

The Capacity Building on Global Change Research Data Publishing & Sharing in Nanjing University

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The 11th Symposium of Capacity Building on Global Change Research Data Publishing & Sharing in 100 Universities Program was successfully held on May 18, 2018 at Nanjing University, China. Global change research is an important field of modern geography. Data publishing and sharing in global change research is the latest development in the history of science and technology, and the achievements made in this area represent a milestone in the history of scientific data sharing in China. To implement the national big data strategy in the field of global change research and education, the Geographical Society of China (GSC) and the Institute of Geographic Sciences and Natural Resources Research (IGSNRR) of Chinese Academy of Sciences (CAS) jointly organized “Capacity Building on Global Change Research Data Publishing & Sharing in 100 Universities Program”, supported by the Bureau of Science Communication of CAS. This program was tasked with publicizing and sharing the trust data on global change studies by a series of symposiums at 100 universities and institutes in China and the world else during 2017–2020. These outreach activities were led by the Principle Investigator Group of Communication for Geography of the World.

As part of the 116th Anniversary Program of Nanjing University (NU), the 11th Symposium of Capacity Building on Global Change Research Data Publishing & Sharing in 100 Universities Program in Nanjing University focused on the “Big Data Geography” (Figure 1). More than 120 professors and students joined the symposium. Professor Li, M. C., Director General of the School of Geographic and Oceanographic Sciences, Nanjing University, said in his welcome speech that this symposium could play an accelerating role for the geographical research and education in Nanjing University (Figure 2). Professor Zhang, G. Y., Vice President and Secretary General of GSC, provided an opening address (Figure 3), as well as the appointment certification to Professor Liu, Q. H., from the Institute of Remote Sensing and Digital Earth, CAS, as the new member of the Principle Investigator Group of Communication for Geography of the World (Figure 4). A special introduction was made regarding discipline construction and the development of geography by Professor Lu, H. Y., Dean of the School of Geographic and Oceanographic Sciences, Nanjing University.

Four presentations were delivered at the symposium covering broad issues on big data geography, including the data publishing and sharing strategies, new technologies, case studies, and challenges and prospects for Nanjing University.

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Article Citation: He, H. C. The capacity building on global change research data publishing & sharing in Nanjing University [R]. *Journal of Global Change Data & Discovery*, 2018, 2(2): 240–242. DOI: 10.3974/geodp.2018.02.24.

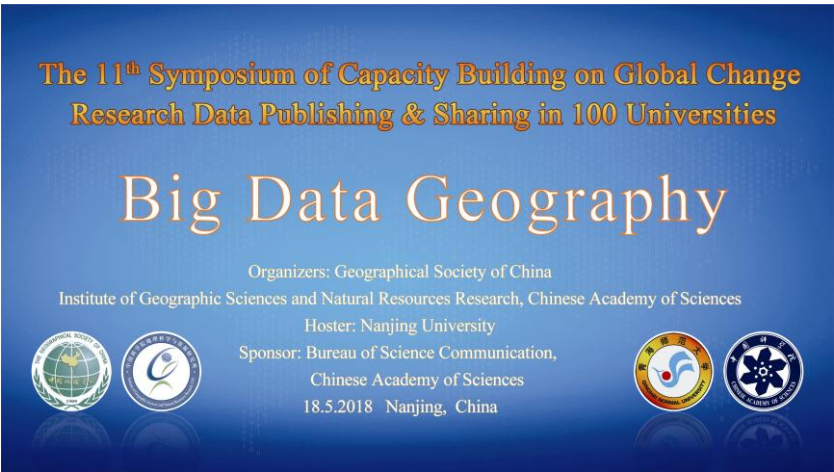


Figure 1 Poster of the 11th Symposium of Capacity Building on Global Change Research Data Publishing & Sharing in 100 Universities Program at Nanjing University, China



Figure 2 Professor Li, M. C. Chaired the symposium



Figure 3 Professor Zhang, G. Y. delivered the opening speech

(1) The first presentation on Big Data Geography: Opportunities and Development was provided by Professor Liu, C., the Leader of the Principle Investigator Group of Communication for Geography of the World. She proposed the concept, properties, research objectives, and methods used in big data geography, and stated that big data geography provides an opportunity for the development of geography as it is currently practiced and plays a significant role in promoting development of the discipline. On this basis, she emphasized the urgent need for human resources, textbooks, and teaching in the field of big data geography. Professor Liu considered that NU, as the cradle of Chinese modern geography, should shoulder this historical mission in global change research and teaching. It should be considered an opportunity for the SGOS to turn the key field of teaching and research from a regional to a big data-driven global orientation. In summary, Professor Liu said that the concept of “Big data geography” was proposed for the first time in the field of geography at the 116th anniversary of NU, which has far-reaching significance.

(2) The second presentation on Global Change Geographical Big Data Processing Technology was delivered by Professor Liu, R. G., Director of the Resource and Environmental Data and Analysis Laboratory, IGSNRR, CAS. He introduced the latest techniques in the field of big geographic data, including data assimilation, interpolation, cloud detection, quantitative fusion of remote sensing inversions, dimension reduction, and big data mining.

(3) The third presentation was given by Professor Liu, Q. H., Deputy Director of the National Key Laboratory of Remote Sensing Applications, the Institute of Remote Sensing and Digital Earth, CAS. His presentation focused on the Significance of and Prospects for Quantitative Remote Sensing Data Product Sharing. He identified the major problems with quantitative inversion algorithms and the cooperative quantitative multi-source data. He introduced the concept and functioning of multisource data synergized quantitative remote sensing production systems (MuSyQ). He focused on data application and a demonstration of regional sustainable development in “the Belt and Road” region. He emphasized that the publishing of quantitative remote sensing products is important to promote remote sensing data sharing.

(4) The fourth presentation was delivered by Professor Lu, H. Y., Dean of the SGOS. His presentation was titled “Construction and Development of Geography at Nanjing University”, and summarized the development of geography at Nanjing University over the last 90 years. He presented a detailed report by focusing on three aspects: 1) the past and present status of geography; 2) the teaching conditions and their effects; and 3) the future of geography. The SGOS (formerly the Department of Geography) is one of the oldest geography departments in China and is known as the cradle of Chinese geography. It originated from the Department of Geography of the National Southeast University (the precursor of NU), established in 1921. After years of efficient work, SGOS has accumulated a series of multiple disciplinary on physical geography, human geography, mapping and geographic information, and coastal marine science, especially with regard to past global climate change, land security and the ecological environment, and global high resolution carbon assimilation, which have contributed to the advancement of the discipline of geography. Professor Lu closed his speech by considering the direction and priorities of big data geography in Nanjing University.

The participants at symposium actively interacted with the speakers regarding data acquisition, data security, data quality, data archiving, and the merits of data publishing (Figure 5).

Professor Li, M. C. summarized the symposium. He praised the outreach activity and promised that the SGOS will promote the development of big data geography at his university.



Figure 4 Prof. Zhang, G. Y. presented the appointment certification to Prof. Liu, Q. H.



Figure 5 Question and discussion session on the topic on “big data geography”