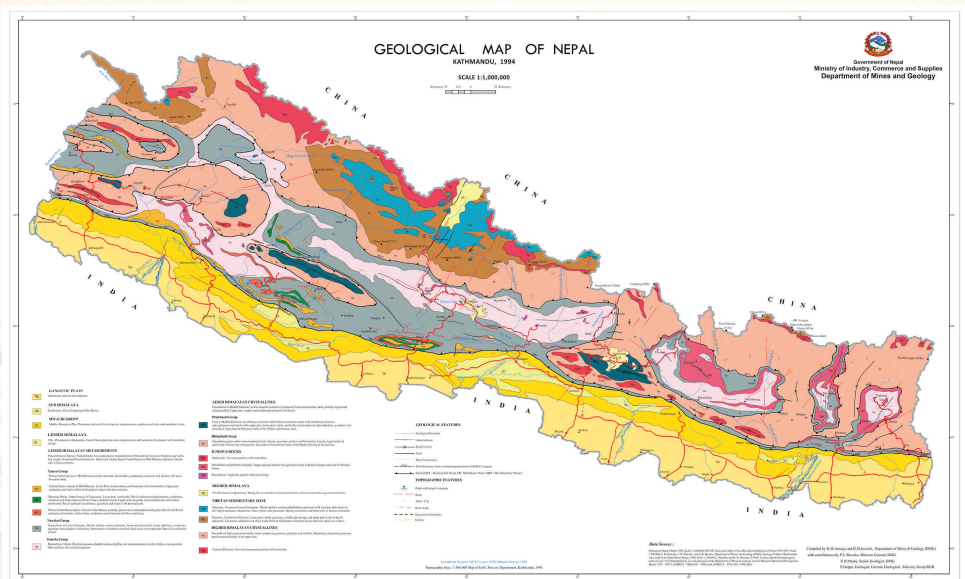
■■■ **An Introduction** ■■■
2022

Introduction

The Department of Mines and Geology (DMG) has long history since its creation as an "Office of Irrigation and Geology" in 1986 B.S. After separation from its parent institution, it was renamed as the "Office of Mines" which was ultimately expanded to a departmental institution called "Bureau of Mines" in 1999 B.S. Since then, it has further expanded its activities towards the fulfillment of its objectives to provide diversified geo-scientific services to the country. In 2024 B.S., the Government has created a new, separate institution and named as "Nepal Geological Survey". The Nepal Geological Survey was formed in order to undertake more specific geo-scientific survey and research activities. In 2033 B.S., both the Bureau of Mines and the Nepal Geological Survey were merged into "Department of Mines and Geology".

The objectives of the department are mainly as follows:

- Carry out geological mapping and topublish geological, geo-engineering and geo-environmental studies, research and maps.
- Provide necessary geological data for infrastructure development, environmental improvement and disaster management.
- Carry out seismic study and research by continuously operating seismic measurement centers.
- Develop mineral industries based on mineral reserves by exploring, evaluating and promoting mineral resources.
- Mineral exploration and opening under the Mineral Administration, issuance of excavation permits, approval of general construction mineral extraction, and monitoring and regulation of operated mines.
- Exploration of petroleum and gas by attracting national and international investors.



Geological Map of Nepal

Structure of the Department

The department has 3 divisions, 3 centers and 25 sections

A) Geoscience Division,

- Geology Mapping Section
- Remote Sensing and Geological Data Center
- Engineering Geology Section
- Landslide Research Section
- Geophysical and Geochemistry Section

B) Mineral Resources Division,

- Mineral Exploration Section
- Drilling and Exploratory Mining Section
- Natural Gas Section
- Mining License and Administration Section
- Mines Monitoring Section

C) Planning, Administrative and Technical Service Division,

- Planning, Program and Information Section
- Conventional Analysis Section
- Trace Element Analysis Section
- Sample Preparation and Store Section
- Administration Section
- Financial Administration Section

D) Petroleum Exploration and Promotion Center,

- Petroleum Promotion Section
- Data Interpretation and Documentation Section
- Petroleum Exploration Section

E) Mineral Promotion and Beneficiation Center,

- Mineral Reserve Evaluation Section
- Mineral Economic Study and Promotion Center
- Mineral Beneficiation Section
- Mineralogy and Gemology Section

F) National Earthquake Monitoring and Research Center,

- Seismology and Seismic Hazard Assessment Section
- Geodesy and Paleo - seismology Section

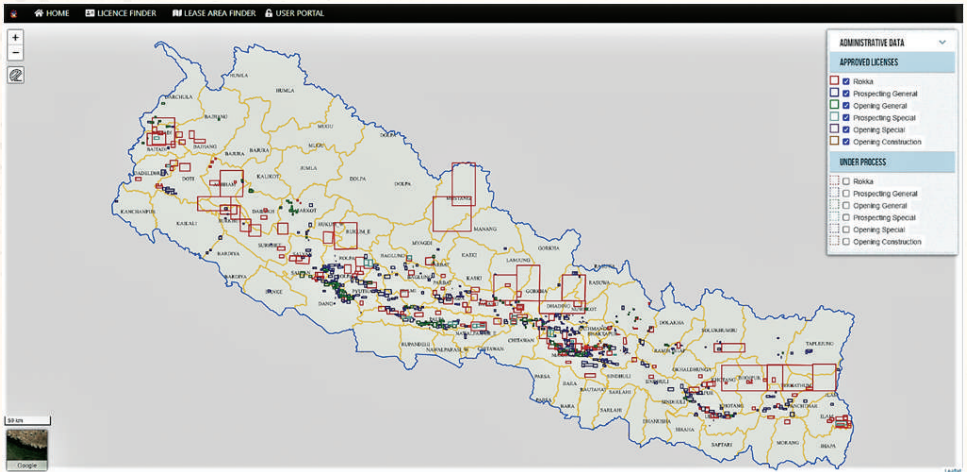
Geological Study

The status of the minerals identified according to the geological area is as follows.

1. **Terai** – Construction materials, Petroleum products
 2. **Chure** - Construction Materials, Petroleum Substances, Uranium, REE (Rare Earth Element)
 3. **Lesser Himalayas** - Copper, Iron, Zinc, Lead as metallic minerals and Limestone, Dolomite as non-metallic minerals
 4. **High Himalayas** - Precious and semi-precious stones, Rare Earth Element
 5. **Tethys Himalayas** - Salt, Gypsum, Uranium, Rare Earth Element, Limestone
- To prepare and publish geological maps on the basis of geological studies and research works.
 - **Result of Geological Mapping**
Geological map of Nepal - 1
Regional Geological Map - 5
Provincial Geological map - 7
Geological map (1: 50,000 scale) – 35
 - **Landslide Hazard Mapping and Landslide Study and Settlement Risk Assessment.**
 - Landslide risk maps are prepared by the Landslide Research Section to identify the hazardous settlements as well as to assess the risk including the location of settlements in the area by studying the landslide and whether the settlements can be settled or relocated.
 - Landslide Hazard Maps published - 10
 - Landslide Inventory Map Published - 4 Provinces (Province-1, Bagmati Province, Gandaki Province, Lumbini Province)
 - Available report on landslide study - > 50 copies
 - **Remote Sensing and Geological Data Center**
 - Collect, and analyze up-to-date satellite data and aerial photographs for geological research and remote sensing and GIS to assist in geological study and research using technology.
 - Prepare data from all geological studies and research used in various works in Digital Database (GIS).
 - **Prepare geo-engineering and geo-environmental maps for infrastructure development in urban areas by conducting geo-engineering and geo-environmental studies and research.**
Published Maps- Kathmandu, Pokhara, Butwal, Dharan, Bhairahawa, Birendranagar, Mahendranagar, Janakpur, Bharatpur
Digital Maps- Birgunj, Jaleshwar, Nuwakot (Bidur).
Maps in the process of being published- Biratnagar, Nepalgunj, Hetauda, Dhangadhi, Sindhuli, Damak. Bhadrapur, Tikapur.

Status of minerals and mines

- The study so far has identified about 63 types of minerals in Nepal and in these areas about 500 exploration permit certificates, about 150 excavation permits and about 100 general construction oriented mineral extraction permits have been issued by the department. (**Note:** Mineral prospecting and opening permit details provided by the department can be viewed at www.dmgnepal.gov.np.)



Seismological studies

- Earthquake monitoring in Nepal started with the installation of first short period vertical component seismometer in 1978 at Phulchoki Hill, south-east of Kathmandu Valley, in collaboration with Laboratoire de Détection et de Géophysique (LDG), University of Paris, France. Now, the national seismic network consists of 42 Seismic, 51 GPS and 36 Accelerometric stations for earthquake monitoring and research.
- Real time seismic data are recorded in Regional Seismological Centre (RSC), Birendranagar, Surkhet and National Earthquake Monitoring & Research Centre (NEMRC), Lainchour, Kathmandu.
- Data from the existing GPS network are used to study crustal deformation in the Nepal Himalaya. In addition, the study of active faults helps to know the recurrence period of large earthquakes.
- Paleo-seismological and neo-tectonics studies have been carried out in different parts of Main Frontal Thrust and in Surkhet Ghorahi fault.
- Study of hot springs, carbon dioxide and radon gas emission which are precursors of earthquake.
- Micro-tremor survey has been carried out in Bhadrapur of Jhapa and Gulariya of Bardia districts to classify the sub-surface ground conditions and develop velocity structure models.

- Result from the analysis and interpretation of seismic data recorded at NEMRC/DMG have been published in national and international journals.
- **Services available from National Earthquake Monitoring and Research Center:**
- Information of the earthquake of magnitude equal to or greater than 4.0 or any felt earthquake in Nepal are disseminated to the concerned authorities and the general public as soon as possible after the occurrence via. website, twitter etc.
- The Catalog of earthquakes of magnitude 4.0 or greater, seismic hazard map, and epicenter map are available and provided with certain charges as determined by DMG.

Guideline on Geological Research Work in Nepal (For Foreigners and Nepalese Researcher), 2077

- **Permission for field work**
- A copy of the researcher's passport or a copy of the researcher's valid identity card.
- Names of persons involved with identification.
- **Short research proposal**
- Explain the need, purpose and reason of proposed research.
- A copy of valid identity card and passport (applicable for foreigners) for joining a recognized university or foreign institution (research institute and laboratory) in Nepal.
- **Self-Declaration**
- **Topics to be included in preliminary report**
- Name, identity and contact number of the person interacted during the field study.
- Traverse route to be travelled or modification of route due to route alternation.
- MOU with Department of Mines and Geology or any Nepalese University.
- Field observation and field work report with photographs and list of samples (sample numbers), location of samples (GPS coordinates), including their total sample weight.
- **Preliminary Field Completion Report**
- **Request for transportation of rock / soil / water samples for research purposes**
- Sample shipping royalty voucher
- Sample Shipping Royalty Voucher Rs. 5000/- (For Payment Contact Department of Mines and Geology.
- Payment will have to be made after approval of the related request.

Contact



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