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Executive Summary

This bi-annual report for the years 2021 and 2022 provides a comprehensive overview of the key activities, and achievements of EuroGeoSurveys (EGS). Throughout this period, EGS continued to play a pivotal role in advancing geoscientific knowledge and expertise across Europe and internationally. Most notably, EGS has taken long strides toward its goal of establishing a sustainable Geological Service for Europe through the successful completion of the GeoERA programme and launch of the Geological Service for Europe Coordination and Support Action project. This report highlights the significant progress made by EGS in many areas, including strategic developments, key projects, and organisational performance.

In 2022, EuroGeoSurveys celebrated 50+ years of collaboration, using the celebration to explore the strength of international partnerships for a sustainable future, the interdisciplinary science delivered by EuroGeoSurveys, and the future vision of A Geological Service for Europe.

Ralph Watzel
EGS President 2021-2022

“EuroGeoSurveys made strong progress despite challenging conditions. My years as President were a great adventure. I feel honoured that I was able to contribute and guide. The passion in our community is overwhelming. Thank you for the inspiration you sparked and the support you endowed”.

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EGS in Brief

Towards a Geological Service for Europe

Understanding the subsurface is vital to the success of the Green Transition. The subsurface provides 65% of our drinking water; it supplies all of the critical minerals required to power clean energy; enables storage of energy, CO₂ and nuclear waste; and is the foundation for the smart cities of the future. Without it, a sustainable future is impossible.

EGS acts as a catalyst for collaboration and knowledge exchange in the geoscientific community and is dedicated to promoting the sustainable use of Earth’s resources and fostering geoscientific cooperation across Europe. Our mission is to provide public earth science knowledge to support the EU’s competitiveness, social well-being, environmental management and international commitments.

EGS coordinates the network of The Geological Surveys of Europe, jointly addressing European issues in the field of geoscience and collaborating on projects that directly inform EU and national policy, for the benefit of all European citizens.

Our vision is to establish a common European Geological Knowledge Base and, with its members, a unified Geological Service for Europe, based on:

1. Joint research with EU policy impact
2. Harmonising pan-European geological data
3. Sharing knowledge, capacities and infrastructure

To learn more about EGS and its mission, please visit our website.
Our People

Key to fulfilling the vision and mission of EGS is our network of collaborative communities, the Geological Survey Organisations of Europe, from which we draw the expertise and experience found in our Expert Groups. Among these are the dedicated individuals who serve in various leadership roles within the organisation. The Executive Committee, Expert Groups, and our member organisations have played a pivotal role in driving EGS's initiatives forward. Their expertise and commitment have been instrumental in achieving significant milestones and advancing the geoscientific agenda at national and EU level. To find out more about the people who have contributed to EGS's success during this period, please refer to the Members section on our website.
Collaboration is our Strength

Our Expert Groups are the bedrock on which EGS stands. Hundreds of experts from the Geological Surveys of Europe are engaged in carrying out research that directly tackles today’s diverse societal challenges and helps to build a sustainable future for us all.

Ten thematic groups and one task force focus on key areas such as research and innovation, policy development, and data management to address emerging challenges and meet the evolving needs of stakeholders.

Their collaboration enables knowledge sharing, research at the highest level, and the information that policy makers need to make decisions at national and EU level.
Expert Group Highlights

**Earth Observation - GeoHazards**
The Earth Observation Expert Group leverages technological and scientific capabilities to deliver harmonised pan-European geoscience data.

**Highlights:** Contribution to the CSA Horizon Europe proposal for GSEU on Coastal Vulnerability assessment and optimised offshore wind farm siting - WP5 is coordinated by the EOEG Chair, Participation in RASTOOL, e-Shape and other projects and events.

*See the full report from the EOEG.*

**GeoEnergy**
The GeoEnergy Expert Group provides impartial, scientifically robust information to advance the understanding of GeoEnergy resources in Europe, to contribute to plans for a secure, sustainable and independent energy future.

**Highlights:** Integrating international datasets, strengthening networks, collaborating, and emphasizing geological data's importance for Europe’s energy sustainability, focusing on the successful completion of the GeoERA projects and building and implementing the GSEU project proposal.

*See the full report from the GEEG.*

**Geoheritage**
Through collaboration with national and regional partners, the Geoheritage Expert Group provides knowledge and expertise for the conservation and sustainable management of Europe’s geological heritage.

**Highlights:** Conducted several meetings and workshops, focused on updating databases, enhancing geoheritage databases, prioritising significant sites, seeking Horizon Europe funding, and initiated a webinar series on geoconservation and local development.

*See the full report from the GhEG.*

**Geochemistry**
The Geochemistry Expert Group delivers geochemical knowledge, services and products of European near-surface materials.

**Highlights:** Engaged with the EU Soil Observatory, provided members to EUSO Working Groups, actively advised on soil protection policies, and contributed to significant publications and collaborations within the global geochemical community.

*See the full report from the GEG.*

**Geological Mapping and Modelling**
The Geological Mapping and Modelling Expert Group focuses on producing and harmonising pan-European geological maps and models to increase our understanding of the geology of Europe.

**Highlights:** Established in 2021, GMMEG hosted 5 online lectures, convened 3 plenary meetings, and made preparations for the inaugural physical gathering in 2023. Contributed to publications, engaged actively in EGS initiatives, and played a pivotal role in advocating for global geological mapping and modeling.

*See the full report from the GMMEG.*
Marine Geology
The Marine Geology Expert Group delivers high-quality information about the seabed and its subsurface. This information is used as a baseline for scientific research and for sound, knowledge-based decision-making.

**Highlights:** Contributed to the EMODnet Geology project by expanding the scope of seabed geology data and collaborating on various working groups; Contributions to EU projects, including MINDeSEA and FRAME, which focused on marine mineral resources and environmental impact assessment.

See the full report from the MEGG

Mineral Resources
Through research and innovation, the Mineral Resources Expert Group informs on policy and strategy addressing sustainable supply of critical and strategic raw materials.

**Highlights:** Held two hybrid meetings and participated in several projects and events, focusing on critical raw materials, minerals, and sustainable mining; contributed to publications and actively engaged with EU initiatives and policy discussions related to raw materials and minerals. Involvement in various minerals and data projects and developing the GSEU project proposal.

See the full report from the MREG

Spatial Information
The Spatial Information Expert Group provides Pan-European and national geological datasets and services from the Geological Surveys of Europe through the European Geological Data Infrastructure.

**Highlights:** Conducted plenary sessions and web meetings to progress EGDI, EPOS, GSEU, and more. Continued design, development, and maintenance of the EGDI, signed an MoU with EPOS ERIC to enhance collaboration in geological information and modeling services. Contributed to building the GSEU proposal and implementation.

See the full report from the SIEG

Urban Geology
The Urban Geology Expert Group delivers high quality scientific information and expertise to EU urban decision-makers and European Institutions, focusing on sustainable urban development, resilience, climate adaptation, SMART cities, and safe construction.

**Highlights:** Concluded both virtual and physical meetings, addressing scientific tasks and advancing urban geology, while actively participating in GSEU, UNFC, and the development of 3D geo technologies. Launched an outreach video on “Future proofing our cities by incorporating the subsurface and geology into urban planning.”

See the full report from the UEGG

Water Resources
The Water Resources Expert Group provides expertise in groundwater protection and management for decision-making on water resources at national and European levels.

**Highlights:** Advanced the dissemination of successful GeoERA groundwater projects and their integration into EGDI through international conferences and peer-reviewed publications. Initiation of critical groundwater activities within GSEU, enhancing sustainable subsurface resource management.

See the full report from the WREG

International Cooperation and Development Task Force
The International Cooperation and Development Task Force establishes strong relationships between EGS and international stakeholders, building partnerships, competence, and facilitating secure supply chains.

**Highlights:** Initiated the EU-Latin America policy dialogue on Raw Materials, promoted cooperation with ASGMI, facilitating meetings and exploring collaborative opportunities between their expert groups.

See the full report from the ICDTF
Projects

During this period, EGS and its Expert Groups were involved in a number of geoscience projects, some of which reached completion during this time, and others were launched and continue. These diverse projects serve to demonstrate the broad range of expertise and the results that can occur through collaboration - the heart of EGS.
EGS Strategic Development

In a rapidly changing Europe and world in 2021-2022, EuroGeoSurveys (EGS) took long strides toward its goal of becoming a Geological Service for Europe.

In a time marked by change, Europe moved from increasing nationalism to a renewed solidarity in the face of the Russian war of aggression on Ukraine. EGS condemns the Russian war and has ceased all cooperation and communication with scientific institutions and organisations of the Russian Federation, including VSEGEI. EGS members actively helped Ukrainians fleeing the conflict and supported EU efforts to build partnerships with Ukrainian scientific organisations, particularly in the field of mineral resources, EGS remaining a key partner in the EU-Ukraine Strategic Partnership on Raw Materials and contributing to a book on Ukraine’s critical minerals potential.

During this period, we have also seen the change from a Covid locked-down world to one in which we began to once more embrace in-person scientific cooperation; from the culmination of GeoERA to the inception of the Geological Service for Europe (GSEU). Our Expert Groups have thrived under their new freedom to meet face-to-face, while also retaining the lessons learned through Covid, using increased online engagement for additional benefit. They have built on the data and knowledge they generated in GeoERA, a project that drew us together as a network, and embraced the successful awarding and launch of GSEU, a project with the potential to be central to the EU agenda in delivering the required science of the subsurface, a project that holds the seeds of our new strategy that will see EGS central to the understanding and management of the European subsurface, crucial to the Green Transition and a future climate neutral Europe.

EGS has at its core collaboration. Collaboration has allowed us to build the European Geological Data Infrastructure (EGDI) from the bottom up – a geoscientific data, information and knowledge base that supports and is supported by our network and which has matured under GeoERA. EGDI is now central to GSEU, our new flagship project, which was launched only shortly in advance of a successful and highly collaborative week of EGS 50th Anniversary celebrations that raised our visibility with the European Commission and our diverse stakeholders in Europe and abroad.

Finally, and importantly, 2022 has seen the EGS Secretariat strengthened, a resilient, enthusiastic, proactive team that continues to build in its own collaborative spirit – a microcosm of the network we support.
EGS has continued to build visibility across the European Commission, and to expand and develop strategic international partnerships, in line with the increasingly outward-looking EU strategy to build resilience in disrupted raw materials supply chains and an increasing demand for critical raw materials to support the Green Transition. EGS is actively engaged in raw materials projects in Africa and Latin America and continues to strengthen partnerships, particularly with our sister organisations OAGS and ASGMI, as well as building strategic partnerships at the political and scientific level.

Partners
The following figures and diagrams provide statistical insights into EGS’s activities and achievements during the years 2021 and 2022.

These statistics offer a quantitative representation of our accomplishments across various domains, including project participation, research outputs, and stakeholder engagement.

In 2021, EuroGeoSurveys had a combined total of 10,500 staff, with 42% being female. The main strategic core competences included public policy support, public information, and applied research.

In 2022, EuroGeoSurveys had 10,268 staff, with 42.5% being female. Geological mapping, hydrogeology, geotechnical data, and geophysics were the main areas of expertise. Public policy support, public information, and applied research continued to be the primary strategic core competences.

See the full report here.
Statistics

GOVERNING BODIES

Year 2021:
- Environment: 22%
- Research, Science and Technology: 28%
- Energy/Industry/Economy: 31%
- Other: 19%

Year 2022:
- Environment: 21%
- Research, Science and Technology: 33%
- Energy/Industry/Economy: 31%
- Other: 15%

TOTAL NUMBER OF STAFF BY GENDER

Year 2021:
- Male: 58%
- Female: 42%

Year 2022:
- Male: 57.39%
- Female: 42.58%
Statistics

Number of peer reviewed publications in 2021

Number of peer reviewed publications in 2022

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Statistics

NUMBER OF GEOLOGICAL SURVEYS INVOLVED IN DIFFERENT FIELDS

- Geological mapping
- Geotechnical data
- Hydrogeology
- Data management
- Official geological information supply
- Solid fuels
- Metalliferous deposits
- International cooperation
- Geophysics and remote sensing
- Regional geology
- Spatial geological information
- Geochemistry
- Geothermal energy
- Basic geology
- Education
- Heritage and conservation
- Industrial and construction minerals
- IT
- Geomorphology
- Coastal geology
- Soils
- Land use management
- Climate change
- Engineering geology
- Pollution
- Tourism
- Urban geological mapping
- Continental shelf
- Paleontology
- CO2
- Domestic and non hazardous wastes
- Nuclear energy
- Radioactive wastes
- Geoscience communication for urbanized areas
- Geohazards
- Permits delivery
- Hydrology
- Open sea
- Hydrocarbons
- Glaciology
- Urban management

Year 2021: Number of Geological Surveys involved in different fields
Year 2022: Number of Geological Surveys involved in different fields
Delivering data
to sustainably manage

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