International Conference

“Marine Geology: Marginal Seas - Past and Future”

November 16-19, 2021

Conference Announcement

Guangzhou Marine Geological Survey,

China Geological Survey,

Guangzhou, P.R. China

Preface

We are still in a special period of the COVID-19 Pandemic, and see the first signs of the end to travel restrictions and restart our international travelling for scientific communication. In order to promote communication and cooperation, we continue to prepare this marine geology conference.

At present, marine geosciences are experiencing a new stage of development in terms of theory but also technological innovation, with increasing numbers of geologically oriented scientific expeditions operating from the coastal zone to the open ocean, as well as into the polar regions. To contribute to this progress in marine geosciences, and to foster cooperation during this new stage with international colleagues we launched a scientific research initiative with the theme of "Eurasian Marginal Seas: Past and Future" (EMS initiative) in 2019. On 28th November, 2019, the first EMS initiative expert meeting was held in Guangzhou, China. 18 overseas experts from seven countries, together with 50 Chinese colleagues took part in that meeting to design the initiative rational routine. On 16-17th December, 2020, the on-line conference "Marginal seas: Past and Future", representing the second EMS initiative meeting was held in Szczecin, Poland. Around 190 participants from 21 countries joined in this on-line conference.

The International Union of Geological Sciences (IUGS) and International Association for Mathematical Geosciences (IAMG) has offered kindly support for the EMS initiative network. The Deep-time Digital Earth big scientific program (IUGS-DDE) has approved a Marginal Seas Task Group and EMS research Project ("Morphological Evolution of Coastal Seas – Past and Future"), to be jointly supported by DDE, project partners and IAMG.

To continue pushing the EMS initiative forward, an on-line International Conference on the topics of Marine Geology: Marginal Seas - Past and Future will be held in Guangzhou. As the third EMS initiative meeting, it shall support communication in geo-marine science and technology between Chinese scientists and their international partners active in marine geosciences, including the coastal and marine environmental research, fundamental geology, marginal sea future projections and management for the upcoming decades.

The conference is organized and hosted by the Guangzhou Marine Geological Survey (GMGS), and China Geological Survey (CGS) who have carried out numerous successful marine geological surveys and scientific research work in the marginal sea areas of the South China Sea, as well as the deep sea and polar sea areas. In this field of science, the GMGS has successfully cooperated during the last 40 years with colleagues and organizations from the American and European Continents as well as from East and South Asia.

This international conference will be structured into four topical sessions and to be attended by about 60 scientists from China and abroad for oral presentations and discussion in the English language.

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1. Time Table

Time span: 16th to 19th, November 2021. We take care of the international time zones, arranging the meeting time in daylight time of GMT+2 time zone, afternoon and evening of GMT+8 time zone. In principle, the conference will start at 6:30 AM (GMT+0, Greenwich, London), 8:30 AM (GMT+2, Central Europe), 9:30 AM (GMT+3, Moscow), 2:30 PM (GMT+8, Beijing), 4:30 PM (GMT+10, Canberra), 2:30 AM (GMT-4, Washington D.C., E of North America).

***Abstract submission deadline*:** The abstract submission deadline is 31st October, 2021. The abstract template is showed in Part 7, page 7 and 8.

Conference days:

16th November, 2021, Tuesday, Opening ceremony and Keynote Speeches

17th November, 2021, Wednesday, Session presentations

18th November, 2021, Thursday, Session presentations

19th November, 2021, Friday, presentation, discussion, conclusions

2. Conference Venue

This is an on-line remote scientific conference. We would like to set the conference's main meeting place at Headquarter and Base of Guangzhou Marine Geological Survey, CGS, China.

3. Session's Information

1. Advances in Marginal Sea Research

Conveners: Peter Clift (USA), Jan Harff (Poland), Jennifer McKinley (UK), Susan Nash (USA), Qiuming Cheng (China)

Abstract

Marginal seas and their coasts play an increasing role in marine geo- and environmental sciences and the development of sustainable development strategies. The application of big data

analyses, functional numerical models and AI approaches can help to keep the balance between the protection of the natural environment of marginal seas and the economic use of their resources. The precondition is a deep understanding the functioning of marginal seas' dynamics on different time and spatial scales and demands interdisciplinary co-operation. A Marginal Seas Task Group has been established within the frame of the Deep-time Digital Earth (DDE) Big Sciences Program of the IUGS in order to foster this co-operation. Methodological a co-operation with the International Association for Mathematical Geosciences (IAMG) is intended. For the effective application of the methods to be developed stakeholders are invited to join across international programs in marine environmental sciences.

2. Coastal morpho dynamics and driving forces

Conveners: Wenyan Zhang (Germany), Tarmo Soomere (Estonia), Xinong Xie (China)

Abstract

Coasts constantly change their shape due to multiple physical and biological interactions that lead to sediment erosion and deposition. As the interface between land and sea, coasts are very sensitive to climate change and anthropogenic environmental impacts. They are increasingly threatened - depending on their location - by rising sea-level, floods, storms, tsunamis, coastal erosion and environmental hazards that endanger livelihoods. To mitigate the threats, cross-bordering sustainable management is becoming a mutual task for coastal lands and beyond. Management strategies need to consider the "geo-environmental" change in the past and future to separate natural and anthropogenic driving forces. Learning from recent history will help to understand the coastal change in near future. This session aims to bring international expertise together to provide an overview of current research status of coastal morphodynamics and future perspectives.

3. Ecosystem dynamics

Conveners: Andrzej Witkowski (Poland), Jean-Luc Mouget (France), Yahui Gao (China), Jinpeng Zhang (China), Yenny Risjani (Indonesia), Hung Duc (Vietnam)

Abstract

Out of the complicated system of MS ecology, we decided to include only a part of it as a subject of a session. Thus, we take into account an important group and start with the primary producer – diatoms (Bacillariophyceae) as a target for this session. The main topic is "Recent and fossil diatom flora of the South China Sea - with particular reference to habitat characteristics and biogeography" which has been quite well studied from the diatom side in

the last few years, either in terms of its geological past and its recent development. Diatom evolution extends back to the Mesozoic era and through time they became an important group of primary producers in oceanic (plankton) and coastal marine environments (benthic) with a species number estimated to exceed 100,000. With technological progress diatoms have become also a target for the marine blue biotechnology as a source of valuable metabolites. During this session we will also present the most recent works on the blue *Haslea* funded with H2020 program GHaNA. While, we still open the abstract contribution from other fields in ecosystem dynamics.

4. Methodological approaches and Geodata management (including GIS and RS)

Conveners: Federica Foglini (Italy), Joanna Dudzinska-Nowak (Poland), Yuanzhi Zhang (HK-China)

Abstract

The comparative studies of marginal seas (from mapping to process modeling) including both historical reconstruction and future projection requires fast and convenient access to databases containing necessary geological, oceanographic, bathymetric, ecological and climate data including Remote Sensing data. For a reflection of geoprocesses by models from the global to the regional level, a harmonization of geodata and their international accessibility are required. A basic task is also the visualization of maps of both empirical data and model results using GIS tools and mapping techniques. The main focus of this topic is on formatting, harmonizing, processing and mapping marginal sea data and the presentation of methodological approaches to manage geodata and to make the spatial database FAIR (Findable, Accessible, Interoperable and Reusable) through the implementation of dedicated Marine Spatial Data Infrastructure at different scales.

4. Conference Organizers

Organizers:

Guangzhou Marine Geological Survey, China Geological Survey, China.

Base for International Science & Technology Cooperation of Deepsea Geoscience, MOST, China.

Key Laboratory of Marine Mineral Resources, Ministry of Natural Resources, China.

Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou), China.

Co-Organizers:

University of Szczecin, Poland

Section of Marine Geology, Polish Scientific Committee on Oceanic Research, Polish Academy of Sciences, Poland

DDE Marginal Seas Task Group

Helmholtz-Zentrum Hereon GmbH, Germany

GHaNA Work Group - European Union Research and Innovation Programme H2020

China University of Geoscience-Wuhan, China

Host:

Guangzhou Marine Geological Survey, China Geological Survey, China

Scientific Committee

Chairman:

Guangsheng Yan, China Geological Survey, China.

Co-chair:

Jianliang Ye (Guangzhou Marine Geological Survey, CGS, China)

Jan Harff (University of Szczecin, Poland)

Qiuming Cheng (IUGS Executive Committee councilor, Past President; Sun Yat-sen University and China University of Geoscience-Beijing, China)

Jennifer McKinley (IAMG Executive Committee councilor, Past President; IUGS Executive Committee councilor; DDE Governing Council member; Queen's University Belfast, UK)

Mikhail Fedonkin (DDE Executive Committee councilor, Geological Institute of the Russian Academy of Sciences, Russia)

Member *(Alphabetical List)*:

Ryszard Borówka (University of Szczecin, Poland)

Hayley Cawthra (Council for Geoscience, South Africa)

Peter Clift (University of Louisiana State University, USA)

Joanna Dudzińska-Nowak (University of Szczecin, Poland)

Federica Foglini (ISMAR- Institutes of Marine Research, CNR, Italy)

Yahui Gao (Xiamen University, China)

Gary Greene (Moss Landing Marine Laboratories, USA)

Gaowen He (Guangzhou Marine Geological Survey, CGS, China)

Wojciech Jegliński (Polish Geological Institute-National Research Institute, Poland)

Tao Jiang (China Geosciences University-Wuhan, China)
Chao Li (DDE Secretariat, DDE Research Center of Excellence-Suzhou, China)
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Francisco José Lobo Sánchez (CSIC-University of Granada, Spain)
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Yuanzhi Zhang (The Chinese University of Hong Kong, China)
Wenyan Zhang (Helmholtz-Zentrum Hereon GmbH, Germany)

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5. Conference Agenda

General, 16-19/11/2021
First day, Opening ceremony and keynote speeches
Second day, Session 1 and 2,
Keynote speeches and oral presentations
Third day, Session 3
Keynote speeches and oral presentations
Fourth day: Session 4 and conclusions
Keynote speeches and oral presentations

6. Introduction to Guangzhou

Guangzhou, China is a famous culture city and a splendid tourism city with a history of more than 2,200 years and as well as a homeland of overseas Chinese. It enjoys the name of "Flower City" as the superb geographic and climatic conditions in the South China contributed to the natural beauty here. As a city of heroes, Guangzhou has a reputation of great eminence in the modern history of China. The famous historical sites of Nanyue Kingdom Palace, Maritime Silk Road Museum in the downtown, etc. And Sun Yat-sen Memorial Hall, Huanghuagang 72 Martyr Cemetery, Peasants Movement Institute and the Former Site of Huangpu Military Academy are the witnesses of the modern history of China, and together with Baiyun Mountain, Yuexiu Park, Liuhuahu Park, Guangzhou Tower, constitute colorful landscape groups. Meanwhile, Guangzhou was a starting point of the "Maritime Silk Road" and is an important port city for the reform and opening of China, making great contribution to the economic and cultural exchange and friendly contacts between China and the rest of the

world.

7. Abstract Template

Session: please mark your topic's session what you want to present your lecture.

Title: Conference on Marine Geology: Marginal Seas - Past and Future, Guangzhou, China, 16th-19th November, 2021

Time New Roman, 14 and 1.5 lines spacing

Authors: First author[1], Second author[2,] *, and others. corresponding author mark "*". Time New Roman, 11; single line spacing
Affiliation: Time New Roman, 11; single line spacing
*** E-mail:** Time New Roman, 11; single line spacing

Abstract:

Please prepare the abstract within one A4 page (Time New Roman, 12; 1.5 lines spacing). Thank you very much for sharing your scientific work with other researchers. We are welcome you to visit Guangzhou, China after an available of international travelling, out of COVID-19 Pandemic influence. This conference announcement can be searched at the GMGS official website, on the main page, right side. Website address as follow:

http://www.gmgs.cgs.gov.cn/

http://www.gmgs.cgs.gov.cn/english/

Keywords: Time New Roman, 12; 1.5 lines spacing

The abstract submission deadline is 31st October, 2021.

In case of Oral presentation: Please prepare 15 minutes PPT to introduce your scientific work **on-line via Zoom Software.** We keep 5 minutes for questions and discussion after your presentation. Please transfer your PPT to pdf version and send to Local Organizing Committee

(LOC) before the on-line meeting in order to manage prepared for all contingencies. We promise to keep to academic ethic on your presentation document.

Please send your abstract to Local Organizing Committee (LOC), and please contact with LOC if you have any questions.