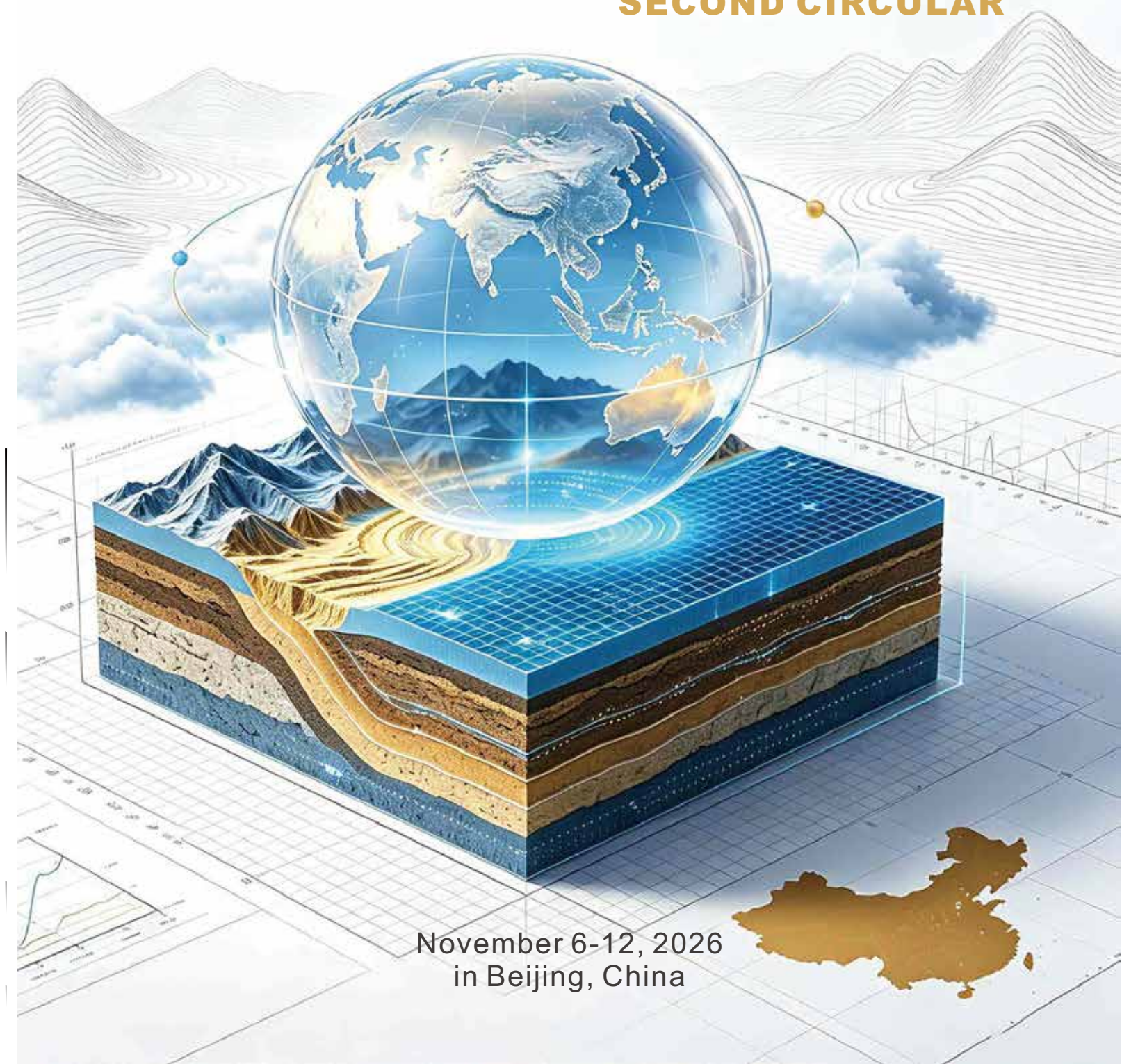




2026

International Symposium on Deep Earth Exploration and TopoAsia (Deep&Topo-2026)

SECOND CIRCULAR



November 6-12, 2026
in Beijing, China



ABOUT THE SYMPOSIUM

Unraveling the Earth's interior and its dynamic interactions with the surface represents one of the grand challenges in contemporary geoscience. The 2026 International Symposium on Deep Earth Exploration and TopoAsia unites two complementary scientific communities to address this frontier—integrating deep Earth probing with the study of deep-surface coupling processes across the Asian continent and beyond.

Asia, the world's largest and most populous continent, serves as an unparalleled natural laboratory for such research. From ancient cratons and broad sedimentary basins to active orogenic belts, rift systems, subduction zones, and deep-sea trenches, Asia preserves a comprehensive record of long-term tectonic evolution, deep mantle dynamics, plate interactions, and strong dynamic couplings between interior and surface systems. Understanding these processes demands integrated approaches that bridge deep and shallow Earth science.

SinoProbe, China's flagship national deep Earth exploration initiative, is at the forefront of this global endeavor. The program fosters a multidisciplinary understanding of the composition, structure, and evolution of the continental lithosphere beneath China. The inaugural phase, SinoProbe-I (2008–2016), identified pivotal scientific questions and established a robust foundation. Its successor, SinoProbe-II (2024–2030), launched in 2024, is now in full operational

mode. Through extensive geophysical surveys across China and adjacent regions, the program investigates deep Earth structures and material properties via thousands of kilometers of seismic reflection profiles, high-density broadband seismic and magnetotelluric arrays, as well as super-deep scientific drilling and real-time in-situ monitoring campaigns.

TopoAsia is a flagship international geoscience initiative officially endorsed by the International Lithosphere Program (ILP) and programmes under the International Decade of Sciences for Sustainable Development (IDSSD). Launched in Shanghai on October 21, 2025, TopoAsia marks a new phase in integrated Earth system science. Its core mission is to establish an open, collaborative platform for investigating deep Earth–surface interactions across Asia—a frontier critical to understanding tectonic dynamics, natural resource formation, environmental change, and sustainable development. By integrating geology, geochemistry, geophysics, and geodynamic modeling, TopoAsia explores how deep Earth processes shape surface topography over geologic time, and how surface processes—including erosion, sedimentation, and climatic feedbacks—in turn record and modulate deep dynamics.

The symposium will be held in conjunction with the APEC China 2026, closely aligning with APEC's priorities of Openness, Innovation, and Cooperation. It will further reinforce regional scientific, technological, and environmental sustainability collaboration across the Asia-Pacific. We warmly invite scholars and experts from around the world to participate in this milestone academic event, contributing to a deeper global understanding of Earth's interior dynamics and their profound expressions across the Asian landscape.

ORGANIZERS

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National Natural Science Foundation of China

► HOSTED BY:



Chinese Academy of Geological Sciences



China University of Geosciences (Beijing)



Chengdu University of Technology



Southern University of Science and Technology

► ORGANIZED BY:



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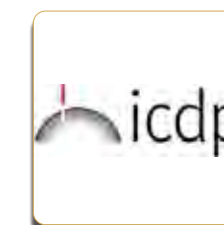
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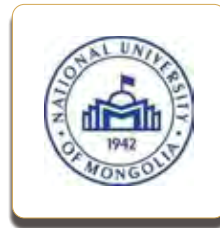
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Tian Yang	International Office, Chengdu University of Technology
Yu Li	Advanced Institute for Ocean Research (AIOR), Southern University of Science and Technology

PRIMARY SYMPOSIUM SCHEDULE

DATES		ACTIVITES AND EVENTS
Nov. 6	Whole day	Registration
	Afternoon	Short Courses Welcome reception
Nov. 7		Opening Ceremony* Plenary Session I
	Afternoon	Parallel Scientific Sessions Roundtables Strategic Forums
Nov. 8	Whole day	Parallel Scientific Sessions Roundtables Strategic Forums
Nov. 9	Whole day	Parallel Scientific Sessions
	Afternoon	Plenary Session II Closing Ceremony
Nov. 10	Whole day	Departure of non-field trip participants
Nov. 10-11		Field trip - Late Mesozoic "Yanshanian" intracontinental deformation and syn-tectonic deposition in the Beijing-Zhangjiakou area
Nov. 12	Whole day	Departure of field trip participants

* Special events during the Opening Ceremony

- 1.Official launch of the phase II of the International Project "Atlas of Geological Maps of Central Asia and Adjacent Areas
- 2.Official launch of the Joint Scientific Expedition on Central Asian Geology and Southeast Asian Geomorphology & Human Evolution
- 3.Signing the MoU on Hosting the Secretariat of TopoAsia at Chinese Academy of Geological Sciences
- 4.Signing the cooperative MoU between TopoAsia and TopoEurope

● OFFICIAL WEBSITE

The website <https://deeptopo.geoscience.cn> is the online venue through which the meeting participants can fulfill their registrations, abstract submission, hotel booking and manage its participation issues with assigned online account. Online registration, abstract submission, field trip sign up, accommodation booking etc. will be available after **July 20, 2026**. A reminder will be distributed on July 20, 2026.

The website will constantly publish the updated information of the symposium.

REGISTRATION AND ABSTRACT SUBMISSION

Abstracts for oral or poster presentations are welcome. Registration and abstract submission should be fulfilled at the official website of the symposium, which will be accessible after **July 20, 2026** and closed on **September 15, 2026**.

● REGISTRATION FEES

Standard registration: 2500 CNY

Student registration: 1200 CNY

More instructions on how to pay the registration fee will be indicated at the Symposium website.

KEY DATES AND DEADLINES

July 20, 2026 – Abstract Submission System Opens
September 15, 2026 – Deadline for abstract submission
October 1, 2026 – Deadline for:

● Online Registration

● Field Trip Sign-up

October 30, 2026 – Release the 3rd Circular of the Symposium
November 6-12, 2026 – The 2026 International Symposium on Deep Earth Exploration and TopoAsia

WORKING LANGUAGE

The working language of the symposium is English.

SCIENTIFIC EXCHANGE ACTIVITIES

The symposium will hold parallel sessions, strategic forums and roundtables, short courses, TopoAsia committees' meetings, posters and booth exhibition. ACTA GEOSCIENTICA SINICA will publish proceedings for the symposium.

● PARALLEL SESSIONS

Invited presentation:

Invited presentations: No more than 20 minutes, including 15 minutes lecture and 5 minutes Q&A.

Normal presentation:

Delegate's presentations: No more than 15 minutes, including 12 minutes lecture and 3 minutes Q&A.

Poster presentation:

Each poster should be displayed within one board size (length: 120 cm, height: 90cm).

● STRATEGIC FORUMS AND ROUNDTABLES

Aiming to bring together relevant scientists, engineers, instrument developers, and program managers to spot the key and frontier issues in deep earth exploration and other key frontiers of common interest, the symposium will hold several strategic forums and roundtables.

● SHORT COURSES

The Symposium will organize two short courses focusing on Geological Mapping and Paleogeographic Reconstruction. The two short courses will be held on the afternoon of the registration day (November 6th). Colleagues who are interested in online geological mapping or TimeMachine paleogeographic reconstruction are welcome to participate in the short course.

● TOPOASIA COMMITTEE MEETINGS (BY INVITATION ONLY)

During the symposium, the TopoAsia initiative will convene the first in-person business meetings of its three core governing bodies, namely Scientific Committee (SC), Coordinating Committee (CC) and Executive Committee (EC), to review operational progress and deploy key strategic tasks. Please note that these meetings are closed-door business sessions restricted to the official members of the respective committees and a small number of invited key individuals.

● BOOTH EXHIBITION

The symposium will provide dedicated areas for business and non-profit organizations to display booths during the symposium. More details on booth registration will be announced at the symposium website.

SCIENTIFIC PROGRAM

Scientific Themes and Technical Sessions

● Theme 1: Deep Mantle and Lithospheric Dynamics Shaping Asian Topography

Session 1

Title: Himalaya–Tibet Orogen: Deep Structure, Field Observations, and Collisional Dynamics

Conveners: Lin Ding, Zhanwu Lu, Xiaoyu Guo, Xiaohui Yuan, Rui Gao

Description: The lithospheric structure and geodynamics processes of the Himalayan–Tibetan orogenic belt are key to understanding continent–continent collision, orogenic processes, and regional natural hazards. The rapid development of deep exploration technologies and geodynamic modeling has significantly expanded the research frontiers in this field. However, revealing the four-dimensional evolution of this giant orogenic belt highly depends on high-resolution field surveys and the systematic acquisition of advanced geophysical, geological, and geochemical datasets. This session focuses on the latest research into deep-crustal processes and lithospheric geometry beneath the plateau, with particular emphasis on contributions from dense field-array observations (seismic, magnetotelluric, geodetic, etc.). We welcome studies that use high-quality data to reveal deep crustal structure, Moho morphology, and lithospheric deformation zones, and we equally encourage interdisciplinary investigations exploring how deep tectonic mechanisms interact with surface erosion, basin sedimentation, and landscape evolution. By integrating field geology, multi-scale geophysical imaging, isotope geochronology, and geodynamic modeling, this session aims to deepen an overall understanding of collisional orogenesis, mass balance, and the structural heterogeneity of the India–Asia collision zone.

Session 2

Title: Deep Structure and Tectonic Evolution of Eurasia

Conveners: Wenjiao Xiao, Celal Sengör, Karel Schulmann, Xiangyun Hu, Zhongqing Wu, Xuanhua Chen

Description: Eurasia is the largest and most geologically complex continental block on Earth, assembled from multiple representative cratons, orogenic belts, and basins, with its core tectonic units including the Altaid, Caledonian, Hercynian, Tethyan, and Uralian orogenic systems. Over the past fifty years, researchers have extensively probed the deep architecture of this continent using a broad array of geological, geochemical, and geophysical methods, including both active- and passive-source seismic techniques and non-seismic approaches. This session welcomes contributions that report new insights into the deep structure of Eurasian cratons, orogens, and basins, and particularly encourages integrative studies that combine multiple disciplines and multi-dataset constraints to deepen our understanding of the formation and reworking of the Eurasian lithosphere.

Session 3

Title: Dynamics of Intracontinental Deformation

Conveners: Taras Gerya, Qin Wang, Sierd Cloetingh, Junfeng Zhang, Ling Chen, Zhouchuan Huang

Description: This interdisciplinary session is aimed at the fields of geophysics, geodynamics, structural geology, and geochemistry, and focuses on the structure, evolution, and dynamics of the continental lithosphere, and explores their far-reaching implications for resources, environment, and hazards. The session will showcase current understanding of crustal and upper-mantle architecture across diverse tectonic settings, including Precambrian cratons, sedimentary basins, continental rift zones, and intracontinental orogens. Geodynamic studies will illuminate the roles of multiple driving mechanisms in intracontinental deformation: from plate-tectonic processes such as collision, extension, and strike-slip motion, to lithosphere–mantle dynamic coupling triggered by hotspots, large igneous provinces, and large-scale impacts. The session will further explore how intracontinental geodynamic processes influence the accumulation and preservation of natural resources, environmental change, and geological hazards.

Session 4

Title: Crust–Mantle Material Cycling: Crustal Growth, Recycling, and Deep Fate

Conveners: Yu Wang, Yanhao Lin, Feng Wang, Chunfei Chen, Yigang Xu, Wim van Westrenen, Michael W. Förster

Description: Mantle melting transports material from depth to the surface, building the crust; conversely, crustal material returns to the mantle through subduction, erosion, and delamination. This cycling is fundamental to Earth's habitability. The recycling of crustal material—including volatiles—not only influences net crustal growth but also profoundly modifies mantle composition and physical properties. In recent decades, researchers have systematically investigated crustal growth, recycling processes, and the fate of recycled materials through petrological and geochemical observations of natural samples—igneous rocks, mantle-derived xenoliths and xenocrysts, ophiolitic mantle rocks, orogenic peridotites, ultrahigh-pressure metamorphic rocks, diamonds and their inclusions—combined with high-temperature/high-pressure experiments and geodynamic modeling. This session welcomes the latest advances in related fields, aiming to deepen our understanding of crust–mantle material exchange as a fundamental planetary process.

Session 5

Title: Deep Earth Volatile Cycles: From Crust to Core

Conveners: Xiang Wu, Stephen F. Foley, Yuan Li, Yu Wang

Description: The deep Earth volatile cycle is one of the most cutting-edge interdisciplinary research directions in deep Earth science and Earth system science. This research not only underpins our fundamental understanding of the Earth's interior workings but is also directly relevant to the formation of energy and mineral resources, the assessment of seismic and volcanic hazards, and the long-term habitability of our planet. This session will bring together specialists in petrology, geochemistry, geophysics, experimental simulation, and theoretical computation to explore the behavior of volatiles across the Earth's internal spheres—from crust to mantle to core. We welcome contributions addressing volatile reservoirs, migration mechanisms, reaction kinetics, partitioning behavior, isotopic systems, and the interactions between volatile cycles and deep Earth processes, with the aim of constructing a complete picture of the Earth's deep volatile inventory.

Session 7

Title: Continental Arc Magmatism in Asian Orogenic Belts: Magma Genesis and Crustal Growth

Conveners: Yener Eyuboglu, Juxing Tang, Bo Wang

Description: Continental arc magmatism is one of the principal mechanisms driving the formation, differentiation, and reworking of continental crust at convergent plate margins. This session aims to bring together research on magma generation, crust–mantle interaction, magmatic evolution, crustal growth, and associated metallogenic processes within Asian orogenic belts. We particularly encourage multidisciplinary contributions that integrate petrology, geochemistry, geochronology, isotope geology, structural geology, and mineral systems. Through multi-perspective research, this session seeks to deepen our understanding of the geodynamic evolution of continental arcs and their role in crustal growth and modification across Asia, and provide a platform for cross-disciplinary dialogue spanning the full chain from magma to mineral resources.

Session 6

Title: Deep Lithospheric Keels of Cratons: Thermochemical Structure, Topographic Expression, and 4-D Evolution

Conveners: Irina M. Artemieva, Sonja Aulbach, Bing Xia, Liang Liu, Jianping Zheng

Description: The Asian continent is assembled from a series of ancient, stable cratons that have experienced diverse styles of lithospheric modification over their long evolutionary history. The reworking of deep, buoyant cratonic lithospheric roots ("keels") is manifested most prominently in the heterogeneity of their structure, thermal state, and composition. Understanding how deep lithospheric keels interact with mantle convection, respond to intraplate deformation, and produce topographic change is one of the core frontiers of modern Earth science. This interdisciplinary session invites studies integrating potential-field, petrological, seismological, petrophysical, and geodynamic approaches to investigate the thermochemical structure of cratonic lithosphere and its interaction with mantle dynamics. We particularly encourage research linking deep cratonic dynamic processes to surface expressions such as basin evolution and plateau uplift, which aligns closely with the central goal to achieve a four-dimensional reconstruction of Asian topography. Comparative regional studies of cratons worldwide are equally welcome.

Session 8

Title: Two-Way Coupling Between Surface Processes and Deep Earth Dynamics

Conveners: Jing Liu, Xiaoping Yuan, Peter van der Beek, Michael Oskin

Description: Over the past few decades, mounting evidence has demonstrated that the relationship between deep Earth dynamics and surface processes is not one of unidirectional forcing but of strong mutual interaction. Deep tectonic and mantle processes—such as lithospheric delamination, slab dynamics, and crustal thickening—shape topography, modulate erosion patterns, and change sediment transport pathways. Conversely, surface processes including erosion, weathering, and sediment redistribution can influence crustal stress fields, alter orogenic evolution trajectories, and even affect deep dynamic processes. Understanding this two-way coupling is crucial for predicting natural hazards, interpreting sedimentary archives, and constraining global geochemical cycles. This session welcomes studies combining analytical, numerical, and observational approaches, spanning processes such as orogenesis, erosion, landscape development, weathering, and ecosystem change. We particularly encourage contributions that identify, quantify, or model the interactive links between surface processes and deep Earth dynamics.

Session 9

Title: Formation of Asian Cratons and Their Evolution Through Supercontinent Cycles

Conveners: Peng Peng, Martin Hand, Chunrong Diwu, Rajesh Srivasatava, Jianhui Liu, Farid Chemale Junior, Chunming Wu, Tatsuki Tsujimori, Wei Wang, Byung Choon Lee, Hang Chu

Description: The topographic framework of Asia is rooted in the formation of its constituent cratons—the North China, South China, Tarim, Indian Shield, and Siberia cratons, among others—and their spatiotemporal evolution through the assembly and breakup of supercratons and supercontinents (Columbia, Rodinia, and Pangaea). This session focuses on the geodynamics of Asian craton formation and their deep-surface interactions across supercontinent cycles. Suitable topics include: the Archean formation and cratonization of Asian continental nuclei; Proterozoic intraplate magmatism and rifting events that re-stabilized the cratons; craton reworking by Proterozoic orogenies recording distinctive geodynamics; paleogeographic reconstructions of Asian cratons within supercontinents; and the resource and environmental implications of pre-Mesozoic Asian cratons and orogenic belts and their linkages with deep processes of supercontinent cycles.

Session 11

Title: Mechanisms controlling the rise and collapse of continental plateaux

Conveners: Hans Thybo, Zhipeng Zhou, Vahid Teknik, Yener Eyuboglu

Description: Continental plateaux are important tectonic units that record deep lithospheric and mantle processes and strongly influence regional climate and surface evolution. Examples such as the Tibetan, Pamir, Andean, Mexican, and East Anatolian plateaux formed in diverse tectonic settings, yet the mechanisms controlling their uplift and collapse remain debated. This session welcomes contributions on observational, geophysical, geological, geochemical, and numerical studies that address the formation and evolution of continental plateaux. Topics include the timing and rates of uplift and collapse; crustal and lithospheric structure; interactions with surrounding orogenic belts and cratons; and the roles of crustal thickening, underthrusting, magmatic underplating, metamorphic reactions, lower-crustal flow, gravitational collapse, isostatic adjustment, and mantle dynamic topography. Comparative studies of plateau systems worldwide are particularly encouraged to advance an integrated understanding of plateau growth, instability, and collapse.

Session 10

Title: Deep Earth Processes and Planetary Habitability: Linking Interior Dynamics to Surface Environments

Conveners: Mang Lin, Yige Zhang, Yu Wang, Yigang Xu

Description: Earth's deep interior—from the core to the lithosphere—serves as the fundamental engine driving Earth-system dynamics and sustaining surface habitability. Despite this intrinsic connection, investigations of deep-Earth processes and surface geochemical records have traditionally progressed in relative isolation. This session invites contributions that bridge this disciplinary divide and promote cross-disciplinary synthesis to elucidate the critical feedbacks between deep physical and chemical processes and the evolution of surface environments through geological time. We welcome contributions addressing the distribution, properties, and deep cycling of volatiles including C–H–O–N–S; chemical reaction mechanisms in Earth's interior and their surface effects; and low-temperature geochemical reconstructions of surface conditions and life. By integrating these diverse perspectives, this session aims to decode the complex feedback loops linking Earth's deep interior and surface environments, and to stimulate conceptual innovations in Earth-system science.

Session 12

Title: Polar Deep Exploration: Lithospheric Structure, Geodynamics, and Ice-Sheet Interactions

Conveners: Changchun Zou, Guoqing Ma, Guofeng Liu, Jamin S. Greenbaum, German Leitchenlov

Description: The polar regions are among the last frontiers for deep Earth exploration. Beneath several-kilometer-thick ice sheets are preserved ancient shields, rift systems, active volcanoes, and key records of plate breakup and convergence. Understanding the structure and evolution of the polar lithosphere is essential for reconstructing supercontinent cycles, global plate-tectonic dynamics, and deep Earth–surface coupling, while also informing assessments of polar resources, ice-sheet stability, and climate change. This session welcomes contributions on: subglacial lithospheric structure and tectonic evolution of Antarctica, including the Antarctic Shield, Transantarctic Mountains, West Antarctic Rift System, and East Antarctic Craton; advances in polar geophysical methods, including airborne gravity and magnetic surveys, active- and passive-source seismology, ice-penetrating radar, and electromagnetic techniques; Antarctica's role in Rodinia, Gondwana, and Pangea reconstruction; and the impacts of geothermal heat flux and lithospheric thermal state on basal melting and ice-flow dynamics.

● Theme 2: Deep Earth Material, Mineral Systems, and Their Applications

Session 13

Title: Deep Mantle Dynamics and Metallogenesis

Conveners: Xisheng Xu, LucS.Doucet, Dongyang Lian, Kristoffer Szilas, Meifu Zhou, Jianping Zheng, Jingsui Yang

Description: The mantle is the central dynamic sphere between core and crust, controlling heat transfer, plate tectonics, and the long-term evolution of the Earth. This session focuses on how the composition and dynamic processes of the deep mantle control the formation of mineral resources. The session will examine mantle heterogeneity—from depleted upper mantle and enriched mantle components to large low-shear-velocity provinces and ultra-low-velocity zones at the core–mantle boundary. Key processes include mantle upwelling, oceanic slab subduction, transition-zone phase changes, and the recycling of crustal material into the deep mantle. These processes trigger large-scale melting, fluid/melt metasomatism, and metal mobilization, ultimately generating diverse magmatic ore deposits in cratonic, orogenic, and rift settings. By integrating seismic tomography, experimental petrology, geochemistry, and geodynamic modeling, this session aims to deepen our understanding of the fundamental linkages between deep mantle dynamics and metallogenesis.

Session 15

Title: 3-D to 4-D Lithospheric Architecture, Deep Material Exploration, and Controls on Metallogenesis

Conveners: Tao Wang, Zengqian Hou, Peter A. Cawood, William Collins, Reimar Seltnann, Timothy Kusky, Zhidan Zhao, Joshua J. Schwartz, Haijiang Zhang

Description: Understanding lithospheric architecture, deep material composition, and their spatiotemporal evolution is a grand challenge in deep Earth exploration. Building on substantial recent progress, this session will focus on three major directions: methodologies for constructing three- to four-dimensional lithospheric architecture, particularly through the combined application of petrogeochemistry and geophysics; the relationships between lithospheric architecture and continental growth; and the controls of lithospheric architecture on metallogenesis, including the development of predictive mineral exploration models. The session aims to evaluate current advances in methodologies for imaging the three- to four-dimensional architecture of the deep crust and lithospheric mantle; integrate petrological, geochemical, structural, geodynamic, and geophysical data to construct lithospheric models and metallogenic prediction frameworks; and explore the intrinsic connections between lithospheric architecture and ore formation. Regional case studies are equally welcome.

Session 14

Title: Cratons and Their Margins: Geophysical Perspectives on Lithospheric Structure, Evolution, and Mineral Systems

Conveners: Huaiyu Yuan, Liang Zhao, Jianfeng Yang, Shuanhong Zhang, Klaus Gessner

Description: Cratons and their margins preserve the fundamental record of Earth's lithospheric evolution—from early crustal growth and cratonization to later rifting, orogenesis, and reworking within supercontinent cycles. These processes produce a highly heterogeneous lithosphere that not only governs tectonic evolution but also exerts first-order control on topographic development and the formation and preservation of mineral and energy resources. In recent years, major advances in large-scale dense geophysical observations—particularly datasets from major deep exploration initiatives (such as SinoProbe-II) and large regional seismic arrays—have enabled imaging of crust–mantle structure and lithospheric framework with unprecedented resolution. When combined with geological, geochemical, and geodynamic constraints, these datasets offer new opportunities to link deep Earth processes with surface evolution within a time-varying four-dimensional framework. This session welcomes contributions employing geophysical imaging, modeling, and multidisciplinary approaches to investigate craton formation, modification, and craton–margin interactions.

Session 16

Title: Deep Lithospheric Structure and Its Control on Mineral Systems

Conveners: Zhiming Yang, Bo Xu, David R. Lentz, Xiaolei Wang, Adam C. Simon

Description: Geological processes within the lithosphere are intimately linked to the concentration of mineral resources, with many mineral deposits occurring exclusively within specific lithospheric environments. This session invites research from the fields of geology, geophysics, geodynamics, geochemistry, and petrology, focusing on the genetic connections between crustal architecture, lithospheric evolution, plate tectonics, and deep mantle processes (including large igneous provinces) on the one hand, and the genesis of diverse mineral deposits across different geodynamic and tectonic settings on the other. We particularly welcome multidisciplinary studies centered on Precambrian cratons, continental collision zones, modern and ancient subduction systems, and large igneous provinces, with the aim of building a unified framework linking deep lithospheric processes to metallogenic response.

Session 17

Title: The Nepal Himalaya as a Natural Geoscience Laboratory: Tectonics, Mineral Resources and Natural Hazards

Conveners: Kabi Raj Paudyal, Delores Robinson, Indira Parajuli

Description: This session focuses on the Nepal Himalaya, a unique natural geoscience laboratory extending from the lowland plains at an elevation of about 300 m to the summit of Mount Everest at 8,848 m. The session is organized around two principal themes—mineral resources and natural hazards. It will systematically present the mineral resource potential of Nepal within its geological evolution framework, encompassing critical minerals such as nickel, cobalt, copper, rare earth elements, lithium, gold, silver, gemstones, dolomite, and high-purity silica-rich quartzite, as well as various industrial and construction minerals. The session will further explore the intrinsic linkages among geology, geomorphology, mineral resources, environmental protection, sustainable tourism, and regional development. At the same time, it will address the major natural hazards facing Nepal—earthquakes, landslides, floods, and soil erosion. This interdisciplinary session aims to bring together Earth scientists, hazard researchers, and policy makers to foster knowledge exchange and international cooperation in Himalayan mineral resources and natural hazard studies.

Session 19

Title: Geologic Hydrogen: Deep Earth Processes and Exploration of an Emerging Low-Carbon Resource

Conveners: Humberto Reis, Shuangbiao Han

Description: Geologic (natural) hydrogen has rapidly emerged as a potential low-carbon energy source. Anomalous concentrations of natural hydrogen have been reported on nearly every continent, accelerating global exploration activity and gaining increasing support from research institutions. Known occurrences of natural hydrogen span a wide variety of geological environments, including intracratonic basins, active rifts, oceanic spreading centers, and ophiolite complexes within modern and ancient Himalayan-type orogens. Current mainstream models attribute natural hydrogen generation primarily to hydration reactions of iron-rich rocks and radiolysis in crustal settings, yet many aspects of natural hydrogen systems remain open scientific questions: natural generation kinetics, the role and contribution of deep mantle degassing, microbial consumption, fluid migration dynamics, and subsurface trapping processes. This session explores the latest advances and challenges in the scientific understanding and commercial exploration of geologic hydrogen, emphasizing how probing its deep lithospheric dynamics may contribute to a sustainable and equitable energy transition.

● Theme 3: Topographic Evolution and Its Controls on Mineral and Energy Resources in Asia

Session 18

Title: Deep–Shallow Dynamics, Orogen–Basin Evolution, and Critical Minerals of the Central Asian Orogenic Belt

Conveners: Cheng Wang, Chengshan Wang, Mincai Hou, Hao Xu, Adilkhan Baibatsha

Description: This session addresses key frontiers in deep Earth exploration and Earth-system science by linking the evolution of Asian orogen–basin systems with the formation and distribution of critical minerals, and by emphasizing the coupling between deep dynamic processes and surface records. Asia, as a unique natural laboratory, preserves a remarkable record of mantle dynamics, plate collision, lithospheric deformation, and deep–surface interactions, providing an ideal setting for understanding the genesis and enrichment of critical minerals such as uranium, rare earth elements, and copper. We welcome contributions on the geodynamic mechanisms of Asian orogen–basin evolution and their controls on the migration and concentration of ore-forming materials; the responses of critical mineralization to mantle processes, lithospheric deformation, and fluid activity; surface records of ore-forming processes and their constraints on deep dynamics; and the application of deep exploration technologies to critical mineral resource assessment and prediction. The session aims to foster interdisciplinary collaboration among deep Earth science, surface-process studies, and critical mineral exploration.

Session 20

Title: Deep to Ultra-Deep Oil and Gas Exploration: Accumulation Dynamics and Key Technologies

Conveners: Yibo Wang, Jingye Li, Tobias M. Müller, Zong Zhaoyun, Haijun Yang, Jun Ni, Shangbin Chen, Jianguang Han

Description: Deep to ultra-deep strata have become a major frontier for global hydrocarbon exploration and a key field for reserve growth and production enhancement. This session focuses on the core scientific questions and key technologies of deep oil and gas exploration, with emphasis on deep to ultra-deep accumulation dynamics, including temperature–pressure evolution, overpressure development, hydrocarbon preservation, and fluid-induced reservoir modification; the formation and prediction of ultra-deep effective reservoirs, including diagenesis, porosity preservation, and fracture–vuggy reservoir models and seismic prediction; geophysical exploration technologies for deep oil and gas, including seismic acquisition and processing, reservoir parameter prediction, and fluid identification; and deep well-logging and evaluation technologies under ultra-high temperature and pressure conditions. The session will also address emerging frontiers in deep to ultra-deep natural gas, deep shale gas, and deep tight oil.

● Theme 4: Earthquakes, Geohazards, and Geological Extremes in Tectonically Dynamic Asia: Mechanisms, Monitoring, and Mitigation

Session 21

Title: Before the Earthquake: Scientific Frontiers in Prediction, Forecasting, and Early Warning

Conveners: Zhigang Shao, Rui Yan, Yongxian Zhang, Jing Liu, Lingyuan Meng, Vladimir Kossobokov, Jiexiong Chen, Antonella Peresan, Max Werner

Description: Earthquakes do not occur randomly, yet they lack an obvious regularity. Instead, they manifest as self-organized phenomena within the hierarchical structure of the Earth—from tectonic plates to interacting rock grains. In recent years, significant progress has been made in assessing spatiotemporal magnitude relationships and identifying multi-factor precursory patterns, enabling reproducible, testable, and potentially operational earthquake forecasting capabilities. However, existing post-event early warning systems still suffer from substantial "blind zones" due to the difficulty of rapidly determining earthquake size and location. Pre-earthquake anomalies exhibit characteristic spatiotemporal features, and realistic earthquake assessment must span temporal scales ranging from decades to months—or even weeks or days—and spatial scales from global to regional and local. This session encourages the exchange of experience and best practices obtained through diverse methodologies, promoting a global dialogue on earthquake prediction and early warning.

Session 23

Title: Deep–Surface Multi-Stage Interactions Along Major Fault Zones and Hazard Mitigation

Conveners: Haibing Li, Kaiwen Xia, Marie-Luce Chevalier, Aitaro Kato, Giulio Viola

Description: This session focuses on the deep–surface interaction processes along major fault zones across different stages of the seismic cycle—interseismic, preseismic, coseismic, and postseismic. Through field geological surveys, multi-scale surface observations, deep borehole multi-physical monitoring, dense geophysical imaging, multi-scale physical experiments, numerical modeling, and theoretical analysis, we aim to explore the two-way coupling mechanisms between deep tectonic activity (such as lithospheric deformation, fluid processes, and stress accumulation and release) and surface processes (such as erosion, sedimentation, geomorphic evolution, and hydrological response). The session will give special attention to postseismic surface recovery, aftershock activity, deep rheological response, and fault healing following large earthquakes; interseismic strain accumulation, deep slip rates, and surface deformation characteristics; and preseismic deep precursory signals, fluid–stress coupling, and geological hazard early warning. Contributions based on observational, theoretical, and applied research are all welcome.

Session 22

Title: After the Earthquake: Rapid Scientific Response and Seismogenic Mechanisms for Large Earthquakes

Conveners: Ying Li, Zhongliang Wu, Taha Rabeh, Antonio Caracausi, Mohamed ElGabry, Walter D. Mooney, Qinghui Cui

Description: Large earthquakes—especially those occurring in densely populated continental regions—inflict enormous damage on society. The rapid mobilization of post-earthquake scientific investigations plays an irreplaceable role in understanding the seismic cycle, analyzing the factors contributing to disaster, and providing scientific support for decision-makers in earthquake preparedness and disaster mitigation. To date, numerous countries and regions struck by devastating earthquakes have conducted extensive post-earthquake investigations employing a variety of operational models. This session aims to explore post-earthquake scientific investigations of large earthquakes and their connection to seismogenic mechanisms. We cordially invite contributions on post-earthquake investigations of large earthquakes worldwide, with emphasis on, but not limited to: investigation mobilization models, multidisciplinary coordination and international collaboration, emerging technology applications, scientific guidelines and standards, professional education and training, post-disaster recovery and reconstruction measures, earthquake nucleation and rupture processes, and related cross-disciplinary studies.

Session 24

Title: Significant Asian Earthquakes of the 21st Century: Lessons Learned and Building Resilient Societies

Conveners: Harsh K. Gupta, Prantik Mandal, Junju Xie, Xinzheng Lu

Description: Despite continued scientific and technological progress, the impact of earthquake disasters continues to escalate. In the first quarter of the 21st century alone, global earthquake-related casualties and economic losses have far exceeded the total of the entire 20th century. Asia accounts for nearly 80% of natural-disaster-related fatalities worldwide. Major 21st-century Asian earthquakes include the 2004 Sumatra earthquake and tsunami, the 2005 Muzaffarabad earthquake, the 2008 Wenchuan earthquake, the 2011 Tohoku earthquake and Fukushima nuclear accident, and the 2023 Türkiye earthquakes. Targeted measures can alter this trajectory: recreating historical great-earthquake scenarios, safeguarding lifeline buildings, establishing earthquake memorial days, improving seismic building codes, and deploying earthquake early warning systems. This session welcomes contributions on observations from destructive earthquakes and on building earthquake-resilient societies.

Session 25

Title: Volcano-Seismic Hazards Along Asian Subduction Zones: From Kamchatka to Indonesia

Conveners: Ivan Koulakov, Satria Bijaksana, Dun Wang

Description: This session integrates multidisciplinary observations to assess volcano-seismic hazards along the subduction zones fringing East Asia—from Kamchatka through Japan and the Philippines to Indonesia. We invite contributions employing seismological methods, InSAR, GNSS, gravity, magnetics, remote sensing, and other geophysical approaches. Key objectives include: imaging volcanic magma plumbing systems; characterizing megathrust earthquake generation mechanisms along the plate interface; identifying precursory signals of volcanic eruptions and large subduction earthquakes; and quantifying volcanic and seismic hazard risk. Through cross-subduction-zone data and model comparisons, this session aims to advance the predictive capability for great earthquakes and volcanic eruptions, reduce the associated risks along the eastern margin of Asia, and provide scientific underpinnings for subduction-zone hazard management around the circum-Pacific.

Session 26

Title: Tectono-Magmatic Evolution, Geohazards, and Land Subsidence in Southeast Asia

Conveners: The Viet Tran, Thanh Thuy Pham, Satria Bijaksana, Piyaphong Chenrai

Description: Southeast Asia is one of the world's most complex tectonic regions, shaped by subduction, collision, terrane accretion, and magmatism. This session explores how deep lithospheric and tectono-magmatic processes are linked to surface evolution, volcanic activity, geohazards, and land subsidence. We welcome contributions on Phanerozoic magmatism and its role in crustal architecture and rheology; active tectonics, Cenozoic exhumation, and landscape evolution; tectonic controls on volcanism; links among faults, weathered lithologies, landslides, debris flows, and seismicity; and land subsidence in Southeast Asian megacities and deltas caused by tectonic subsidence, sediment compaction, and rapid urbanization. Contributions integrating petrology, geochemistry, geotechnical engineering, remote sensing, including InSAR and GNSS, and geophysics for hazard assessment, monitoring, and mitigation are particularly encouraged. By integrating hard-rock geology, geotechnical engineering, and surface-process studies, this session aims to advance understanding of deep-surface coupling and its role in shaping Southeast Asia's geological environment and hazards.

Session 27

Title: Geomorphic Expressions from Earthquakes to Orogenesis: Cross-Scale Records and Mechanisms

Conveners: Huiping Zhang, Eric Kirby, Xuhua Shi, Eitan Shelef, Simon Mudd, Mikael Attal, Amit Mushkin, Xudong Zhao, Yifei Li

Description: The Earth's surface is a dynamic archive of tectonic processes, where short-lived seismic events and million-year-scale orogenesis converge to shape the landscape. This session explores the critical links between earthquake rupture and the long-term geomorphic evolution of orogenic belts, aiming to fill the knowledge gap regarding how transient deformation is converted into permanent topographic relief. We focus on three interlinked themes: the mechanistic bridge—how fault-zone processes during earthquakes lay the groundwork for sustained orogenic deformation; the geomorphic imprint—which landscape features record the transition from seismic-cycle to orogenic-scale growth; and cross-scale dynamics—how short-term strain rates and long-term tectonic forces interact to shape topography, modulated by climatic and surface-process feedbacks. We welcome studies integrating field investigations, geophysical imaging, rock-deformation experiments, and coupled tectonic-surface-process numerical modeling, with the goal of building a unified framework spanning from seismic hazard assessment to long-term landscape evolution.

Session 28

Title: Reservoir-Triggered Seismicity in Asia: Mechanisms, Monitoring, and Hazard Implications

Conveners: Harsh K. Gupta, Prantik Mandal, Zhifeng Ding

Description: Large reservoirs in Asia have served for over six decades as natural laboratories for studying how the brittle crust responds to rapid anthropogenic loading, elastic stress redistribution, and pore-pressure diffusion. These perturbations can trigger seismicity across a wide range of tectonic settings—including intraplate regions, active continental margins, and the Himalayan collision zone. This session focuses on reservoir-triggered seismicity (RTS) associated with large dams and impoundments, with emphasis on the spatiotemporal evolution of seismicity before, during, and after impoundment; the discrimination of RTS from background tectonic activity; and the relative roles of elastic loading versus hydraulic forcing in reactivating pre-existing faults. We particularly welcome studies on Asian reservoirs utilizing dense earthquake catalogs, focal mechanisms, stress inversions, seismic tomography, geodetic data, and hydrogeological/ poroelastic models. Research on microseismic monitoring during impoundment and drawdown, as well as identification of critically stressed faults, is also encouraged, with the aim of testing universal theories of triggered seismicity within a global comparative framework.

Session 29

Title: Seismic Swarms and Deep-Surface Coupling: Magma, Fluids, and Topographic Evolution

Conveners: Pinar Büyükkapınar, Mohammadreza Jamalreyhani, Zhiwei Wang, Shengji Wei

Description: Seismic swarms are key indicators of magmatic, fluid-driven, and tectonic processes, providing insights into magma transport, fluid migration, dike intrusion, crustal deformation, and topographic evolution. They are especially important in complex regions such as the Anatolian Plateau, the North China Craton, and volcanic and geothermal provinces of Central and East Asia. This session welcomes contributions on the detection, monitoring, and spatio-temporal evolution of seismic swarms; their links to magma transport, fluid circulation, crustal deformation, and induced or geothermal seismicity; the influence of lithospheric structure, tectonic inheritance, and permeability evolution; and advances in dense seismic networks, large-N arrays, high-resolution imaging, source modeling, tomography, and machine learning. By integrating seismological observations with tectonic, magmatic, and hydrothermal perspectives, this session aims to improve understanding of how seismic swarms illuminate deep lithospheric processes and their surface expressions across diverse tectonic settings.

Session 31

Title: Deep Scientific Drilling in Carbonatite-Hosted REE Deposits: Scientific Objectives and Challenges

Conveners: Lingseng Zeng, Zengqian Hou, Kathryn Goodenough, Xianhua Li, Hongrui Fan, Yan Liu, Sam Broom-Fendley, Cheng Xu, Michael Marks

Description: This interdisciplinary session invites research from the fields of geology, geochemistry, geophysics, and geodynamics, focusing on the origin, architecture, structure, and evolution of carbonatite magmatic systems and rare earth element (REE) deposits. The session will cover current understanding of the following topics: the petrogenesis of carbonatites in different tectonic settings and the geochemical nature of their continental lithospheric source regions; the architecture and deep structure of large carbonatite magmatic systems; the geological processes leading to enrichment and mineralization of REEs and other associated economic elements; and the geodynamic settings of giant REE deposit formation. The session will also delve deeply into how deep scientific drilling can maximize the scientific value of large carbonatite-hosted REE deposits, such as the Bayan Obo REE deposit, providing critical constraints for REE metallogenic theory and exploration technologies.

● Theme 5: Scientific Drilling in Continental and Oceanic Settings: Challenges, Opportunities, and Frontiers

Session 30

Title: International Continental Scientific Drilling (ICDP) in China: Progress and Prospects

Conveners: Maoyan Zhu, Catherine Rose, Liping Zhu, Torsten Haberzettl, Yubin Sun, Hendrik Vogel

Description: The International Continental Scientific Drilling Program (ICDP) is a unique international initiative in Earth system research that has played a pivotal role over the past two decades in unveiling continental geology through targeted scientific drilling. This session provides a platform for core members and collaborators of three active ICDP projects—spanning from Neoproterozoic Earth systems to Cenozoic paleoclimate change—to share experiences in drilling operations, data management, research protocols, and scientific progress. The projects are: GRIND-ECT (Geological Research through Integrated Neoproterozoic Drilling: The Ediacaran–Cambrian Transition), the Weihe Basin Drilling Project (Phase I: Miocene–Pleistocene Asian hydroclimatic changes and dynamics), and Tibet NamCore (a million-year sedimentary record of the Third Pole). We also invite research contributions thematically linked to these three ICDP projects. A roundtable discussion will be organized following the session.

Session 32

Title: Ocean Scientific Drilling: Discoveries and Future Challenges

Conveners: Zhen Sun, Chuanzhou Liu, Zhifei Liu, Huayu Lu, Karsten Gohl, Farid Chemale, Ron Hackney

Description: International ocean scientific drilling has achieved remarkable breakthroughs. Yet many fundamental questions remain unresolved, and new challenges call for further drilling expeditions. The most ambitious frontiers include deep Earth exploration (such as Moho drilling) and high-latitude polar drilling. High-resolution geophysical imaging is critical for optimizing drill-site selection, testing scientific hypotheses, and revealing the geology of undrilled regions and depths. This session aims to foster interdisciplinary dialogue on advancing ocean drilling science, encompassing, but not limited to, next-phase frontier targets such as the deep Earth and the polar regions, as well as the geophysical techniques that may help realize these goals. We invite experts and scholars concerned with ocean scientific drilling to share key scientific discoveries, discuss future breakthroughs and challenges, and promote the application of innovative geophysical methods in ocean drilling.

Session 33

Title: Crustal Stress and Earthquakes: From In-Situ Deep Measurements to Seismogenic Mechanisms

Conveners: Derek Elsworth, Dongsheng Sun, Myungsun Kim, Chongyuan Zhang, Weiren Lin, Xiaodong Ma

Description: In-situ crustal stress is fundamental data for earthquake mechanism studies, energy and resource development, and subsurface space utilization. Approximately 30 years ago, the German Continental Deep Drilling Program (KTB) completed the deepest in-situ stress measurements to date, providing valuable insights into deep crustal stress conditions, plate-driving mechanisms, and rock fracture behavior. However, our understanding of deep crustal stress, pore pressure, and rock mechanical properties remains extremely limited, which to some extent constrains a clear understanding of the evolution of endogenic geological hazards such as earthquakes. This session welcomes contributions from scientists worldwide engaged in crustal stress and earthquake research, with the aim of fostering in-depth discussion on in-situ stress measurement techniques, stress occurrence mechanisms, and the relationship between fault instability and earthquakes, thereby advancing crustal stress science and its application in earthquake hazard mitigation.

Session 34

Title: The Terrestrial Deep Biosphere: Exploring the Limits of Dark Life

Conveners: Hailiang Dong, Maggie Lau, Weiguo Hou

Description: The biosphere that does not depend on sunlight as an energy source is composed mainly of microorganisms with anaerobic, thermotolerant, and barotolerant characteristics, commonly referred to as the "dark biosphere". Several studies estimate that the terrestrial deep biosphere harbors approximately 15% of Earth's total biomass, yet this is far from the full picture. We still lack understanding of its diversity across different tectonic settings—from Precambrian cratons to sedimentary basins, continental rift zones, and intracontinental collisional orogens—and its response patterns to different geological processes (e.g., volcanism, earthquakes). Nor do we know where the lower depth limit of life lies. This session will present current understanding of the differences in deep microbial communities and their environmental adaptations across sedimentary basins, igneous provinces, and metamorphic terranes, and explore how these deep-life drivers participate in and contribute to global geochemical cycles.

● Theme 6: Integrated Technologies for Deep Earth Exploration and Imaging

Session 35

Title: Probing the Earth's Interior Across Scales with Satellite Observations

Conveners: Mioara Manda, Jiayong Yan, Lianghai Guo

Description: Recent and in-orbit satellite missions offer unprecedented opportunities to study the structure and dynamics of the Earth's interior, covering a broad range of spatial and temporal scales. Space-borne observations have contributed significantly to our understanding of lithospheric architecture, tectonic processes, mantle dynamics, crustal deformation, and their interactions with surface processes. This session aims to bring together researchers who use satellite observation data to conduct research on the Earth's interior and its surface, utilizing gravity and gravity gradient data, magnetic field observations, high-resolution imagery, InSAR measurements, topography, terrestrial hydrology, and other Earth-science-relevant Earth-Observation datasets. Emphasis will be placed on innovative processing and inversion techniques that address the fusion of multi-source satellite data with ground-based geophysical and geological observations, as well as applications in tectonics, geodynamics, natural resources, hazards, and global change. Contributions from scholars engaged in the above research are welcome, promoting methodological development and scientific discovery from local to global scales.

Session 36

Title: Advanced Seismology: Dense Array Observations and Multi-Disciplinary Deep Earth Imaging

Conveners: Li Li, Harsh K. Gupta, Xiaodong Song, Jon Karapetyan, Ruben Tatevossian, Sarantseg Lkhagvasuren

Description: This session focuses on the frontiers of seismic structure exploration, dense array observation, and multidisciplinary integrated interpretation, with the aim of advancing high-resolution imaging of the deep Earth. With the rapid development of high-density seismic arrays, nodal instruments, ocean-bottom seismometers (OBS), and distributed acoustic sensing (DAS), seismology is entering an era of unprecedented resolution. Yet resolving multi-scale heterogeneities from the crust to the mantle transition zone still demands innovative methods and the synergistic integration of seismic data with other geophysical and geological constraints. We welcome studies involving active- and passive-source seismic techniques—including deep reflection/refraction, body-wave and surface-wave tomography, ambient-noise interferometry, full-waveform inversion, receiver functions, and anisotropy imaging—as well as the design and deployment of dense arrays. Innovative seismic imaging workflows, integrated geophysical interpretations, and new insights into Asian continental dynamics emerging from international programs such as SinoProbe-II and TopoAsia are particularly encouraged.

Session 37

Title: The SinoMT Array and Lithospheric Electrical Imaging

Conveners: Qingtian Lü, Sheng Jin, Yixian Xu, Andre Revil, Qinghua Huang, Kun Zhang, Makoto Uyeshima

Description: We solicit contributions on all aspects of electromagnetic (EM) methods that advance our understanding of lithospheric and asthenospheric structure and geodynamics. We seek research spanning from field surveys to physical/numerical modeling, covering both regional and global scales of solid-Earth imaging. Laboratory measurements of rock/mineral resistivity, new instrumentation development, and new methodologies are equally welcome. Multidisciplinary studies—especially those integrating EM methods with other geophysical approaches—are particularly encouraged. The session will highlight the network construction, scientific achievements, and technological developments of the major deep Earth initiative "National Magnetotelluric Array (Phase I)," showcasing the unique contributions of the magnetotelluric method in revealing lithospheric electrical structure, fluid/melt distribution, and deep dynamic processes.

Session 39

Title: Deep Mineral Exploration: Equipment, Methods, and Integrated Applications

Conveners: Qingyun Di, Jun Lin, Xiangyun Hu, Shaohua Zhang, Haijiang Zhang, Zhongxing Wang, Tingting Lin

Description: This interdisciplinary session invites researchers with expertise in geophysical methods, instrumentation, and deep mineral exploration applications. The session focuses on the innovative application of quantum technology, artificial intelligence, and big data in geophysical exploration, as well as next-generation key technologies for deep mineral resource exploration. Topics will cover advances in the research and development of deep exploration equipment and techniques—including gravity, magnetic, electromagnetic, and seismic methods; the construction of air–ground–borehole integrated exploration equipment systems; and the fusion and interpretation of multi-source geological, geophysical, geochemical, and remote sensing data. The session aims to drive technological innovation in geophysical exploration methods, achieve breakthroughs in key technologies, promote the comprehensive application of exploration equipment systems, and provide robust technical support for the precision exploration of deep mineral resources.

Session 38

Title: Frontiers in Dense Array Seismology: From Nodal Instruments to Distributed Fiber-Optic Sensing

Conveners: Huajian Yao, Sergei Lebedev, Haijiang Zhang, Ping Tong, Xiaobo Tian, Zhen Guo, Xiangfang Zeng

Description: Dense arrays have been widely applied in seismological research, greatly advancing our understanding of earthquake source properties and the multi-scale structure of the Earth. Nodal seismometers—all-in-one geophones with built-in batteries and digitizers—have been extensively deployed in recent years for high-resolution imaging of regional crustal structure, volcanic areas, fault zones, urban settings, and hydrocarbon and mineral fields. These seismic nodes are cheaper and easier to deploy than broadband sensors, enabling dense arrays with inter-station spacings of tens to hundreds of meters, thereby achieving high-resolution imaging of shallow structure and high-precision earthquake location. Furthermore, recent advances in distributed acoustic sensing (DAS) have made ultra-dense array imaging and source location possible using existing telecommunication fiber-optic cables. This session welcomes all studies employing dense arrays—whether broadband seismometers, all-in-one geophones, or DAS—and especially encourages new techniques for data processing, imaging, full-waveform inversion, and source location based on dense-array data.

Session 40

Title: AI-Driven Deep Exploration: Methods, Applications, and Frontiers

Conveners: Wenlei Wang, Yanfei Wang, Jianwei Ma, Zhongwei Li, Danping Cao, Sanyi Yuan, Hao Zhang, Mrinal K. Sen

Description: Deep Earth exploration is entering an era of data explosion—satellite remote sensing, airborne geophysics, ground-based geophysics, and deep drilling continuously generate massive, multi-source, heterogeneous datasets. How to efficiently extract useful information from these data, identify deep geological features, and predict concealed mineral resources constitutes a major challenge for deep Earth science. The rapid advancement of artificial intelligence, particularly breakthroughs in deep learning, knowledge graphs, and large language models, provides powerful tools to address this challenge. This session focuses on innovative applications of AI in deep exploration, with emphasis on the following directions: applications of deep learning in seismic data denoising, first-break picking, fault identification, and lithological classification; breakthroughs in neural-network-based inversion of gravity, magnetic, and electromagnetic data; machine-learning-based quantitative mineral prospectivity mapping and intelligent identification of concealed ore bodies through geological big-data mining; and multi-source data fusion and intelligent analysis platforms.

Session 41

Title: From Deep Earth Observations to Quantitative Models: Numerical Simulation of Deep Earth Dynamics

Conveners: Huai Zhang, Lijun Liu, Zhonghai Li, YoungHee Kim, Liqing Jiao, Yujun Sun

Description: This session brings together leading researchers in deep Earth geodynamics, computational geodynamics, and related disciplines. We aim to advance fundamental understanding of continental evolution by focusing on the critical leap from geological and geophysical observations to rigorous quantitative physical models. Presentations and discussions will cover the following scientific frontiers: lithospheric rheology and deformation—exploring the multi-scale rheological structure of the lithosphere and its influence on intracontinental deformation, employing advanced 2-D/3-D thermo-mechanical numerical simulations to investigate strength-contrast mechanisms; mantle dynamics and continental stability—investigating the complex interactions between cratonic lithospheric mantle layering and boundary-driven convection and their profound implications for long-term continental stability; and geodynamic model calibration and data-driven model refinement—emphasizing the integration of detailed geophysical and geological data from deep exploration programs to construct tightly constrained, high-fidelity models of continental dynamics.

Session 43

Title: An Integrated Lithosphere–Upper Mantle Model: Tectonic Processes and Topographic Evolution

Conveners: Mikhail Kaban, Bo Chen

Description: Over the past several decades, geophysical exploration has greatly advanced our knowledge of the lithospheric and upper-mantle structure of Asia. The physical properties and architecture of the lithosphere–upper mantle system constitute the essential foundation for understanding contemporary tectonic processes, geodynamic evolution, and regional topographic development. Yet despite significant progress, no single geophysical method can deliver a complete and self-consistent model of the Earth's interior. Robust and reliable models must therefore integrate complementary geophysical observations and methodologies. This session welcomes studies that combine multiple geophysical datasets and approaches—including, but not limited to, seismology, gravity, magnetotellurics, geodesy, and thermal modeling—to improve our integrated understanding of the structure, properties, and evolution of the Asian lithosphere–upper mantle system.

● Theme 7: Orogenic Evolution and Basin Formation: Archives of Topographic Change

Session 42

Title: East Asian Tectonics, Topography, and Climate Evolution

Conveners: Yunpeng Dong, Franz Neubauer, Jianhua Li, Peter A. Cawood, Guochun Zhao, Christoph Hauzenberger

Description: The East Asian continent is a composite tectonic assemblage shaped by the long-term interaction of the northern Paleo-Asian and southern Tethyan domains. Its architecture reflects the amalgamation of major blocks (North China, South China, Tarim) and numerous microcontinents/terrane during the successive opening and closure of the Proto-, Paleo-, (Meso-), and Neo-Tethys oceans, coupled with arc accretion in the Paleo-Asian domain. Following continental assembly, widespread intracontinental deformation and lithospheric reworking were driven by westward subduction of the Paleo-Pacific/Pacific plates. These processes controlled mountain building, basin development, and landscape evolution, profoundly influencing atmospheric circulation, monsoon evolution, and regional climate — most notably through Cenozoic Tibetan Plateau uplift, which triggered monsoon intensification and continental aridification. This session welcomes contributions exploring the links between continental growth, tectonic evolution, topographic development, climate, and deep–surface coupling across East Asia.

Session 44

Title: The Kazakhstan Orocline: Topography, Geology, and Geodynamics

Conveners: Adilkhan Baibatsha, Sheishenaly Usupbaev, Min Sun, Pengfei Li

Description: The Kazakhstan Orocline forms the western pivot of the Central Asian Orogenic Belt. Its topography is characterized by stark contrasts: the towering ranges of the southern Tien Shan, the low-lying Caspian Depression to the west, the Altai Mountains to the east, rolling low hills and plains in the center, and a mosaic of forest and steppe in the north. This topographic pattern results from the combined effects of Paleozoic plume activity and Mesozoic–Cenozoic collisional processes. An active mantle plume affected much of Kazakhstan, producing a distinctive tectono-magmatic geological framework, associated landforms, and related mineral deposits. The closure of the Tethyan Ocean and subsequent collision along the southern margin of the region generated mountain systems that continue to evolve today, accompanied by ongoing seismic activity. This session welcomes multidisciplinary contributions addressing all of the above directions.

Session 45

Title: The Mongolian Plateau: A Natural Laboratory for Accretionary Tectonics and Topographic Evolution

Conveners: Narantsetseg Tserendash, Ulambadrakh Khukhuudei, Lu Wang

Description: The Mongolian Plateau, located at the core of the Central Asian Orogenic Belt, records the long-term evolution of one of Earth's largest accretionary orogens. It preserves key evidence for Phanerozoic continental growth, including ancient cratonic fragments, juvenile mantle-derived crust, and accreted terranes. However, major questions remain regarding its multiphase tectonic evolution, cratonization, and role in Asian continental assembly. This session welcomes contributions on the tectonic, crustal, topographic, and environmental evolution of the Mongolian Plateau and adjacent regions. Topics include accretionary and collisional tectonics, crustal growth and reworking, cratonization, basin development, sediment routing, paleoelevation reconstruction, and tectonic–climate–surface process interactions. We especially encourage interdisciplinary studies integrating geological, geochronological, geochemical, geophysical, sedimentological, and geomorphic datasets, as well as regional syntheses linking the Mongolian Plateau to broader Asian and global accretionary orogenic systems.

Session 47

Title: High-Precision Chronology of Meso-Cenozoic Collisional Tectonics and Plateau–Basin Coupling in Asia

Conveners: Jun Meng, Stuart A. Gilder, Giovanni Muttoni, Hans-Peter Bunge, Perach Nuriel

Description: This session focuses on Meso-Cenozoic collisional tectonics, plateau uplift, and intracontinental deformation in Asia, emphasizing the critical role of high-precision geochronology in constraining the timing and mechanisms of tectonic activity. We welcome studies integrating geochronology, paleomagnetism, structural geology, basin analysis, geophysics, and geodynamic modeling to explore the coupling among continental collision, plateau growth, basin formation, and East Asian intracontinental deformation. Core themes include: the activity timing and kinematics of major strike-slip and thrust systems; the India–Asia collision and the evolution of Greater India; deformation and outward expansion of the Tibetan Plateau and its surrounding mountain belts; basin development in response to tectonic reorganization; and the linkages among lithospheric deformation, surface uplift, and basin evolution. This session aims to clarify how collisional processes have shaped the Meso-Cenozoic topographic framework and intracontinental deformation of Asia.

Session 46

Title: Cretaceous Basin–Orogen Evolution: Climatic, Oceanographic, and Tectonic Synergies

Conveners: İsmail Ömer Yılmaz, Xiumian Hu

Description: The Cretaceous witnessed the development of numerous orogenic systems and associated basins across different regions of the Earth, with varying durations. Along the eastern Tethyan and Mediterranean Tethyan domains, different basin types record information on tectonic, sea-level, climatic, and oceanographic changes. Continental collisions formed climatic barriers and high-elevation plateaus; subaqueous and subaerial volcanism caused climatic perturbations and produced diverse volcanic and volcanoclastic deposits with associated economic resources. Mesozoic ophiolite obduction left imprints of sea-level change and unconformities across different continents. Active- and passive-margin sediments record Cretaceous tectonic–eustatic changes of varying magnitudes. Organic-rich black shales associated with Cretaceous oceanic anoxic events serve as key marker beds for intra- and inter-basinal correlation. The session will also address the critical-element mineralization potential of metal-rich black shales and the resource implications of orogenic and molasse basins.

Session 48

Title: The Asian Sedimentary Continuum: Source-to-Sink Systems from the Tibetan Plateau to the Western Pacific

Conveners: Shouye Yang, Steven A. Kuehl

Description: Situated between the world's highest plateau (the Tibetan Plateau) and the largest and deepest ocean basin (the Western Pacific), the Asian continental margin hosts the most dynamic and diverse riverine sediment source-to-sink systems on Earth, together with densely populated delta complexes. We hereby propose the "Asian Sedimentary Continuum" research initiative, aimed at elucidating the generation and cross-land–sea exchange fluxes of terrigenous materials along the complete land–ocean continuum—from the Tibetan Plateau, across the Asian continental margin, to the deep sea—with a focus on typical riverine source-to-sink cascade systems. This initiative seeks to integrate cross-cutting perspectives from tectonics, climate, and surface processes to reveal the full-chain migration, sorting, and accumulation of sediment from source to sink, as well as the far-reaching implications of these processes for the global carbon cycle, marine geochemistry, and marginal-sea hydrocarbon resources. We welcome all research contributions within this thematic scope.

● Theme 8: Surface Processes, Climate, and Environmental Responses to Asian Topographic Evolution

Session 49

Title: Late Mesozoic Paleogeography and Paleoenvironmental Evolution of East Asia

Conveners: Yuan Gao, Jeremy Kesner Caves Rugenstein, Jingen Dai, Turbold Sukhbaatar, Laiming Zhang, Daniel Enrique Ibarra

Description: The Late Mesozoic (ca. 200–66 Ma) marked a major transformation of East Asia's tectonic framework and surface environment. At the junction of multiple plates and oceanic basins, the region experienced closure of the Paleo-Asian and Mongol–Okhotsk oceans, intensified Paleo-Pacific subduction, and northward propagation of the Tethyan domain. These processes drove continental accretion, lithospheric thinning, craton destruction, intraplate deformation, and widespread magmatism, profoundly influencing surface systems. Under greenhouse conditions with elevated atmospheric CO₂, East Asia developed diverse sedimentary environments, including arid to semi-arid basins, monsoon-influenced systems, large lake basins, and volcano-sedimentary systems. Recent advances in thermochronology, paleoaltimetry, climate modeling, and isotope geochemistry provide new insights into deep Earth–surface coupling. This session promotes interdisciplinary dialogue among tectonics, sedimentology, paleoclimatology, geomorphology, biogeography, and resource geology to better understand Late Mesozoic paleogeography, paleoenvironmental change, and surface-process evolution in East Asia.

Session 50

Title: Proterozoic Extreme Climates and Earth System Couplings

Conveners: Genming Luo, Jiuyuan Wang, Qian Liu, Xianguo Lang

Description: The Proterozoic Eon witnessed major changes in Earth's surface environments, biosphere, ocean–atmosphere redox state, and deep Earth dynamics, culminating in extreme glaciations, including Paleoproterozoic and Neoproterozoic Snowball Earth events. This session explores how interactions among solid Earth, surface processes, climate, and life initiated, sustained, and terminated these extreme climate states. We welcome contributions on the timing, duration, tempo, and mechanisms of Proterozoic glaciations and related environmental transitions. Topics include glacial and postglacial sedimentary records, stratigraphy, geochronology, paleomagnetism and paleogeography, tectonic and magmatic forcing, continental weathering feedbacks, carbon and sulfur cycling, ocean chemistry and redox evolution, greenhouse gas regulation, biological–environmental interactions, proxy development, global data synthesis, and deep-time Earth system modeling.

● Theme 9: Multidisciplinary Integration for Four-Dimensional Reconstruction of Asian Topography

Session 51

Title: Tectonic–Erosion–Climate Interactions and the Shaping of Asian Topography

Conveners: Yani Najman, Xiumian Hu, Albert Galy, Shihu Li, Nalan Lom

Description: Tectonics, erosion, and climate are fundamental drivers of landscape evolution, yet their relative roles and the nature of their mutual coupling remain subjects of active debate. Asia, with its dramatic topographic gradients, high erosion rates, and monsoonal climate system, provides an exceptional natural laboratory for investigating these processes. We invite contributions that explore the influence of tectonic, erosional, and climatic processes—and their complex interactions—on topographic evolution. We welcome both theoretical and numerical modeling studies, as well as field- and observation-based case studies spanning a wide range of spatial scales, from local to regional, and temporal scales, from millennial to million-year. Through this session, we aim to deepen scientific understanding of the mechanisms, feedbacks, and couplings governing Asian topographic evolution, thereby providing critical constraints for constructing a four-dimensional topographic evolution model of Asia.

Session 52

Title: Digital Outcrops as a Bridge: Linking Deep Earth to Surface Processes

Conveners: Hanting Zhong, Xia Wang, Kim Senger, Jianhua Chen, William Foster, Maria Mutti

Description: Advances in UAV photogrammetry, LiDAR, remote sensing, AI, cloud computing, and digital twin technologies are transforming geological outcrops into high-resolution, shareable digital assets. These tools enable integration of field observations with geophysical, geochemical, drilling, remote-sensing, and modeling datasets across multiple scales, offering new opportunities to link deep Earth processes with surface evolution. Aligned with SinoProbe, TopoAsia, and related international initiatives, this session explores how digital outcrop platforms and next-generation geoscience technologies can support deep Earth–surface coupling research. We welcome contributions on digital outcrop databases, FAIR data standards, international collaborative platforms, 3D reconstruction, hyperspectral imaging, AI-assisted mapping, cloud-based cyberinfrastructure, immersive visualization, digital twins, virtual field trips, geoheritage conservation, geoscience education, and applications to resources, environmental change, and geohazards. The session aims to promote a globally shared digital outcrop network, advance open and interoperable geoscience data standards, and foster international collaboration in digital geoscience infrastructure.

Strategic Forums and Roundtable Discussions

Session 53

Title: 4-D Paleogeographic Reconstruction of Pan East and Southeast Asia

Conveners: Haipeng Li, Christopher Scotese, Christian Verard, Xianguo Lang, Mingcai Hou

Description: Despite advances in global plate reconstructions, no consensus paleogeographic synthesis exists for Pan East Asia and Southeast Asia from the Mid-Permian to the present. Existing models differ markedly in the Central Asian Orogenic Belt, Indochina–South China suture, Southeast Asian micro-block motions, Neo-Tethyan subduction, and western Pacific marginal sea evolution. Recent DDE and IAP meetings indicate that sufficient data and methods now exist to build a unified regional framework. This session brings together the international community to advance 4D paleogeographic reconstructions across Central Asia, Siberia, Mongolia, the western Pacific margin, Indochina, Southeast Asia, the Sunda Shelf, Australia, and New Zealand. It also supports the IAP Pan East-Asia Paleogeographic Synthesis Workshop, which will establish regional working groups, shared standards, reconstruction platforms such as TimeMachine, and coordinated deliverables. By developing a common Mid-Permian–present paleogeographic framework, this session will support TopoAsia’s goal of multidisciplinary 4D topographic reconstruction and provide a basis for integrating tectonic, sedimentary, paleoclimatic, and surface-process records.

Session 54

Title: High-Precision Geochronological Constraints on the Evolution of Asian Topography

Conveners: Huaichun Wu, Chenglong Deng, Qiang Fang, Tiantian Wang, Zhongwu Lan, Jahandar Ramezani

Description: High-precision geochronology provides a critical temporal framework for reconstructing paleotopographic, paleoclimatic, paleoenvironmental, and paleontological evolution. It also serves as a fundamental basis for constraining the timing and rates of major geological events and for elucidating their causal relationships. This session draws upon the conceptual framework of the international EARTHTIME and TIMES programs, integrating multiple dating approaches, including isotope geochronology, bio–stratigraphy, magneto–stratigraphy, and cyclo–stratigraphy, to construct high-resolution chronostratigraphic frameworks. Particular emphasis is placed on: (1) refining the reconstruction of Asian topographic evolution and its associated paleoclimate, paleoenvironmental, and paleontological changes; (2) elucidating the temporal coupling between Asian topographic development and major geological events; and (3) systematically deciphering how the Asian geological record documents and responds to the co-evolution of the Earth system. This session seeks to advance the refinement of high-resolution chronostratigraphic frameworks, thereby delivering robust temporal constraints for the four-dimensional topographic reconstruction of Asia.

I. Frontier Forum on 10 km Scientific Drilling: Limits, Bottlenecks, and Strategies

Introduction: Scientific drilling provides the only direct access to deep Earth materials, fluids, physical conditions, and dynamic processes. In recent years, ten-kilometer-class scientific drilling has emerged as a major frontier in Earth science, driven by growing interest in deep crustal structure, hydrogen, geothermal energy, deep fluids, deep biosphere studies, and deep Earth–surface interactions. China and several other countries have made important progress in ultra-deep drilling, generating valuable experience in well design, drilling fluids, coring, downhole measurements, borehole stability, and deep instrumentation. At the same time, major scientific and technical challenges remain, particularly in extreme-environment drilling, in-situ observation, data integration, and the definition of future scientific targets.

The Forum aims to bring together scientists, engineers, instrument developers, and program managers to review current progress, identify key bottlenecks, and discuss future directions for international cooperation. The forum will focus on both engineering frontiers and new scientific opportunities, with emphasis on next-generation drilling technologies, deep observatories, and the role of ultra-deep drilling in Earth system science.

We welcome contributions and discussion on the following themes: International progress and lessons learned from ultra-deep scientific drilling; High-temperature and high-pressure drilling technologies; Ultra-deep coring, logging, and downhole monitoring; Deep geothermal systems, hydrogen and helium resources, and deep fluids; Deep biosphere, rock–fluid interaction, and crustal processes; Future scientific targets, site selection, and international collaboration. The forum is expected to help define shared priorities, foster interdisciplinary collaboration, and lay the groundwork for future joint initiatives in ultra-deep scientific drilling.

II. Guangdong–Hong Kong–Macao Greater Bay Area – South China Sea Rim Countries Forum: Marine Science and Sustainable Natural Resource Management

Introduction: The South China Sea and the Guangdong–Hong Kong–Macao Greater Bay Area constitute a closely linked core region featuring abundant marine biodiversity, rich energy and mineral reserves, bustling maritime trade, and widespread geological disaster risks. This forum bridges frontier academic research with real-world governance practices, seeking to build a three-pronged regional collaborative framework encompassing joint scientific research, standardized marine resource governance, and coordinated ecological conservation. The thematic sessions will cover marine geological evolution, sustainable resource development, marine disaster risk prevention and control, as well as the coupling of deep-ocean and shallow-coastal geological processes.

In 2026, the APEC Summit will be held in Shenzhen, China. This forum closely aligns with APEC’s core principles of openness, innovation and inclusive cooperation. It will serve as a critical platform to advance cross-border scientific exchange, technological innovation, and coordinated environmental governance throughout the entire Asia-Pacific region.

● III. China-Indian Ocean Region International Forum: Tectonics and Marine Geology

Introduction: Forged by rapid seafloor spreading, active subduction zones, mantle plume activity and remnant vestiges of the ancient Tethyan suture, the Indian Ocean stands as one of Earth's most exceptional natural laboratories for investigating lithospheric evolution and deep-Earth dynamic processes. Nations lining the Indian Ocean basin face identical frontier scientific challenges and pervasive marine geological hazards, while cross-border joint research and coordinated observation remain limited at present.

Centered on core themes of global tectonic dynamics and marine geology, this forum establishes a dedicated cross-regional international collaboration platform linking China and all Indian Ocean coastal states. It integrates cutting-edge scientific advances with on-the-ground practical demands to drive in-depth academic dialogue and tangible joint initiatives across marine and geoscience disciplines. Four thematic sessions — spanning lithospheric tectonics and deep dynamics, marine geological features and resource prospects, tectonic drivers of marine geohazards, and pathways for international geological cooperation — provide a science-first platform for joint research design, data sharing, and technology partnership. A dedicated roundtable session will deliberate and formulate actionable cooperation roadmaps, covering joint oceanographic expedition plans, comparative research across the integrated Tethyan-Indian Ocean tectonic system, and structured exchange schemes for early-career geoscientists.

● IV. Roundtable: Female in Geoscience

Introduction: Women are playing an increasingly important role in geoscience research, education, engineering, and leadership, yet challenges remain in career development, visibility, representation, and work-life balance. The Roundtable on Female in Geoscience aims to provide an open and supportive forum for sharing experiences, discussing barriers and opportunities, and strengthening collaboration across institutions, disciplines, and generations. This roundtable will bring together female scientists, early-career researchers, senior leaders, and allies from across the geoscience community to discuss practical ways to promote inclusion, mentorship, professional development, and leadership opportunities. The discussion will also highlight successful experiences, institutional practices, and future actions that can help create a more diverse, equitable, and innovative geoscience community.

Topics for discussion may include: Career pathways and mentorship; Representation and leadership; Work environment and institutional support; International collaboration and networking; Strategies to support early-career women in geoscience. We welcome all participants who are interested in advancing equity, inclusion, and excellence in geoscience.

Committee Meetings and Working Workshops (Invited only) <<

- 1. Launch of the Central Asia Expedition and Five-Country Mapping Project (Phase II)
- 2. Working Workshop on Natural Laboratories and the Key Scientific Questions
- 3. TopoAsia Committee Meetings:
 - ▶ Coordinating Committee (CC) Meeting
 - ▶ Scientific Committee (SC) Meeting
 - ▶ Executive Committee (EC) Meeting

FIELD TRIP

- Late Mesozoic "Yanshanian" intracontinental deformation and syn-tectonic deposition in the Beijing-Zhangjiakou area

Team Leader: Dr. Chengfa Lin, China University of Geosciences (Beijing)

Dates: Nov. 10-11, 2026

Number of Participants:
Approx. 35

Fees: 2000 CNY per person

The field trip will start from the conference venue, passing through Qianjiadian, Houcheng, Likouquan, and Jiming Mountain. It focuses on syn-tectonic depositions controlled by late Mesozoic thrust faulting and fault-related folding (Yanshanian Movement) in the western Yanshan structural belt, including syn-tectonic conglomerates and growth strata in the Late Jurassic Jiulongshan and Late Jurassic-Early Cretaceous Tuchengzi formations, to explore the genetic links between Yanshanian intracontinental deformation, sedimentary basins, and driving forces.

Contact person: Dr. Chengfa Lin, chengfa@cugb.edu.cn



SHORT COURSES

● 1. Short Course on Geological Mapping

In conjunction with the International Symposium on Deep Earth Exploration and TopoAsia, the Chinese Academy of Geological Sciences and the Symposium Organizing Committee will offer a halfday (3–4 hours) short course on geological mapping on 6 November at the symposium venue. The training is built around an online cloudbased mapping platform that enables data management, map rendering, and export. The program includes platform demonstrations and hands-on sessions covering geological data import, map rendering, and final output, along with a 15-minute concluding

exercise. Throughout the course, instructors, teaching assistants, and platform developers will provide full support. Participants will receive a practical manual upon completion, with the aim of equipping them with essential online mapping skills and a solid foundation for subsequent geological mapping projects.

● 2.Short Course on Paleogeographic Reconstruction

This short course will be held on the afternoon of November 6, 2026. Co-hosted by the International Association for Paleogeography (IAP) and the Conference Organizing Committee, the event leverages the TimeMachine paleogeographic reconstruction platform to provide an immersive, 3.5-hour instructional session. Tailored specifically for young scholars and geoscientists, the course features English instruction supported by a bilingual (English-Chinese) manual. Participants simply need to bring their own laptops to conduct reconstruction work directly through a web browser. You will systematically learn core skills including paleocoordinate calculation (paleolatitude and paleolongitude), and utilize the platform to reconstruct the paleogeographies for key geological epochs such as 110 Ma and 85 Ma.

LOGISTICAL INFORMATION

● VENUE & ACCOMMODATION

GUOCE INTERNATIONAL CONVENTION & EXHIBITION CENTER



Address: Building 20, No. 6th, Hainan Road, Linkong Economic Center, Shunyi District, Beijing, China, 10 minutes driving from the Beijing Capital International Airport, Terminal 3.



All the events and activities of the symposium will be held at Guoce International Convention & Exhibition Center. Meanwhile, Guoce International Convention & Exhibition Center provides sufficient rooms for symposium participants. The online booking system will be available on the official website of the symposium after July 15th, 2026.

● VIAS APPLICATION

China applies visa exemption policy (Unilateral Visa Exemption or Visa Exemption Agreement) to citizens of 75 countries. For more details, including the list of countries enjoying this policy, please consult:

https://www.gov.cn/yaowen/liebiao/202508/content_7035244.htm

Registrants who are not entitled to visa exemption by agreement with China should apply valid visa to the Chinese Embassies, General Consulates or Consulates in their own countries or regions. Given an official invitation letter is requested for visa application, you need to fill in personal information as instructed at the online system. The official invitation letter will be sent to your registered email address within 40 working days.

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