

UiT – Department of Geosciences – Strategy Document 2026-2030

Introduction

The geosciences are broad and interdisciplinary sciences of highest relevance for the safety, security, resilience and development of society, while also finding and understanding natural resources and protecting the environment, thereby contributing to all UN Sustainable Development Goals. The Department of Geosciences (in Norwegian: *Institutt for geovitenskap, IG*) belongs to UiT The Arctic University of Norway, the World's northernmost university, located in the European Arctic. The Arctic is affected by dramatic climate and environmental changes both in the present and past, while also hosting rich onshore and offshore natural resources, and being of high geopolitical interest. IG is, thus, uniquely positioned to conduct research and educate students in the dynamics of a wide range of Earth system processes in a setting influenced by long- and short-term change.

IG is known for being at the forefront of polar research and has a strong tradition in leading externally-funded research and education projects, often in collaboration with national and international partners from the public and private sectors. This currently includes hosting the Norwegian Centre of Excellence iC3 (Centre for ice, Cryosphere, Carbon and Climate) and the ERC Synergy Grant i2B (Into the Blue), as well as IG's involvement in the national programme Arctic Ocean 2050.

The education at IG is of high quality, grounded in societal needs, and builds on fundamental knowledge within the geosciences. IG is also a partner in the Norwegian Centre of Excellence in Education iEarth (Centre for Integrated Earth Science Education). Teaching planning and coordination is taken care of by IG's scientific groups (i) Solid Earth Sciences, Mineral Resources and Geohazards; (ii) Sedimentary Systems, Paleoclimates and Environments; and (iii) Geophysics, Glaciology and Oceanography.

Overall vision

IG is an internationally recognized research and education environment for excellent geoscience, known for being stimulating, supportive and inclusive, with special emphasis on polar regions and fundamental Earth System processes and dynamics. IG is a leading research unit and an attractive collaboration partner to improve the understanding of geoscientific processes to support decision-making, sustainable industry and technology development, as well as societal safety, security and wealth. IG's scientific activities focus on onshore and offshore field- and laboratory work including empirical studies and numerical modelling. IG endeavours to:

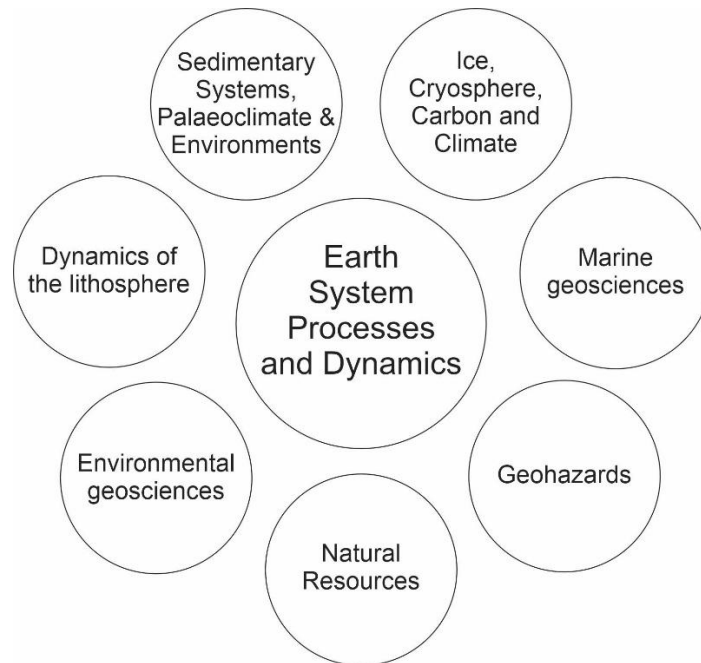
- Conduct excellent research and education within the department's scientific clusters in collaboration with national and international partners.
- Have flexibility to adapt to changes in existing and emerging new scientific topics and advanced data science methods.
- Keep an appropriate balance between fundamental and applied research, and interdisciplinarity, and build a culture to encourage innovation.

- Strengthen its visibility and status, both internationally, nationally and regionally.

IG aims to grow its research portfolio, student community and facility use in a way that positively benefits long-term financial sustainability, including the legacies of centers and large research projects. To achieve these goals, IG provides a supportive and stimulating environment conducive to the development of competitive external funding bids and explores venues to increase long-term basic funding for the department.

Scientific research

IG's research is structured around seven thematic clusters, collectively addressing Earth system processes and dynamics:



- ***Dynamics of the lithosphere:*** IG will provide knowledge about processes in the lithosphere, including rock formation, deformation and fragmentation, from microscopic to mountain-range scale, in the Arctic and elsewhere.
- ***Sedimentary Systems, Palaeoclimate and Environments:*** IG will explore pre-Quaternary and Quaternary sedimentary successions through an integrated approach, combining advanced geomorphological, sedimentological, and stratigraphical analyses.
- ***Ice, Cryosphere, Carbon and Climate:*** IG will continue to produce groundbreaking insights into how the links between ice sheets, carbon cycles and ocean ecosystems are impacting life on Earth. This work is led by iC3.
- ***Marine geosciences:*** IG will improve the understanding of present and past geological, geophysical and geochemical processes in marine environments, from fjord heads to mid-ocean ridges.

- **Geohazards:** IG will create knowledge related to natural and anthropogenically induced geohazards, including onshore rock-slope failures and avalanches, submarine landslides, as well as shallow gas seepage.
- **Natural Resources:** IG will improve the understanding of the formation and distribution of natural resources onshore and offshore, including mineral resources, hydrocarbons and renewable energy resources.
- **Environmental geosciences:** IG will study physical and (biogeo)chemical processes of natural and anthropogenically induced environmental change onshore and offshore, as well as in extreme environments including hydrothermal systems and the cryosphere.

Education

IG's students are well-prepared for and able to adapt to a diverse and dynamic labour market. The education at IG is and will continue to be research-based, and includes theoretical and practical components, as well as onshore and offshore fieldwork, laboratory activities, programming and modelling. Our curriculum benefits from Tromsø's close access to a diversity of High North field locations, access to world-class teaching and laboratory facilities, research vessels and field stations, and high-performance computation facilities. IG's students learn traditional methods and modern approaches, including critical use of advanced data science methods (e.g. artificial intelligence). Students and educators benefit from the involvement in the Norwegian Centre of Excellence in Education iEarth, and dedicated development of and research on teaching methods ensure the highest standards of teaching. The high-quality education and modern teaching infrastructure, combined with a supportive and inclusive societal environment create an attractive, positive study environment for student recruitment and high throughput.

All bachelor's students study for a broad foundation in geosciences and master's students specialize in selected topics. All students are encouraged to spend part of the study at the University Centre in Svalbard (UNIS) and/or abroad. IG educates geoscientists ready to enter working life by offering dedicated courses, exposure of students to ideas and methodologies necessary for today's market, internships, career days and meeting arenas with employers, as well as drawing benefit from IG's alumni network "GEO-Alumni". In addition, IG explores opportunities to develop educational offers for life-long learning.

PhD students and other early-career scientists affiliated with IG are part of the Geoscience Research Academy of Tromsø (GReAT) providing an umbrella to train and prepare their members for their future careers.

Key infrastructure

IG provides access to local, institutional and national research infrastructure to carry out cutting-edge research and education onshore and offshore. IG shall maintain and improve existing infrastructure, and establish new infrastructure including:

- Local: marine-geophysical and geological instrumentation (e.g. high-resolution acoustic imaging of the seafloor and sub-seafloor; recovery of sediment samples), geoscience laboratories (e.g. multi-proxy analyses of sediment samples; preparation of rock samples for thin sections and single-grain analyses; fluid inclusion analyses; scanning-electron microscopy; stable-isotope spectrometry), the Polar MAGIC lab (microbiology and biogeochemistry of cold aquatic environments), the establishment of the PLASMA lab (multiple ICP-MS instruments)
- Institutional: research vessels (RV Helmer Hanssen, RV Beret Paulsdatter), high-performance computing
- National: research vessels (RV Kronprins Haakon), high-performance computing, hosting of and participation in national infrastructure for field and laboratory work

Human resources and working environment

IG aims to ensure the availability of necessary human resources to support our scientific activity and to ensure high quality education. This includes efforts to strengthen the scientific/educational personnel in fields related to Solid Earth Sciences, Quaternary and sedimentary geology, geohazards, biogeosciences, glaciology and oceanography, and to ensure administrative support as well as technical competence to operate, maintain and develop the department's infrastructure.

IG supports its staff in developing their careers and taking advantage of available UiT and national opportunities. IG also fosters a respectful, open, inclusive, and inspiring collaborative working environment in line with UiT values, with a strong focus on JEDI (Justice-Equity-Diversity-Inclusion) matters, as well as the maintenance of awareness around IG's own Fieldwork Code of Conduct.

Impact and innovation

Expertise available and knowledge obtained at IG is shared within the department, with peers, as well as through public outreach and engagement. Internal means of sharing knowledge include newsletters, all-staff meetings and internal seminars. Open access publications, application of the FAIR principles, and conference participation ensure communication with peers. Public outreach and engagement include contributions to public, policy, business and innovation strategies in the High North/Arctic/Polar regions, as well as regional dissemination of knowledge relevant for the society in northern Norway.

Given the extensive societal relevance of the geosciences, IG encourages staff and students to build a culture addressing the innovation potential of relevant activities, taking advantage of support available at UiT and elsewhere.

The content of this strategy is supported by a recent international Evaluation of the Natural Sciences in Norway (EVALNAT; 2022-2024); internal SWOT analysis and horizon scan; UiT's strategy Eallju – Developing the High North; multiple physical meetings with IG staff members, through repeated drafting and review within the Extended Leadership Group at IG, and with input gathered from all staff. Date of implementation: May 1st 2026.