

6th Digital Earth Summit 'Digital Earth in the Era of Big Data' Beijing, July 7-8, 2016

Report by Gabor Remetey-Fulopp of GSDI Association

Last year in Halifax, Presidents of the Global Spatial Data Infrastructure Association and the International Society for Digital Earth signed a Memorandum of Understanding in order to cooperate and to exchange knowledge and experiences between their communities. GSDI President Prof David Coleman was invited to the Scientific Board of the 6th Digital Earth Summit held in Beijing on 7-8 July, 2016 at the Beijing International Convention Centre.



Co-chaired by Academician GUO Huadong, CAS RADI, Beijing and Dr. Alessandro Annoni, Head of the JRC IES DERD Unit of the European Commission, Ispra, Italy, the event attracted about 300 participants from 30 countries. It provided also an opportunity to celebrate the 10th Anniversary of the founding of the International Society for Digital Earth (ISDE).

Welcome speeches



Prof. Abbas Rajabifard, former President of GSDI at the Opening Plenary.

The Summit was opened by GUO Huadong, President of ISDE. The welcome addresses were delivered by LU Yongxiang, the Founding President of ISDE, President of the Chinese Academy of Science (CAS); SHANG Yong, Executive Deputy of the Chinese Association for Science and Technology; Geoffrey Boulton, President of ICSU's Committee on Data for Science and Technology (CODATA); Rajib Shaw, Executive Director of the Integrated Research on Disaster Risk (IRDR); XIANGLI Bin, Deputy President of CAS; and Prof Abbas Rajabifard, former President of the GSDI Association (his text is at the GSDI website here: <http://gsdiassociation.org/index.php/news/536-6th-digital-earth-summit-celebrates-isde-10th-anniversary.html>).

Keynotes



Summit host academician GUO Huadong, President of ISDE

The invited keynote presentations at the Digital Earth Summit were delivered by:

- GUA Huadong, President of ISDE: *Digital Earth in the Context of the Big Data*
- Geoffrey Boulton President of ICSU's Committee on Data for Science and Technology (CODATA): *Digital Earth and the Open Data*
- Günter Schreier, Head of the German Remote Sensing Data Centre at DLR, Oberpfaffenhofen: *Collaborative Ground Segments*
- Alessandro Annoni, Head of the JRC IES Digital Earth and Reference Data Unit at the JRC Institute of Environment and Sustainability: *Digital Earth and New data Source: What is changing?*

- Prof. LI Deren academician, CAS: *Towards Geomatics in Big Data Era*
- Prof. Tim Foresman, Queensland University of Technology, Brisbane: *Beyond Moore's Law:*
- Trevor Taylor of the Open Geospatial Consortium (OGC): *Enabling the Digital Earth: The Role of Open Standards*

Parallel Sessions



Almost 200 abstracts were received from 20 countries for the thematic parallel sessions arranged in multiple tracks. Around 90 presentations were delivered in 13 sessions covering the following topics:

- Volunteer Geographic Information
- Digital Earth Applications in the Context of Big Data I - II
- The role of open standards in the era of Big Data
- Digital Mountain: Big Data and Mountain Surface Process
- HIST & SDIM Special Session on Space Technologies for Natural and Cultural Heritage
- Crop Monitoring and Precision Agriculture
- Technology advances in Digital Earth I – III
- Technological Systems of Digital Earth
- Microwave Earth Observing
- LIDAR Remote Sensing in the Era of Big Data
- Digital Earth in Industry
- CODATA Special Session on Open Data in a Big Data World
- Hyperspectral Remote Sensing in the Era of Big Data
- Discovery, Perceiving and Conservation of Natural and Cultural Heritage Based Big Data
- Global Environmental Change Remote Sensing
- SAR Information Integrated Processing and Environmental Parameter Inversion

Award Ceremonies and Welcome Reception



Prof. WANG Changlin, Executive Director of ISDE Secretariat

Digital Earth Science/Technology Contribution Award

Recipients: Dr. Alessandro Annoni, Prof. LI Deren

ISDE Special Contribution Award

Recipient: Prof. WANG Quinmin

ISDE Service Award

Recipients: Prof. WANG Changlin, Prof. Milan Konecny, Dr. Mario Hernandez, Dr. Fred Campbell (posthumus)

ISDE Conference Organising Award

Recipients: Gua Huadong akademikus (Peking), Prof. Temenoujka Bandrova (Nessebar), Dr. Peter Woodgate (Perth), Dr. Richard Simpson (Wellington), Prof. Mazlan bin Hashim (Kuching), Prof. Hiromichi Fukui (Nagoya), Prof. Hugh

Millward (Halifax)

ISDE Life Member

Recipients: Prof XU Guanhua, Dr. Remetey-Fülöpp Gábor, Prof SUN Shu, Prof Hirochimi Fukui, Prof Tim Foresman, Prof John van Genderen, Mrs Davina Jackson and Prof Jean

Sequeira.

Outstanding Paper Awards were conveyed to Prof Michael F. Goodchild, Prof Yang Chaowei, Dr Max Craglia (JRC) and Joseph O. Sexton, whose papers published in the International Journal of Digital Earth were most frequently cited or downloaded.

Exhibitions and Posters



The major exhibitors represented mainly the Chinese EO Industry and Research Institutions including the Institute of Remote Sensing and Digital Earth, Chinese Academy of Science (CAS RAD), the Centre of Excellence on Space Technology for Disaster Mitigation (CAS TWAS), which performs capacity building and international scientific programs, and SuperMap, a spatial data products and service provider with offices in Hong Kong, Beijing, and Tokyo, looking for cooperation partners worldwide in product distribution and solution provision.

(If interested, visit www.supermap.com or contact globalsupport@supermap.com).

Among the exhibitors was the International Centre on Space Technologies for Natural and Cultural Heritage, an institution hosted by RAD under the auspices of UNESCO (www.unesco-hist.org). According to LIU Zhen, Secretary-general of the Organising Committee of the 6th Digital Earth Summit, altogether 6 co-organisers, 5 institutions and universities and 5 private sector representatives took part in the exhibition. Over 100 posters were accepted but the number on display was around 50.



Co-Chair of the Summit:
Dr. Alessandro Annoni, JRC

Forthcoming ISDE Events

Organised on odd numbered years, the next ISDE Symposium will be held in Sydney, Australia, from 3-6 April 2017, in conjunction with the Locate 17 Conference. The ISDE Council Meeting held on 6th July 2016 in Beijing accepted the bid of the Italian CNR to host the 2019 Symposium in Florence, Italy. It was the first successful attempt to bring the Symposium back to Europe since 2003!

Announcement: The Digital Belt and Road (DBAR) initiative



The research program envisaged for the next ten years was initiated by the Chinese Academy of Sciences RAD (Institute of Remote Sensing and Digital Earth) and has cooperating members from 20 countries along the maritime and land Silk Roads (for more information contact DBAR@radi.ac.cn). The scientific cooperation aims to demonstrate the use and application of Big Earth Data for the benefit of people and economy providing sustainable development on local, national and regional level. The affected area

covers three continents from China to the Netherlands including Kuala Lumpur, Nairobi and Moscow.



Editorial Board Meeting of the International Journal for Digital Earth

Chaired by the Editor-in-Chief, GUO Huadong and Editor Prof WANG Changlin, the participants were informed about promising facts of this internationally acknowledged journal as being among the top remote sensing periodicals. A representative of the publisher Taylor & Francis gave an insightful look at the scientific content, citations, contributing institutions and countries and download

statistics. Members of the Board were asked to provide suggestions and recommendations. The last issue (Vol. 9 No. 1-3) had 324 pages containing state of the art articles on the Digital Earth and the ICSU's Future Earth by GUO Huadong, Prof. Peter Baumann et al: Big Data Analytics for Earth Sciences: the Earth Server Approach, as well as Adam Lewis et al: Rapid, High-resolution Detection of Environmental Change over Continental Scales from Satellite Data - the Earth Observation Data Cube.

Further Publications Displayed

A booklet entitled “*To Benefit Society by Promoting the Development and Realisation of Digital Earth*” was on display. Edited by the ISDE Secretariat, this 36-page publication gives an overview of the history of the International Symposia and Summits on Digital Earth and was published at the 10th Anniversary of the founding of the International Society for Digital Earth (ISDE) www.digitalearth-isde.org.

China Scientific Data (a brand new journal, ISSN 2096-2223)



Published by the Computer Network Information Centre of the Chinese Academy of Science (www.csdata.org) and the National Committee of the CAS CODATA, the first issue of the Quarterly was published in June 2016. Editor-in-Chief is GUO Huadong of the Key Laboratory of Digital Earth Science at the CAS Institute of Remote Sensing and Digital Earth. The leading article of the first issue deals with the investigation of the snow-land cover of the Tibetan Plateau in the period of July 2002 and April 2016 using MODIS imageries. Snow is one of the most active natural element on the Earth surface having significant impact on the regional and global climate change, the energy balance and the water cycle. A area of assessment covers the full territory of the Tibetan Autonom Region and the database contains 69 GB of data (<http://www.sciencedb.cn/dataSet/handle/55>).



The 2016 Innovation Summit on Smart City and Smart Life

One floor below the Summit and its Exhibition, the Beijing International Convention Centre hosted an independent but contextually connected event with the title above. Presenters were mostly American and Chinese experts and the average age of the participants seemed to be below 25. Some of the exhibitors came from the Artificial Intelligence Security sector (www.aisec.com).

The event was arranged by the Beijing Science and Technology Association, the Chinese-US Innovation Network (<http://innovationchain.org>), the Beijing Overseas Talent Centre (BOTC), as well as the Beijing Academy of Agricultural and Forestry (BAAFS), in cooperation with the Chinese Artificial Intelligence Association (CAAI). The urban and rural intelligent transportation systems were under the spotlight. Visual impressions of the event: <https://picasaweb.google.com/112066959995287816437/6306947141727866801?authuser=0&feat=directlink>

New Book: Remote Sensing Image Fusion - A Practical Guide

A textbook written by Christine Pohl (University of Osnabrück) and John van Genderen (University of Twente) was available. ISBN: 978-1-4987-3002-0 www.crcpress.com (Taylor & Francis Group).



Images: All photos were taken by G. Remetey if not otherwise specified