

Digital Earth Summit on Geoinformatics: Tools for Global Change
Research
November, 12-14, 2008
Wissenschaftspark Albert Einstein, Potsdam, Germany

Wednesday, November, 12.

8.30 Registration

9.30 -10.30 Introduction to the Summit and Welcome Addresses

Manfred Ehlers (GfGI, Summit Director)
GUO Huadong (ISDE, Secretary general)
Jann Jakobs (Lord Mayor of Potsdam)

10.30 – 11.00 Coffee Break

Keynote Session (coordinated by desert.net):

Desertification: the Role of Policy, Geoinformation, Earth Observation and Modelling
Moderation: Joachim Wächter (Helmholtz Centre Potsdam, GFZ German Research Centre for Geosciences, Germany)

11.00 – 13.15

Gabriel del Barrio (Estacion Experimental de Zonas Aridas, Spanish National Research Council CSIC, Almeria, Spain) *“Assessment and monitoring of desertification: a geomatic approach”*

Mark Mulligan (King’s College London, Department of Geography, UK) *“Geobrowser based simulation models for land degradation policy support”*

Joachim Hill (Remote Sensing Department, University of Trier, Germany) *“Dryland degradation and desertification: satellite-based assessment and monitoring concepts for a global problem”*

13.15 – 14.15 Lunch Break

Global Change

Moderation: Friedrich-Wilhelm Gerstengarbe (Potsdam Institute for Climate Impact Research, Germany)

14.15 – 15.00 Keynote Mojib Latif (IFM-Geomar, University of Kiel, Germany) *“The climate of the 20th and 21st century”*

15.00 – 15.45 Keynote Detlef Stammer (Center for Marine and Climate Research, University of Hamburg, Germany) *“Ocean reanalyses: status and their use for improving climate forecast.”*

15.45 – 16.45

V.F. Krapivin; F.A. Mkrtychyan

(Institute of Radioengineering and Electronics, Russian Academy of Sciences, Moscow, Russia): *„An adaptive remote sensing technology for the nature-society system biocomplexity assessment”*

P.A. **Propastin** (Department of Geography, Georg-August-University Göttingen, Germany; Laboratory of Remote Sensing and Image Analysis, Kazakh Academy of Science, Almaty, Kazakhstan); M. **Kappas** (Laboratory of Remote Sensing and Image Analysis, Kazakh Academy of Science, Almaty, Kazakhstan): *“Linkages between the current climate change, the political change in Kazakhstan and trends in the photosynthetic activity of vegetation”*

Xue Y. (State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing Applications, Chinese Academy of Sciences, Beijing, China; Department of Computing, London Metropolitan University, London, UK); **Wan W.** (State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing Applications, Chinese Academy of Sciences; Graduate School of the Chinese Academy of Sciences, Beijing, China); **Wang Y.**; **Li Y.**; **Guang J.**; **Ai J.**; **Bai L.** (State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing Applications, Chinese Academy of Sciences; Graduate School of the Chinese Academy of Sciences, Beijing, China): *“High Performance Geocomputation for Digital Earth – A Case Study of Aerosol Retrieval from Remotely Sensed Data”*

H.M. **Füssel** (Potsdam Institute for Climate Impact Research, Germany): *“Climate, geography and macroeconomics: A reanalysis of the G-Econ database”*

16.45 – 17.15 Coffee Break

Earth Observation and Modelling

Moderation: Lothar Koppers (Anhalt University - Dept. 3 - Architecture, Facility Management and Geoinformation, Germany)

17.15 – 18.00 Keynote Siegfried Schubert (Global Modeling & Assimilation Office, NASA/Goddard Space Flight Center, Greenbelt, MD, USA) *“NASA’s Modern Era Retrospective-Analysis for Research and Applications (MERRA): Early Results and Future Directions”*

18.00 – 19.00

Salihou; Y. **Loya** (ISIG - Institut Supérieur d’Informatique et de Gestion Ouagadougou, Burkina Faso); B. **Somé**; L. **Somé** (LANIBIO – Université de Ouagadougou, Burkino Faso); M. **Daniel**; J.**Sequeira** (LSIS - ESIL, Université de la Méditerranée, Marseille, France): *“Remote Sensing and modeling contribution to ecosystem control in Burkina Faso”*

T. **Peisker**; D. **Spengler**; K.**Segl**; S. **Itzerott**; H. **Kaufmann** (Helmholtz Centre Potsdam, GFZ German Research Centre for Geosciences, Germany): *„Artificial 3D crop field for the simulation of hyperspectral reflectance data”*

C. **Stasch**, A. C. **Walkowski**, S. **Jirka** (Institute for Geoinformatics, University of Münster, Germany): *“A Geosensor Network Architecture for Disaster Management based on Open Standards”*

A. **Roff** (Co-operative Research Centre for Spatial Information, University of New South Wales, Sydney, Australia); D. **Sivertsen** (NSW Department of Environment and Climate Change, Parramatta, Australia) G. R. **Taylor**; M. **Day**; A. L. **Mitchell** (Co-operative Research Centre for Spatial Information, University of New South Wales, Sydney, Australia): *“Beyond land-cover mapping: Semi-automated delineation of vegetation pattern using segmentation”*

19.15 – 20.00 Postersession

Moderation: Kai Behncke (Institute for Geoinformatics and Remote Sensing, University of Osnabrück, Germany)

20.00 – 22.00 Icebreaker Party

Thursday, November, 13.

Simulation and Modelling

Moderation: Joachim Hill (Remote Sensing Department, Fac. of Geography/Geosciences Trier University, Germany)

8.30 - 9.15 Keynote Michael Goodchild (National Center for Geographic Information and Analysis, University of California, Santa Barbara, CA, USA) *“Simulation, modelling and digital earth: status and prospects”*

9.15 - 10.15

T. Blaschke; M. Biberacher; S. Gadocha; D. Zocher; M. Mittlböck; E. Hauslauer; I. Schardinger (Research Studio iSPACE, Salzburg, Austria); **J. Strobl** (Z_GIS, Centre for Geoinformatics, University of Salzburg, Austria): *“Virtual Power Plants: Spatial energy models in times of climate change”*

V.F. Krapivin; F.A. Mkrtchyan (Institute of Radioengineering and Electronics, Russian Academy of Sciences, Moscow, Russia): *„GIMS - Technology for the operative environmental diagnostics”*

E. Ivits; M. Cherlet, G. Buchanan (DG JRC, Italy), **D. Chamberlain** (BTO, England): *„Remote sensing derived phenological indicators to explain European farmland bird distribution pattern”*

R. J. Corner (Co-operative Research Centre for Spatial Information, Australia); **M. Marinelli** (Curtin University of Technology, Bentley, Australia): *“Modelling the effects of data uncertainty on agricultural and environmental models under global change conditions”*

10.15 – 10.45 Coffee Break

Earth observation

Moderation: David Wortley (The Serious Games Institute, Coventry University, UK)

10.45 - 11.30 Keynote GUO Huadong (Center for Earth Observation and Digital Earth, Chinese Academy of Sciences) *“ABCC Program: Global Change Study Using Space Technology”*

11.30 – 12.45

C. Aubrecht; M. Köstl; K. Steinnocher (Austrian Research Centers GmbH, Vienna, Austria): *“Functional object grouping – An advanced method for integrated spatial and space related data mining”*

D. Tiede (Centre for Geoinformatics (Z_GIS), University of Salzburg, Austria); **S. Lang** (Centre for Geoinformatics (Z_GIS), University of Salzburg, Austria; Institute of Landscape Architecture and Environmental Planning, Berlin): *“Rapid dwelling extraction from VHRS satellite imagery in refugee camps and dissemination of conditioned information via virtual globes”*

P. Milenov; D. Kapnias; W. Devos (European Commission, Joint Research Centre, Agriculture Unit, GeoCAP team): *“Best Practice and Quality Checking of Ortho Imagery – toward a common approach”*

G. **Schaab**; P. **Dammann**; F. N. **Muchori**; N. **Ojha**; H. **Zimmer** (Faculty of Geomatics, Karlsruhe University of Applied Sciences); „*Biodiversity monitoring and forest management involving geospatial data in Kakamega Forest (Kenya): Tools tailored to the users' needs.*”

S. **Hese**; C. **Schmullius** (Department of Earth Observation, Institute of Geography, Friedrich-Schiller-University, Jena, Germany): “*Strategies for object-oriented thermokarst lake change analysis in Siberia using very high resolution multitemporal satellite data*”

12.45 -13.45 Lunch Break

Spatial Data infrastructure

Moderation: Manfred Ehlers (Institute for Geoinformatics and Remote Sensing, University of Osnabrück, Germany)

13.45 – 14.30 Keynote Dietmar Grünreich (Federal Agency for Cartography and Geodes, Frankfurt am Main, Germany): “*The Role of Policy for Spatial Data Infrastructures*”

14.30 – 15.15 Keynote Alessandro Annoni (Spatial Data Infrastructures Unit, Institute for Environment and Sustainability, European Commission Joint Research Centre, Ispra, Italy) “*Regional and Global spatial data infrastructures: a key to assess and monitor environmental changes*”

15.15 – 15.45 Coffee Break

15.45 – 16.45

Moderation: Lothar Koppers (Anhalt University - Dept. 3 - Architecture, Facility Management and Geoinformation, Germany)

E. **Gennai** (ESRI Europe): “*Interoperability and Spatial data Infrastructures: from data collection to actionable information*”

C. **Graul**; A. **Zipf** (University of Bonn, Germany): “*Putting Biogeographic Research on the Spatial Web: Towards Interoperable Analysis Tools for Global Change Based on the Web Processing Service (WPS)*”

U. **Boes** (URSIT Ltd., Sofia, Bulgaria); R. **Pavlova** (Technical University Sofia, Bulgaria): “*Spatial Data Infrastructures by 2020 – where do they go?*”

D. **Doktor** (Imperial College, Department of Biology, UK); F. W. **Badeck** (Helmholtz-Centre for Environmental Research - UFZ, Leipzig, Germany); A. **Bondeau** (Potsdam Institute for Climate Impact Research, Potsdam, Germany); D. **Koslowsky** (Free University of Berlin, Department of Meteorology, Berlin, Germany): “*On the comparison of point and area-wide observations of vegetation*”

Visualisation

Moderation: Michael Goodchild (National Center for Geographic Information and Analysis, University of California, Santa Barbara, USA)

16.45 – 17.15

D. **Wortley** (Serious Games Institute, Coventry University, UK): “*Integrating Physical and Virtual Worlds for Sustainable Development*”

P. **Paar** (Lenné3D LLC, Berlin); K. **Appleton** (School of Environmental Sciences, University of East Anglia, Norwich); M. **Clasen** (Zuse Institute Berlin, Dept. of Visualization and Data Analysis); M. **Gensel** (Zuse Institute Berlin, Dept. of Visualization and Data Analysis); S. **Jude** (Tyndall Centre for Climate Change Research, University of East Anglia, Norwich); A. **Lovett** (School of Environmental Sciences, University of East Anglia, Norwich):
“Interactive Visual Simulation of Coastal Landscape Change”

18.00 Program Sanssouci Castle

19.00 Social Evening Event (Dinner) & Poster Awards

Friday, November, 14.

Simulation and Modelling

Moderation: Kai Behncke (Institute for Geoinformatics and Remote Sensing, University of Osnabrück, Germany)

9.00 - 9.45

Keynote LI Deren (State Key Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing, Wuhan University, China): *“Role of Geospatial Technology in Wenchuan Earthquake”*

9.45 -11.00

J. **LeLievre** (Department of Sustainability and Environment, Melbourne, Australia); A. **Kealy** (Department of Geomatics, University of Melbourne, Parkville, Australia): *“Homogenous positioning using CORS networks in a Digital Earth“*

N. **de Lange**; C. **Plass** (Institute for Geoinformatics and Remote Sensing, University of Osnabrück, Germany): *“WebGIS with Google Earth and Google Maps“*

T. **Häring**; V. **Hochschild** (Department of Geography, University of Tübingen, Germany); M. **de Paly**; C. **Henneges** (Department of Informatics, University of Tübingen, Germany): *“Modelling Tsunami Vulnerability – The development of a Tsunami Inundation Model with Machine Learning tools“*

D. **Lincke**; C. **Ionescu**; N. **Botta** (Potsdam Institute for Climate Impact Research, Germany): *“A generic library for earth system modelling based on monadic systems“*

D. **Vassilaki**; C. **Ioannidis** (School of Rural and Surveying Engineering; National Technical University of Athens, Greece); A. **Stamos** (School of Civil Engineering, National Technical University of Athens, Greece): *“Geospatial Data Integration using Automatic Global Matching of Free-Form Curves”*

11.00 - 11.15 Coffee Break

11.15 -11.45 Three best poster presentations

Urbanisation

Moderation: Jochen Schiewe (HafenCity University Hamburg, Department Geomatics, Germany)

11.45 – 12.45

O. Gruebner; **B. Jakimow**; **K. Janson**; **T. Lakes**; **P. Hostert** (Humboldt University, Department of Geography, Berlin, Germany): *“Linking ecological, economic, and social data in a health data model to analyse complex dynamics in informal settlements in Dhaka, Bangladesh”*

G. Zeug; **S. Eckert** (Joint Research Centre of the European Commission, Institute for the Protection and Security of the Citizen, Support to External Security Unit, Ispra, Italy) **T. Kukuk**; **U. Steiner** (GAF AG, Munich, Germany); **D. Ehrlich** (Joint Research Centre of the European Commission, Institute for the Protection and Security of the Citizen, Support to External Security Unit, Ispra, Italy): *“Monitoring urban city growth and its impact on the environment: the case study of Sana’a, Yemen”*

T. Lakes (Humboldt University Berlin, Department of Geography); **S. Lautenbach** (Humboldt University Berlin, Department of Geography; Helmholtz-Zentrum für Umweltforschung GmbH): *“Modelling urban land use systems under transition – from socialist to postsocialist dynamics in urban areas”*

M. Moeller, **E. Schöpfer** (Austrian Academy of Science, GIScience, Salzburg, Austria; University of Bamberg, Institute of Geography, Bamberg, Germany): *“Metropolitan Growth Mapped from Space Images”*

12.45 - 13.00 Break

Urbanisation & Visualisation

Moderation: Peter Woodgate (Cooperative Research Centre for Spatial Information, Australia)

13.00 -14.15

T. Nocke; **T. Sterzel** (Potsdam Institute for Climate Impact Research); **M. Böttinger** (German Climate Computing Centre (DKRZ)); **M. Wrobel** (Potsdam Institute for Climate Impact Research): *“Visualization of Climate and Climate Change Data: An Overview”*

J.-P. Aurambout; **C. Pettit** (Department of Primary Industries, Victoria, Australia): *“Digital Globes: gates to the digital earth”*

J. Schiewe; **A. Krek**; **I. Peters**; **H. Sternberg**; **K.-P. Traub** (Hafen City University Hamburg, Germany): *„Developing and evaluating tools for Urban Research”*

C. Neumann (University of Potsdam) : *“Linkage of climate variables from AVHRR raster data to the heterogeneous layout of sub-catchments in the Ebro Basin”*

M. Gaál (Corvinus University of Budapest): *“Expected changes in climatic conditions of maize growing – Hungarian case study”*

14.15 -15.00 Lunch Break

15.00 – 16.45 Resumee & Panel Discussion

Software presentation:

J. **Klawitter** ; P. **Dekker**; P. **Meisen** (Global Energy Network Institute) J. **Graham** (San Diego State University Visualisation Center): „*The GENI Initiative Visualization*”

W. H. **Mayer** (PROGIS Software GmbH, Villach, Austria): “*Planning and valuation of ecological performances with the holistic and integrated agro-environment software-technology AGROffice*”

Poster Presentations:

Dingui Z., **Jianping F.** (Institute of Computing Technology; Shenzhen Institute of Advanced Technology; Chinese Academy of Sciences): “*PSDC: Parallel Simulation of Digital City*”

B. Hope; **C. Kamrowski**; (Department of Lands, NSW, Australia); **D. Tien** (Charles Sturt University, NSW, Australia) “*Refined Geo-referenced Image and Imagery Metadata Standards for SDI Implementation*”

Jiang H.; **Wang Q.**; **Wang X.** (Key Laboratory of Spatial Data Mining & Information Sharing of Ministry of Education, Fuzhou University; Spatial Information Research Center of Fujian Province, Fuzhou University, Fujian, China): “*Simulation and Spatial-Temporal Analysis of forest net primary productivity in Fujian Province*”

Jiang Y.; **Siwen B.** (Key Laboratory of Remote Sensing Information Sciences, Institute of Remote Sensing Application, Chinese Academy of Sciences, Beijing, China): “*Dynamic Object-oriented Model and the applications for the Digital Earth*”

Lian J. (Key Lab of 3D Information Acquisition and Application, MOE, School of Resource and Environmental Science, Capital Normal University, Beijing, China); **Li X.**, **Gong H.** (Key Lab of Resources Environment and GIS, Beijing, China): “*Research and Development of GIS Project Based on XML*”

Hui, L.; **Jinsong C.** (Institute of space and earth information science, The Chinese University of Hong Kong) “*Monitoring Sugarcane Growth using ENVISAT ASAR Data*”

V. M. Korchinsky; **V.I. Voloshyn** (Dniprocosmos State Company, Dnepropetrovsk, Ukraine): “*The Novel Method for Improvement of Information Density in Satellite-Acquired Multi-spectral Images*”

Liu S., **Wen G.**, **Cao W.**, **Feng S.**, **Fan J.** (Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences, Shenzhen; Institute of Computing Technology, Chinese Academy of Sciences, Beijing): “*The Feasibility Analysis and Evaluation in Water Transfer Project and Environment Change*”

Pang L., **Li G.** and **Yan Y.** (CEODE/CAS, Graduate School of CAS): “*Research on parallel buffer analysis based on Grided based HPC*: ”*Research on parallel buffer analysis based on Grided based HPC*”

M. A. Popov; **S. A. Stankevich**; **A. I. Sakhatsky**, **A. A. Kozlova** (Scientific Centre for Aerospace Research of the Earth, Kiev, Ukraine): “*Multispectral Imagery Normalized Difference Indexes for Land Cover Classification*”

Qui D.; **Cui C.** (College of earth sciences, Daqing Petroleum Institute, China); **Liu W.** (Sinopec Exploration & Production Research Institute, Beijing, China): “*New Computer Graphics Technologies for Digital Earth Visualization*”

M. **Rybansky** (Department of Military geography and meteorology, University of Defence in Brno) : *"Critical Transport Factors using Roads and Terrain during Crisis Situations and Natural Disasters"*

A. **Sharifi**; M.A. **Rajabi** (Department of Geomatics Engineering, University of Teheran); N. F. **Moghaddam** (Department of Geosciences, University of Shahid Beheshti, Teheran): *"Evaluation of Thermal Islands Logical Relation with Lineament Density Changes in Pre and Post-earthquake Satellite Images"*

S. **Shumilov**, J. **Laubach**; A. **Rogmann** (Department of Computer Science III, University of Bonn):
"GLOWA Volta GeoPortal - an active geodata repository and communication system"

V. **Starovoitov**: (United Institute of Informatics Problems, Minsk, Belarus): *"Multispectral image pre-processing for interactive satellite image classification"*

A. **Tarariko** (Institute of Agroecology of the Ukrainian Academy of Agrarian Sciences, Kiev, Ukraine); A. **Syrotenko** (Institute of Agroecology of the Ukrainian Academy of Agrarian Sciences, Kiev, Ukraine); V. **Grekov** (Centre of Soil Fertility State Enterprise at the Ministry of Agrarian Policy of Ukraine, Kiev, Ukraine): *"Net of Agrarian Testing Polygons in System of Remote Monitoring of Agrarian Resources in Ukraine"*