



The GEO-BENE Events

in the frame of the
33rd International Symposium on Remote Sensing of Environment
(ISRSE-33)

- AGENDA -

Program – Sunday, 3rd May 2009

10:00 – 14:00 **GEO-BENE Final Consortium Meeting (internal!)**

Pathway to the GEO-BENE Final Report (T36, June 2009)

Venue: Regina Palace Hotel

- 10:00 - 10:15 **Welcome and Opening of the GEO-BENE Events in Stresa;
Opening of the GEO-BENE Final Meeting and Presentation of the Procedure “Pathway to
the GEO-BENE Final Report (T36, June 2009).
Michael Obersteiner, Florian Kraxner (IIASA, Austria)**
- 10:15 - 11:30 **Presentations on Quantitative and Qualitative GEOSS Benefit Assessments.
5-Minutes Presentations as discussion input by the participating consortium partners and by SBA.
Entire GEO-BENE Consortium.**
- 11:30 - 11:45 *Coffee break*
- 11:45 - 12:45 **Group Discussion: Design and Content of the GEO-BENE Final Report.** Entire GEO-BENE
Consortium.
- 12:45 - 13:00 **Presentation of the Outline of the the GEO-BENE Final Report, Publications Schedule,
Finalizing Other Issues;
Closing of the Final GEO-BENE Meeting.
Michael Obersteiner, Florian Kraxner (IIASA, Austria)**
- 13:00 - 14:00 *Lunch break*

14:00 – 17:30

Pre-Conference Workshop (WS 3): **(public!)**

Assessing the Socio-economic Benefit of GEOSS

Venue: Regina Palace Hotel (The registration fee for ISRSE-Sunday-Workshops is €30)

Co-chair: Michael Obersteiner, International Institute for Applied Systems Analysis (IIASA), Austria

Co-chair: Florian Kraxner, International Institute for Applied Systems Analysis (IIASA), Austria

At this workshop a number of applications demonstrating the socio-economic benefits of Earth Observations (EO) and GEOSS in particular will be presented. Moreover, results from the EU sponsored project GEO-BENE Global Earth Observation – Benefit Estimation: Now, Next and Emerging ([www. geo-bene.eu](http://www.geo-bene.eu)) will be shown and discussed.

-
- 14:00 - 14:15 **Will GEO Work? - A Economist's View.** Alexey Smirnov, Michael Obersteiner (IIASA, Austria)
- 14:15 - 14:30 **International cooperation on Earth observation in the course of GEOSS; an evaluation based on game theoretic and economic concepts.** Christine Heumesser (University of Natural Resources and Applied Life Sciences, Austria), Michael Obersteiner (IIASA, Austria)
- 14:30 - 14:45 **Modelling of the socio-economic and environmental determinants of subjective happiness and well-being.** Dimitris Ballas (University of Sheffield, UK), Steffen Fritz (IIASA, Austria), Mark Tranmer (University of Manchester, UK)
- 14:45 - 15:00 **The Value of Observations in Determination of Optimal Vaccination Timing and Threshold.** Elena Moltchanova (National Institute for Health and Welfare, Finland), Zuzana Chladna (Comenius University, Slovakia)
- 15:00 - 15:15 **Valuing Climate Change Uncertainty Reductions for Robust Energy Portfolios.** Sabine Fuss, Nikolay Khabarov, Jana Szolgayova, Michael Obersteiner (IIASA, Austria)
- 15:15 - 15:30 **Geographical-economical profits of solar energy with remote sensing data.** Shifeng Wang, Barbara Koch (Albert-Ludwig-University Freiburg, Germany)
- 15:45 - 16:15 *Coffee break*
- 16:15 - 16:30 **Optimal Forest Management with Stochastic Prices & Endogenous Fire Risk - The Merits of Earth Observations.** Jana Szolgayova, Sabine Fuss, Michael Obersteiner (IIASA, Austria)
- 16:30 - 16:45 **Improvement in Optimal Forest Management through Earth Observations - A Global Integrated Analysis Considering Fire Risk.** Michael Obersteiner, Sabine Fuss, Jana Szolgayova (IIASA, Austria)

- 16:45 - 17:00 **Value of Weather Observations for Reduction of Forest Fire Impact on Population.** Nikolay Khabarov, Michael Obersteiner (IIASA, Austria), Elena Moltchanova (National Institute for Health and Welfare, Finland)
- 17:00 - 17:15 **Toward spatially variable fire risk indices based on weather data and satellite observations.** Milan Onderka (Institute of Hydrology, Slovakia), Igor Melichercik (Comenius University, Slovakia)
- 17:15 - 17:30 **The role of GEOSS in monitoring ecosystems and their services.** Belinda Reyers (CSIR, South Africa)
- 17:30 - 17:45 **Integrating biodiversity and human health: a multidisciplinary research and policy initiative.** Montira Pongsiri, Gary Foley (US EPA, USA)
- 17:45 - 18:00 **Benefits of global earth observation for conservation planning in the case of European wetland biodiversity.** Kerstin Jantke, Christine Schleupner, Uwe Schneider (University of Hamburg, Germany)

Program – Monday, 4th May 2009

17:00 – 18:30 Technical Session (TS 6) 11.1:

Societal Benefits of Earth Observations: Assessment Methodologies

Venue: Palazzo dei Congressi di Stresa – ASIA –

Co-chair: Maria dalla Costa, Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA), Italy
Co-chair: Steffen Fritz, International Institute for Applied Systems Analysis (IIASA), Austria

This session deals with tools and methodologies which have been developed to assess the societal benefits in the Water, Disasters, Climate, Agriculture and Biodiversity SBA's as well as a systems dynamics model which is able to assess the aggregated benefit.

-
- 17:00 - 17:15 **The value of Earth Observation for Marine Water Quality management.** Jetske Bouma, Onno Kuik, Hans van der Woerd (Vrije Universiteit Amsterdam, Netherlands) Arnold Dekker (CSIRO, Australia), Vanessa Daniel (Vrije Universiteit Amsterdam, Netherlands)
- 17:15 - 17:30 **Simulation of climate scenarios and sensitivity analysis with the biophysical process model EPIC.** Franziska Strauss, Erwin Schmid (BOKU University, Austria), Elena Moltchanova (National Institute for Health and Welfare, Finland)
- 17:30 - 17:45 **Landslide hazard in afforested territories of Slovakia.** Pavel Liscak, Martin Bednarik (Comenius University, Slovakia), Ján Feranec (Slovak Academy of Sciences, Slovakia)

- 17:45 - 18:00 **The Value of Observations for Reduction of Earthquake-Induced Loss of Life on a Global Scale.** Nikolay Khabarov, Andriy Bun, Michael Obersteiner (IIASA, Austria)
- 18:00 - 18:15 **System Dynamics Model for Analyzing and Measuring the Benefits of Global Earth Observation.** Felicjan Rydzak, Michael Obersteiner (IIASA, Austria)
- 18:15 - 18:30 **Right-sizing observation systems: a worked example using a cost-benefit approach.** Robert Scholes (CSIR-Natural Resources and Environment, South Africa)
- 18:30 - 18:45 **Evaluating the efficiencies of crop production systems within a Data Envelope Framework at global scale.** Christine Heumesser, Erwin Schmid (University of Natural Resources and Applied Life Sciences, Austria), Rastislav Skalsky (Soil Science and Conservation Research Institute, Slovakia)

11:30 – 18:30

Poster Session (A 4) 11:

Societal Benefits of Earth Observations: Applications and Assessment Methodologies

Venue: Palazzo dei Congressi di Stresa – FIRST FLOOR –

- PS-A4-1** **The Application of GIS In Mineral Exploration: A Spatial Analysis of The Kwale Heavy Mineral Sands Deposit.** Martin Nyakinye (Mines & Geological Department, government, Kenya)
- PS-A4-2** **Appraising different classification techniques to develop an aquatic landcover map of Lake Taupo, New Zealand.** Muhammad Salman Ashraf, Lars Brabyn, Kevin Collier, Brendan Hicks (The University of Waikato, New Zealand)
- PS-A4-3** **Enhancement of satellite images use for hydraulic characterisation of flood plains: Application to SAR images acquired by ERS-1 during the Meuse River flood in winter 1993-1994.** Thongchai Srimuang (Thailand)
- PS-A4-4** **Monitoring UV Radiation using Ground-based and Satellite Measurements at Sub Antarctic Region-Rio Gallegos, Argentina.** Jacobo Omar Salvador (CEILAP-CITEFA, Argentina)
- PS-A4-5** **Very High Resolution SAR satellite data.** Livio Rossi (Telespazio-Eurimage-SIN, Italy)
- PS-A4-6** **Geodata Recovery from High Resolution Satellite Imagery.** Daniela Poli (ETH Zurich, Switzerland)
- PS-A4-7** **Real-Time Monitoring System in Millimeter and Optical Ranges.** Yaroslav Savenko, Fedir Repa (Kiev Polytechnic Institute, Ukraine), Volodymyr Vodotovka (Kyiv National University of Technology and Design, Ukraine)
- PS-A4-8** **Optimal Forest Management with Stochastic Prices & Endogenous Fire Risk - The Merits of Earth Observations.** Jana Szolgayova, Sabine Fuss, Michael Obersteiner (IIASA, Austria)

- PS-A4-9** **Will GEO Work? - A Economist's View.** Alexey Smirnov, Michael Obersteiner (IIASA, Austria)
- PS-A4-10** **Modelling of the socio-economic and environmental determinants of subjective happiness and well-being.** Dimitris Ballas (University of Sheffield, UK), Steffen Fritz (IIASA, Austria), Mark Tranmer (University of Manchester, UK)
- PS-A4-11** **Value of Weather Observations for Reduction of Forest Fire Impact on Population.** Nikolay Khabarov, Michael Obersteiner (IIASA, Austria), Elena Moltchanova (National Institute for Health and Welfare, Finland)
- PS-A4-12** **International cooperation on Earth observation in the course of GEOSS; an evaluation based on game theoretic and economic concepts.** Christine Heumesser (University of Natural Resources and Applied Life Sciences, Austria), Michael Obersteiner (IIASA, Austria)
- PS-A4-14** **The role of GEOSS in monitoring ecosystems and their services.** Belinda Reyers (CSIR, South Africa)
- PS-A4-15** **Improvement in Optimal Forest Management through Earth Observations - A Global Integrated Analysis Considering Fire Risk.** Michael Obersteiner, Sabine Fuss, Jana Szolgayova (IIASA, Austria)
- PS-A4-16** **Mid-resolution satellite contributions to GEOSS societal benefit areas: examples from the ASTER global mapping mission.** Kenneth A. Duda (USGS, USA), Michael Abrams (Jet Propulsion Laboratory, USA)

11:30 – 18:30

Poster Session (A 3) 4:

Disaster Reduction and Response (1/2)

Venue: Palazzo dei Congressi di Stresa – FIRST FLOOR –

- PS-A3-1** **Toward spatially variable fire risk indices based on weather data and satellite observations.** Milan Onderka (Institute of Hydrology, Slovakia), Igor Melicherik (Comenius University, Slovakia)

Program – Tuesday, 5th May 2009

10:30 – 17:30

Poster Session (B 4):

Reinforcing Europe's Contribution to GEO

Venue: Palazzo dei Congressi di Stresa – FIRST FLOOR –

- PS-B4-13** **GEO-BENE Global Earth Observation – Benefit Estimation: Now, Next and Emerging.** Michael Obersteiner, Steffen Fritz (International Institute for Applied Systems Analysis, IIASA, Austria)

09:00 – 10:30 Technical Session (TS 58) 11.2:

Societal Benefits of Earth Observations: Applications

Venue: Palazzo dei Congressi di Stresa – AFRICA –

Co-chair: Steffen Fritz, International Institute for Applied Systems Analysis (IIASA), Austria

Co-chair: Michael Obersteiner, International Institute for Applied Systems Analysis (IIASA), Austria

This session has a diverse range of presentations which illustrate how society can benefit from Earth Observation Data. Moreover novel data collection methods as well as issues around land validation are presented.

- 09:00-09:15 **Uncertainties in global land cover data and its implications for climate change mitigation policies assessment.** Steffen Fritz, Petr Havlik (IIASA, Austria), Uwe Schneider (University of Hamburg, Germany), Erwin Schmid (BOKU University, Austria)
- 09:15-09:30 **AgCam Science Applications Team: Remote Sensing from the International Space Station.** Rick Lawrence, Corey Baker, Richard Engel, Bret Olson, Lisa Rew, Alistair Smith, Xiaodong Zhang (University of North Dakota, USA)
- 09:30-09:45 **GIS Based Shoreline Change Detection along the Cameroon Coast.** Buh Wung Gaston (Laboratory of Geotechnology, Environmental Assessment And Disaster Risk Reduction, Cameroon), Ajayi O. (Obafemi Awolowo University, Nigeria)
- 09:45-10:00 **Complex approaches for the study of landslide areas in mountainous pilot areas of Uzbekistan using remote sensing data and GIS techniques.** Pulat Mavlyanov (Uzbekistan)
- 10:00-10:15 **Supporting Civil Security with Earth Observation in GMES/Kopernikus.** Gunter Schreier, Peter Reinartz (DLR, Germany)
- 10:15-10:30 **Global validation of EOS land products, lessons learned and future challenges: A MODIS case study.** Joanne Michelle Nightingale, Jaime Nickeson (Innovim / NASA GSFC / WGCV LPV, USA), Chris Justice (University of Maryland, USA), Frederic Baret (INRA / WGCV LPV, France), Sebastien Garrigues (CNES / WGCV LPV, France), Robert Wolfe, Ed Masuoka (Innovim / NASA GSFC / WGCV LPV, USA)

Further presentations by GEO-BENE consortium members:

Wednesday, 6th May 2009

16:00 – 17:30 Technical Session (TS 39) 9.3:

Land-Use / Condition and Emerging Disease Monitoring

Venue: Palazzo dei Congressi di Stresa – SOUTH AMERICA –

Co-chair: Montira Pongsiri, U.S. Environmental Protection Agency, USA

Co-chair: Gary Foley, U.S. Environmental Protection Agency, USA

The objectives of the session are to share new work using remote sensing to monitor land condition and disease emergence; and, to identify direct connections between earth observations of environmental change, public health, and end-user health communities to develop effective monitoring and forecasting-capable decision-support tools (e.g. models, indicators) at the local level.

TS-39-2 The Value of Observations in Determination of Optimal Vaccination Timing and Threshold. Elena Moltchanova (National Institute for Health and Welfare, Finland), Zuzana Chladna (Comenius University, Slovakia)

Thursday, 7th May 2009

16:00 – 17:30 Technical Session (TS 56) 6:

Energy Management: The contributions of Earth Observations to the Energy Sector

Venue: Palazzo dei Congressi di Stresa – NORTH AMERICA –

Co-chair: Ellsworth LeDrew, University of Waterloo, Canada

Co-chair: Thierry Ranchin, Mines ParisTech, France

How can Earth Observations contribute to the Energy Sector? Examples are provided for benefits of Earth Observations for wind, solar and biomass energy and their management. Following this session, attendees are welcome to stay for an informal meeting of the GEO Energy Community of Practice and learn how to join the network and participate in the ongoing activities.

TS-56-7 Valuing Climate Change Uncertainty Reductions for Robust Energy Portfolios. Michael Obersteiner, Sabine Fuss, Nikolay Khabarov, Jana Szolgayova (IIASA, Austria)

Friday, 8th May 2009

11:00 – 12:30

Plenary Session (6):

Summary and Closing

Venue: Palazzo dei Congressi di Stresa – EARTH / AMPHITHEATRE –

Co-chair: Dr. Jean-Paul Malingreau, Head of Work Programme Unit, EC JRC, Belgium

Co-chair: Prof. Charles F. Hutchinson, Director OALS, University of Arizona, USA

This Plenary will first provide a summary of the major outcomes of the Symposium and then will be followed by a Panel discussion. The Panel will be composed of worldwide acknowledged experts representing the major players involved in the development of Earth observation applications and services.

Session Summary: Dr. Giovanni Rum, GEO Secretariat

Panel Discussion and Question & Answer session (potential participants):

- José Achache (Director, GEO Secretariat; invited)
- Valère Moutarlier (Head GMES Bureau, European Commission)
- Eric Béranger (CEO, ASTRIUM Space Services, France)
- Nancy Colleton (Executive Director, Alliance for Earth Observations)
- Gilberto Camara (Director, INPE Brazil)
- Phil Mjara (Director, DST South Africa)
- Stuart Minchin (Research Director, CSIRO Australia)
- Conrado Varotto (Director General, CONAE Argentina)
- Michael Obersteiner (GEO-BENE Coordinator, IIASA and GEO Secretariat)