

Projects implemented in 2023

Czech Science Foundation

CGS project manager

● 19-27682X (EX1): Main mechanisms of peripheral continental growth during the supercontinental cycle	K. Schulmann
● 20-19471S: GeoMicLink: Microbial imprint in catchment-scale nutrient retention	F. Oulehle
● 20-20785J: Search for biological fingerprints and grain alteration patterns in Devonian and Carboniferous microbial facies – examples from the Bohemian Massif	S. Vodrážková
● 21-27420S: Controls of Mg, Ca and Sr isotope signals in catchment runoff: A multiple-site approach	M. Novák
● 22-33820S: Multiphase solid inclusions in orogenic peridotites as tracers of metasomatization in collisional orogens	J. Kotková
● 22-26485S: Synthetic platinum-group minerals and their applications	A. Vymazalová
● 22-34175S: Interpreting geochemical data in igneous geochemistry: using the R language to develop new, and to integrate existing, free and open-source software	V. Janoušek
● 23-0782S: Pervasive melt migration in continental crust: a micro-scale process with large-scale implications	P. Hasalová
● 23-08249S: Origin of the relict in the Bohemian Massif during the Variscan orogeny	P. Štípská
● 23-07625S: Pre-Variscan oceanic basins of the Bohemian Massif – Integrating petrology, geochronology and non-traditional stable isotope systems	T. Magna
● 23-07583S: Does tree transpiration drive forest calcium biogeochemistry? Or the other way round?	F. Oulehle
● 23-05944K: Ancient jawed polychaetes: evolution and palaeogeography in the Lower Palaeozoic	P. Tonarová
● 19-29124X: Evolution and post-emplacement history of carbonatites: Implications for the mobility and concentration of critical metals	T. Magna
● 20-13644S: Cherts and carbonates as geochemical proxies of paleoenvironmental conditions and Ocean Plate Stratigraphy	J. Pašava
● 20-23363S: Biostratigraphy and faunal dynamics of the Silurian pelagic biota of the Prague Basin in the context of major environmental changes and perturbations	Š. Manda
● 21-30043S: Petrogenesis and emplacement of deep-marine alkaline basaltoids: A case of Early Cretaceous magmatism in the northern Tethys region	V. Rappich
● 22-11661K: Towards integrated stratigraphy of the Late Paleozoic in eastern equatorial Pangea	Z. Šimůnek
● 23-05577S: Generation, extent, and longevity of magma mush columns	P. Hasalová
● 23-05051S: Metals and their isotopes in active and abandoned mining areas of sub-Saharan Africa – towards understanding of their geochemistry and impacts	B. Kříbek

Technology Agency of the Czech Republic

CGS project manager

● TK01030031: Engineered barrier 200C	F. Laufek
● SS01010208: Targeted replenishment of groundwater as a tool to reduce drought impacts in the Czech Republic	R. Kadlecová
● SS02030023: Rock environment and natural resources	M. Poňavič

● Analytics 225000	Z. Cilc
● Mineral resources SUBPROJECT 225000	M. Poňavič
● Groundwater in the karst system SUBPROJECT 225000	R. Novotný
● Geohazards SUBPROJECT 225000	P. Kycl
● Undermining SUBPROJECT 225000	J. Šanderová
● SS02030018: Center for landscape and biodiversity	F. Oulehle
● SS02030031: Integrated system for air quality research, assessment and monitoring	M. Novák
● SS02030040: Prediction, evaluation and research for understanding national sensitivity and impacts of drought and climate change in Czechia	O. Nol
● TITSMPO031: Research on promising mineral fillers and quartz raw materials in the Bohemian Massif, their treatment and use for progressive industrial applications	J. Godány
● TITSMPO026: Research on the raw material potential of strategic minerals in brines of the Bohemian Massif	J. Godány
● TK05010167: Study of variant technical solutions for deep disposal of radioactive waste	R. Nahodilová
● SS06010280: System for continuous vadose zone monitoring and prediction of water level in deep aquifers	O. Nol
● SS06010461: Determination of protective zones of hydrogeological phenomena in the PLA Slavkovský les	J. Holeček
● SS06010044: Defining and evaluating the areas decisive for subsidizing strategic groundwater resources with regard to their protection and stabilization	J. Novotná

Internal projects funded by the MoE (Ministry of the Environment) under the Long-Term Conceptual Development of Research Organizations

CGS project manager

● Wetlands and their importance in the landscape	E. Břízová
● Geology of the Křivoklátsko Protected Landscape Area – compilation of a monography based on research carried out in 2002–2018	T. Vorel
● Continuous inventory of CGS samples in Brno	M. Bubík
● Monograph of the Krkonoše Piedmont Basin and digitization of a 1:75,000 map	M. Stárková
● Development of methods for isotopic analysis of samples obtained by micromilling. 2020–2021	J. Hora
● Work in the steering committee of the ENeRG international research network	D. Štěpánský
● Soil maps 1:50,000 – lay-out of digital maps produced by the NCA CR according to the requirements for CGS map outputs, supplemented with explanatory notes to maps and printing for the archive	J. Janderková
● Interpretation and publication of significant results from site evaluation projects for the location of a deep radioactive waste repository	J. Pertoldová
● Geology of the Šumava National Park and Protected Landscape Area	V. Žáček
● Mentoring	Z. Bukovská
● Preparing to create a new popularising CGS website	J. Jelének
● Mineralization of biogenic material in a volcanic environment	J. Mysliveček
● Reconstructing pre-orogenic architecture of the Variscan suture zones of the Bohemian Massif	S. Collett
● Correlation of basement domains in covered parts of the Bohemian Massif and their metamorphic record	V. Peřstý
● Geochemistry and geochronology of an early-Variscan magmatic suite in the leptyno amphibolite complex of the Haut-Allier (French Massif Central)	de Hoym de Marien Luc
● The relaminant in the Bohemian Massif: what is the protolith age?	P. Štípská



● Origin and evolution of high-grade metamorphic metasedimentary complexes in the central part of the Bohemian Massif	E. Žáčková
● Animate and inanimate nature of the city of Beroun – publication plan support and personal research	J. Holeček
● Correlation between concentrations of trace elements in precipitation and soil in the polluted area of Ostrava and the Polish part of Upper Silesia	T. Pačes
● FLOW2020: New tools for geohazard risk assessment in high mountain regions	L. Koucká
● Application of the LA-ICP-MS methodology to study trace elements in oxide minerals using multiple reference materials for calibration	I. Andronikova
● Preparation of a new version of the virtual museum of the Czech Geological Survey	P. Budil
● Preparation and implementation of the Geology Day with CGS	Z. Bukovská
● Diamond graphitization in nature and experiment	J. Kotková
● Pre-Variscan evolution of the central parts of the Bohemian Massif: a key to understanding the current geological structure of the candidate deep repository sites – horizontal cooperation	I. Soejono
● Provenance analysis of sedimentary rocks from the internal domain of the Kaoko–Dom Feliciano–Garipe orogenic system (Namibia, Uruguay) – determination of age and Hf isotope ratios in detrital zircons	J. Konopásek
● Regional geological mapping of the Czech Republic at 1:25,000 scale, sheets 25-123 Hranice and 25-143 Bystřice pod Hostýnem	P. Tomanová Petrová
● Isotopic composition of Moldanubian granitoids: a new perspective on Variscan orogenic crustal variability and its implications for planned deep repository sites – horizontal cooperation	V. Janoušek
● Petrogenesis and geochemistry of the historic primitive lavas of La Palma	T. Magna
● Testing of drones and virtual reality for research purposes	L. Koucká
● Melt migration in the continental crust and its role for granite formation – key to understanding the origin of granitoid bodies potentially hosting radioactive waste depositories	P. Hasalová
● Application of morphostratigraphic, thermochronometric and geochronological methods for reconstruction and prediction of relief evolution in the wider surroundings of candidate sites – horizontal cooperation	T. Hroch
● A comprehensive study of the lacustrine carbonate factory in the Eger Rift Basin: geochemical insights into paleoenvironmental evolution	D. Petráš
● Comprehensive processing of the global auxiliary boundary stratotype of Turon–Coniac in the Czech Republic (Střeleč locality)	S. Čech
● Volcanic systems VII.	M. Stárková
● Implementation of the DKRVO – PART 2.1: Research on global changes and evolution of marine ecosystems – Palaeozoic	J. Frýda
● Sedimentological, palaeobotanical and palynological research of the Permo–Carboniferous basins of the Bohemian Massif	Z. Šimůnek
● Selected taphocenoses of the Phanerozoic: palaeoecology, palaeobiogeography, stratigraphy and sedimentology	R. Vodrážka
● Slope movements in the Peruvian Andes	J. Novotný
● Cu, Zn and Cd isotope systematics at the substrate-to-mushroom interface in three polluted areas underlain by contrasting bedrock	A. Andronikov
● Effect on elemental concentration and isotopic composition results of different sample preparation methods	E. Martinková
● Interdisciplinary researches in CZO Slavkovský les	P. Krám
● Analysis of biomarkers in sedimentary rocks for palaeoenvironmental studies	D. Ocásková

● Changes in soil aggregate stability, mineralogy and geochemistry under no-till and conventional tillage	M. Koubová
● Evolution of changes in cation exchange capacity for bentonite heating	M. Koubová
● Publication of two articles and preparation of chapters for a monograph	J. Hošek
● Development of Electronic Mountain Form and Data Management applications	M. Janoušek
● Conference preparation: 3rd Virtual Annual IGCP 735 in Prague	M. Nohejlová
● Preparation of all types of projects – capacity reporting	P. Mixa
● Completion of projects (capacity reporting on technical completion of outputs – corrections after review process, for projects completed in the previous year)	D. Skácelová
● Editorial plan and promotion plan, CGS Publishing House, 2020, ongoing	P. Fiferna
● Inventory of Slope Instabilities	O. Krejčí
● Regional geological mapping of the Czech Republic at 1:25,000 scale	D. Buriánek
● Regional geological mapping of the Czech Republic at 1:25,000 scale, Železné hory Mts	S. Čech
● Regional geological mapping of the Czech Republic at 1:25,000 scale, Novohradské hory Mts	B. Dudíková Schulmannová
● Regional geological mapping of the Czech Republic at 1:25,000 scale, Pošumaví region	V. Žáček
● Regional geological mapping of the Czech Republic at 1:25,000 scale, Bohemian Paradise II	L. Švabenická
● Regional geological mapping of the Czech Republic at 1:25,000 scale, Brdy Mts	T. Vorel
● Regional geological mapping of the Czech Republic at 1:25,000 scale, Central Moravia	P. Tomanová Petrová
● Development of 3D geological models and related CGS databases	J. Franěk
● Expert support for the National Geoparks Network of the Czech Republic II	V. Štědrá
● Geology of the Bohemian Cretaceous Basin	S. Čech
● Decorative and building stones of the Czech Republic	B. Dudíková Schulmannová
● Study assistance for CGS employees	A. Václavíková
● Editing of the Geoscience Research Reports journal	T. Sidorinová
● Printing of geological and applied maps	V. Žáček
● Editing of the journal Geological Research in Moravia and Silesia	D. Buriánek
● Editorial activities of scientific publications (capacity reporting), ongoing	V. Janoušek
● Editing and preparation of the electronic version of the Bulletin of Geosciences	J. Frýda
● Editing and printing of the Bulletin of Geosciences	J. Frýda
● Integration of the ICT infrastructures of CGS and CGS – Geofond, ongoing	R. Binko
● Important geological localities of the CR	M. Vajskebrová
● Administration, maintenance and development of the PMČR50 geo-database related to the compilation of new soil maps and their safekeeping, printing and presentation, CGS, ongoing	J. Sedláček
● Assessment services of regional geologists	J. Čurda
● Executing tasks of the state geological survey apart from approved projects	P. Mixa
● Executing tasks of the state geological survey apart from approved projects – Geofond Division, ongoing	V. Štrupl
● Repair fund for laboratory instruments	Z. Venera
● Activities of the coordinators of Long-Term Conceptual Development of Research Organizations/CGS	J. Pašava
● Activities of the CGS Project-Review Board, ongoing	P. Mixa

Projects funded by the MoE for tasks of the state geological survey

CGS project manager

● Revision of mapped undermined areas and mine workings based on new acquisitions of digital map documents as a basis for investigating mining impacts and for consolidating data on abandoned exploratory mine workings, 2022	A. Horáková
● Processing and evaluating final reports from the Resource Reports Collection at the Kutná Hora office as a basis for investigating mining impacts, 2022	J. Šanderová
● Review of mitigated mining impacts and secured abandoned exploratory mine workings according to Czech Mining Authority Regulation No. 52/1997 Coll., on requirements for ensuring safety and occupational health and operational safety during the decommissioning of major mine workings, 2022	P. Šír
● Initial investigation of reported mitigated mining impacts in 2023	V. Štrupl
● Mineral Commodity Summaries of the Czech Republic and Changes in Reserves of Reserved Mineral Deposits	J. Starý
● RANAP, 2020, Contact of the Cretaceous and Permo-Carboniferous, web map update	P. Pacharová
● Update of soil maps at 1:50,000 scale	J. Janderková
● Advisory and expert services provided for the Geology Department of the MoE (including landslides for the Operational Programme Environment, updates of maps, assessments and opinions), NP321 (gas leakage measurement), etc.	J. Čurda
● Restoration of selected parts of the geological documentation collection maintained by the CGS Geofond archives, 2022 phase	M. Hrdlovicsová
● CGS repositories – retransfer of documented samples from old boreholes to the standard storage system of the CGS Geofond Division, 2022 phase	A. Donát
● Digitization of collections of the geophysical archive at the Geofond office in Brno, 2022 phase	E. Hudečková
● Monitoring of hydrogeological boreholes in 2021–2024 (Rebalance sustainability)	T. Vránek
● Transfer of borehole logs from the archived reports of the FZ and P collections into the GDO and GEO systems, feldspar, bentonite, 2022 phase	Z. Petáková
● Wells with potential gas leakage in the Czech Republic, 2022	J. Franců
● Revision of prognosticated resources of industrial minerals and ores, category Q, in Central Bohemia	Š. Mrázová
● Geological conditions in Spa Source Protection Zones – pre-project phase	E. Kryštofová
● Post-fire activities of CGS geologists in the Bohemian Switzerland National Park	J. Malík
● Consolidation and integration of the geochemistry dataset and its integration into the CGS information system	R. Kujal
● Methodology for the implementation of the UNFC system in the legislative framework of the Czech Republic	Z. Gabriel
● Assessment and evaluation of the lignite-bearing area of the North Bohemian Lignite Basin in terms of the possibility of its release for further exploitation	J. Morysek

Projects for the MoE and other ministries

CGS project manager

● Turów 7/2016–2044	R. Kadlecová
● Institutional support for the long-term conceptual development of the research organization based on an evaluation of its achieved results	J. Pašava
● Management of a network monitoring the status of ecosystems with regard to air pollution	J. Hruška
● ICP modelling a mapping conference 2023	T. Chuman
● ET-2019-019-RO-43040: Ensuring sustainable land management in selected areas of Ethiopia based on geoscience mapping	K. Verner
● ET-2020-077-RO-31140: Compilation of a national geological and hydrogeological map at a scale of 1:1,000,000 for the entire territory of Ethiopia	K. Verner

● Revision of palaeontological material from the Barrandian area in Viennese institutions: a hitherto unappreciated resource for understanding the early phases of geological research in the Austro-Hungarian Empire	P. Budil
● Impact of climate changes on high-latitude (polar) marine benthic communities: What can we learn from the Ordovician?	M. Nohejlová
● Improving quality of life by ensuring availability and sustainable management of water resources in Sidama Region and Gamo and Gofa zones, Ethiopia	K. Verner
● CZ.02.2.69/0.0/0.0/18_053/0017379: International mobility of CGS researchers	A. Velímková
● Innovation of Geological Information Systems in Bosnia and Herzegovina	D. Čápková
● Groundwater in Crystalline Rocks	J. Novotná

Horizon Europe and Horizon 2020

CGS project manager

● COST Geothermal-DHC: New geothermal sources for carbon-free heating grids	A. Tým
● e-shape – Next-generation satellite data and creation of innovative applications	V. Strnadová
● SEMACRET – Sustainable exploration for orthomagmatic (critical) raw materials in the EU: Charting the road to the green energy transition	V. Wertich
● GSEU – A Geological Service for Europe	D. Čápková
● A Geological Service for Europe – Critical Raw Materials, the International Centre of Excellence and United Nations Framework Classification	Z. Gabriel
● A Geological Service for Europe – Geothermal energy & underground storage inventory	L. Janků
● A Geological Service for Europe – Appraisal, protection & sustainable use of Europe's groundwater resources	O. Nöl
● A Geological Service for Europe – Geological framework for the European geological data & information system	D. Čápková
● A Geological Service for Europe – European Geological Data Infrastructure, EGDI	D. Čápková
● A Geological Service for Europe – Communication, Dissemination & Exploitation	D. Čápková
● A Geological Service for Europe – Geological Surveys network and sustainable services for Europe	D. Čápková
● Multi-Miner: Multi-source and multi-scale earth observation and novel machine learning methods for mineral exploration and mine site monitoring	V. Strnadová
● PUSH IT – Piloting Underground Storage of Heat In geoThermal reservoirs	A. Tým
● PUSH IT – sub-project WP 1	A. Tým
● PUSH IT – sub-project WP 2	A. Tým
● PUSH IT – sub-project WP 3	A. Tým
● PUSH IT – sub-project WP 4	A. Tým
● PUSH IT – sub-project WP 5	A. Tým

Other projects co-funded by foreign entities

CGS project manager

● TO01000112: CO ₂ Storage Pilot in a Carbonate Reservoir	J. Franců
● TO01000220: The fate and future of carbon in forests (CatchCaN)	J. Hruška
● SYNERGYS – synergy energy systems – preparatory project	A. Tým
● BrineRIS – Brines of RIS countries as a source of CRM and energy supply	P. Rambousek
● SYNERGYS	A. Tým
● PanAfGeo-2: Africa-EU Partnership – Support to Geological Sciences and Technology	V. Štědrá