

Seminar on Mineral Resources and Mining Development for Latin America, Caribbean and South Pacific Countries

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| Name | Seminar on Mineral Resources and Mining Development for Latin America, Caribbean and South Pacific Countries | | |
| Organizer | Development Research Center of China Geological Survey | | |
| Time | 2023-06-06 to 2023-06-19 | Language for Learning | English |
| Invited Countries | Latin America, Caribbean and South Pacific Countries | Number of Participants | 30 |
| Objectives of the Training Course | <p>This Seminar aims to strengthen China's cooperation with Latin American, Caribbean and South Pacific countries, as well as the exchanges with Latin America, the Caribbean and South Pacific countries in the fields of geology and mineral resources, improve technical personnel from various countries participating in the seminar in geological and mineral management, geological survey and resource evaluation methods, understand China's geological survey methods and technologies, international mining policies and management models, strengthen the cooperation between China and participating countries in geological survey, environmental monitoring, marine and coastal zone protection, etc., promote the healthy and sustainable development of mining industry, and support the stable growth of global economy.</p> | | |
| Requirements for the Participants | Professional Background | <ul style="list-style-type: none"> - Fields or specialties: natural resource management, satellite remote sensing, geology and mineral resources, environmental monitoring, land planning, etc. - Positions: officials in the fields of geology and mineral resources, earthquake monitoring, ecological environment monitoring, and land spatial planning; scholars or technicians; - Grade, academic degree or other relevant qualification requirements: None - Working years in related fields: None - Priority qualification: None - Others | |
| | Age | Not higher than the legal retirement age of the recipient country | |
| | Health | Able to attend online seminar on time. | |
| | Language | Trainees should be able to listen, speak, read and write in the working language of the project | |

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| | others | Able to use VOOV Meeting |
| Seminar Content | <p>1. About the Courses and Contents of the Seminar</p> <p>(1) China's high-resolution satellite system and application: China has 21 natural resources satellites. The increase of satellites is not only an increase in quantity, but also a leap in quality. The spatial resolution, spectral resolution and temporal resolution of satellite data have been greatly improved. At present, China has cooperated with Mongolia, Egypt and other countries in data sharing and China is now able to provide data services for more developing countries.</p> <p>(2) Remote sensing satellite image integrated processing system: The methods and technologies of image correction, image enhancement and information extraction of remote sensing images will be introduced, and the remote sensing satellite image processing software independently developed by China will be shared so that the Chinese remote sensing satellite images received by various countries can be correctly processed into DOM-Digital Orthophoto Map (DOM, Digital Orthophoto Map).</p> <p>(3) Methods and processes of monitoring natural resources such as land, water and cities in remote sensing satellite images. The pre-processing technology of satellite remote sensing image, correction and fusion method, color matching method and change information extraction method will be introduced.</p> <p>(4) Application of remote sensing technology in geological prospecting: The methods and technologies of using the response characteristics of geological bodies, geological structures and geological phenomena to electromagnetic wave spectrum, measuring or obtaining geological parameters, filling out geological maps, studying geological problems, carrying out prospecting prediction, and discovering ore bodies indirectly or directly through data image processing and remote sensing geological interpretation will be introduced.</p> <p>(5) Application of satellite remote sensing images in intelligent identification and analysis of hidden dangers of geological disasters: From the point of view of optical remote sensing, InSAR, lidar and other comprehensive remote sensing measurements, the intelligent identification and analysis technology and method of geological disasters are put forward, which takes "shape, deformation and situation" as observation contents, qualitatively identifies the hidden danger position of disasters, quantitatively monitors the deformation range of disaster bodies, and relies on comprehensive remote sensing dynamic monitoring data to improve the identification ability of hidden dangers</p> <p>(6) Geochemical exploration technology and cases of mineral resources: The whole workflow of geochemical mapping project from sampling point arrangement, field sampling, indoor chemical analysis, geochemical mapping, delineation of geochemical anomaly area and anomaly verification will be introduced, as well as the geochemical technology of mineral resources exploration, and in-depth explanation with examples will be provided.</p> <p>(7) About airborne geophysical survey technology and its application: The application of</p> | |

aerial geophysical prospecting technology in basic geological survey and solid mineral exploration (including determination of various types of fault structures, determination of various igneous rock masses (including concealed rock masses), delineation of volcanic rocks and volcanic institutions, application of regional geological lithology mapping, etc. will be introduced so as to enable the candidates to understand the space geophysical prospecting technology and apply it to prospecting practice.

(8) Prospecting techniques for porphyry copper deposits: The metallogenic geological conditions and regional metallogenic regularity of porphyry copper deposits will be introduced, and the forming environments of four types of porphyry copper deposits, such as island arc, continental margin arc, collision orogenic belt and intraplate tectonic magma activation zone, will be systematically expounded, and the metallogenic prediction methods will be put forward.

(9) Geoscience data and standards of Deep Time Digital Earth (DDE), an international big science program advocated by China: The metadata standards and data standard framework of Deep Time Digital Earth (DDE) supporting Open Science and FAIR principles (discoverable, accessible, interoperable and reusable) will be introduced, as well as the participation of countries all over the world.

(10) Marine basic geological survey: The contents include the development history of marine geological science, the present situation of marine geological science, seabed topography, marine structure, sedimentation, plate tectonics theory, the latest progress of earth system science, and marine scientific investigation equipment and technical means.

(11) Coastal zone investigation and protection technology: The coast is the link connecting land and sea, and some large and super-large cities are built along the coastal zone. By introducing the comprehensive analysis model of coastal erosion and the assessment and prediction model of coastal erosion established by China, the candidates may understand the monitoring and research methods of coastal erosion in China, as well as the achievements made in coastal environmental assessment and coastal zone protection and control in China.

2. Presentation of the Seminar

(1) Major problems faced by Latin American, Caribbean and South Pacific countries in geological survey, mineral exploration and mining development;

(2) Major problems and challenges faced by Latin American, Caribbean and South Pacific countries in natural resources and environmental protection;

3. About the Cloud-based Visits

Visit The Geological Museum of China, Palace Museum, Dunhuang Mogao Grottoes and so on online.

4. About the Presenters

(1) Wang Xueqiu, Ph.D, researcher, director of Geochemical Department of Institute of Geophysical and Geochemical Exploration, CAGS, CGS, who has been engaged in applied geochemical research. He is the Executive Deputy Director of UNESCO International Centre on Global-scale Geochemistry.

(2) Zhou Jianxin: researcher (Level II), Ph.D., researcher. He is the chief engineer of Aviation Geophysical and Remote Sensing Center of China Geological Survey, head of multiple special aeronautical geophysical exploration projects, head of 863 Program, and the head of national special plan project for geological and mineral security engineering. He has published many works.

(3) Ye Fanghong: bachelor, senior engineer, director of Foreign Affairs Office, Land Satellite Remote Sensing Application Center, MNR, who has been engaged in the international cooperation of satellite remote sensing, served UN and other international organizations, and involved in the construction and design of Ziyuan-3 satellite application system. He is now the expert of Capacity Building Group of GEO and Advisory Group of Pacific Islands.

(4) Ge Daqing: Ph.D., professor-level senior engineer, who has been engaged in research on Radar Interferometry (InSAR) and application of surface deformation monitoring. At present, he is the Deputy Director of Satellite Technology Research Office of Aviation Geophysical and Remote Sensing Center of China Geological Survey and the deputy chief engineer of domestic L-SAR satellite application system. He has explored and established the technical methods of geological disaster monitoring and assessment based on the joint application of spaceborne and ground-based InSAR, and has rich experience in engineering application.

(5) You Shucheng: Ph.D. in Cartography and Geographic Information System, researcher, head of Resources Investigation and Monitoring Department, Land Satellite Remote Sensing Application Center, MNR. He has been engaged in natural resources satellite engineering, remote sensing application and scientific and technological innovation for a long time. He has presided over the completion of more than twenty 863 programs international scientific and technological cooperation projects, national key research and development plans, high-scoring major projects and key scientific and technological projects of the Ministry. He has taken the lead or participated in major remote sensing application projects such as land remote sensing monitoring in key cities, all-weather monitoring of land resources and normalization monitoring of natural resources, and served as deputy chief engineer of engineering application system of Ziyuan-1 02C satellite and high-resolution multimode satellite.

5. Data to be prepared by candidates

In order to facilitate the exchange with Chinese experts, candidates are requested to prepare the exchange data related to the research topics in your country, and experts from various countries are invited to discuss the following two: (1) the present situation of geology, mineral resources and mining development in China; (2) Overview of natural resources management institutions; For the purpose of better cooperation in the future, the participating officials are invited to give national reports.

6. Please install online classroom software in advance: ZOOM

| Host City | Beijing China | Cities to visit | BeiJingShi |
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| Notes | <p>1. Responsibilities and obligations: Trainees should be the representatives of the government, country and people of their host country, responsible for their own behaviors and performances, abide by Chinese laws and relevant regulations of the seminar, and fulfill corresponding obligations.</p> <p>2. Disciplinary requirements: During the implementation of the project, trainees must strictly abide by the project agenda, not arrange activities unrelated to the seminar without authorization, not skip the seminar without reason, not have pending administrative and/or criminal cases, not have another plan/training project to be nominated, and have fulfilled the obligations required for the previous training projects.</p> | | |
| About the Organizer | <p>Development and Research Center of China Geological Survey, established in 2002, serves as a public institution directly under the China Geological Survey, undertakes geological and mineral prospecting, development strategies and deployment research, is committed to the receiving, storage and service of geological data nationwide, and serves the informatization construction of geological survey and business support for major geological projects. It has been authorized as “National Geological Archives of China”. It has been staffed with 249, and equipped with 6 management offices and 15 business offices. Since its establishment, under the leadership of ministries and bureaus, it has worked out fruitful results in strategic research, information construction, geological data services and special support. It undertakes two core Geology in China and Geological Bulletin of China.</p> <p>Under the unified leadership of the Ministry of Natural Resources and the China Geological Survey, it has succeeded in 84 foreign-aid seminar programs by the end of 2022, including 1 ministerial seminar, 36 officials’ seminars, 21 technical seminars, 6 overseas seminars, and 20 online seminars. Nearly 3,000 experts, scholars and technicians from more than 100 countries and regions around the world have ever participated in the seminars, and their working languages included English, French, Russian, Spanish and Portuguese.</p> | | |
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