ISRSE 33 Preliminary Programme

The ISRSE 33 week (4-8 May 2009) comprises 62 technical sessions across 13 themes and 15 poster sessions over four days, as well as a large number of side events and 6 pre-symposium Workshops.

The themes are:

Theme 1:	Integrating **Climate Change / Atmosphere** considerations into sectoral decision-making
Theme 2:	Agriculture: **Food Crisis**- reducing poverty and hunger
Theme 3:	**Forest** and **Ecosystems**: reversing the current trend
Theme 4:	**Disaster** reduction and response management
Theme 5:	Focus on **Africa**: strategies for sustainable development
Theme 6:	**Energy** Management: The contributions of Earth Observations to the Energy Sector
Theme 7:	**Marine** resources and dynamics: observational capabilities and application
Theme 8:	**Water Resources:** a precious but scarce and degraded public good
Theme 9:	Observing environmental factors that affect human **Health** and well-being
Theme 10:	**Data and Information** Systems: Spatial Data Infrastructures & Emerging Technologies
Theme 11:	**Societal Benefits** of Earth Observation
Theme 12:	**Airborne** Remote Sensing
Theme 13:	**National, Regional, International** Programmes and Applications

Side Events (during the week):

- Reinforcing Europe's contribution to GEO
- International Earth Observation activities in Africa

Pre-Symposium Workshops (3 May 2009):

WS 1: Interactive Training on Satellite Earth Observations for Air Quality

WS 2: IEEE GEOSS Workshop XXVI - Towards a Global Forest Carbon Monitoring System: From Research to Operations

WS 3: GEOBene Consortium: Assessing the Socio-economic benefit of GEOSS

WS 4: Unmanned Aircraft Systems (UAS) for Earth Remote Sensing

WS 5: An Introduction to Waveform-Recording Lidar

WS 6: WETMAAP (Wetland Education Through Maps And Aerial Photography)

Theme 1
Integrating Climate Change / Atmosphere considerations into decision-making

The UN's seventh Millennium Development Goal is to "Ensure environmental sustainability." Clearly ISRSE-33 takes place at an important moment in time. In addition to the UN goal, the identified issues for ISRSE include perhaps the most important issue of the present time, ***climate change.*** This important issue links and concerns all countries, be they developed or developing.

Our understanding of climate change has made enormous strides as a result of innovations in technology be it for instrument development, satellite sensors, airborne remote sensing platforms and especially improvements in climate models. Governments throughout the developed and developing world are struggling with the policy implications of climate change and related adaptive and preventive strategies.

The decisions that will be made in the next decade will have generational impacts. It is critical that policy makers have the most credible and up to date data and derived information on climate change as possible. Much of this data will come from a variety of remote sensing platforms, be it space or airborne.

The theme sessions include:

1.1. Remote sensing of clouds, albedo, and atmospheric parameters
1.2. Remote sensing of droughts, aerosols, pollutants and carbon black
1.3. Remote sensing of surface changes and the role of carbon

Theme 2
Agriculture: Food Crisis – reducing poverty and hunger

The first Millennium Development Goal is: *Eradicate extreme poverty & hunger*. Beyond simply increasing agricultural production, there are two other paths that can be pursued simultaneously to work toward this goal.

The first is to improve our ability to predict agricultural production for cropped areas so that we might better anticipate where surpluses and deficits are likely to occur and thus be able to mitigate problems early. Steps are being taken to achieve this through large-scale (often global) efforts of directly monitoring cropped area and crop performance using a blend of satellite data products. Models are also being developed that take remote sensing data and predict crop performance.

A second approach is to develop tools that will allow farmers to grow crops more efficiently by providing them with information (e.g. plant stress resulting from disease or insect stress; differential properties of soils; location of salt affected soils) that allows them to make timely management decisions.

Sessions themes include:

2.1a Agriculture Monitoring (1/2)
2.1b Agriculture Monitoring (2/2)
2.2 Agriculture: Crop Modeling
2.3a Agriculture: Crop Management (1/2)
2.3b Agriculture: Crop Management (2/2)

Theme 3
Forests and Ecosystems: reversing current degradation trends

The ISRSE-33 Symposium welcomed papers on monitoring, understanding and managing the world's natural resources and environment. Papers addressing the measurement and analysis of progress towards the UN Millennium Development Goals were particularly encouraged. For this particular theme "Forests and Ecosystems", papers are intended to cover methodological improvements from Earth observations data which can contribute to the monitoring, conservation and management of terrestrial ecosystems with a particular attention to forested ecosystems and biodiversity.

The papers which have been selected take stock of progress made during this first decade of the 21st Century in the development and use of Earth observation technologies and information systems. Oral and poster presentations on new analytical techniques, results and applications will be made in the following ten sub-sessions grouped into two themes Theme 3A "Forests Ecosystems" and Theme 3B "Other terrestrial Ecosystems":

Theme 3A. Forests Ecosystems

3.1 Global forest and land cover monitoring
3.2 Assessments of Boreal and Temperate Forests
3.3 Tropical Forest monitoring for REDD
3.4 Assessment of Tropical Forests from radar imagery
3.5 Biophysical parameters

Theme 3B. Other terrestrial Ecosystems

3.6 Ecosystems and Biodiversity
3.7 Wetlands
3.8 Degradation of ecosystems
3.9 New Land Cover applications at global to national scales
3.10 New techniques for ecosystem assessment

Note that a sub-Session on Forests will also be organized in the Track "Focus on Africa".

Theme 4
Disaster Reduction and Response

For this particular theme "Disaster Reduction and Response", the oral and poster presentations are intended to cover the state-of-the-art in methodologies, systems and applications that make use of earth observation data in order to contribute to disaster risk reduction, to enhance disaster early warning, and to respond more effectively to disasters, including mitigation.

The oral and poster presentations in the following *five* sub-sessions cover the full disaster management cycle, from risk reduction and preparedness to response and recovery/reconstruction, including organizational and technical aspects of disaster management from space. The presentations also cover the integrated use of of remote sensing, information, mobile and GIS technologies to deliver systems to support disaster risk management and disaster early warning.

Theme sessions:

4.1 Disaster Management from Space
4.2 Disaster Risk Reduction
4.3 Disaster Early Warning
4.4 Disaster Emergency Response and Damage Assessment
4.5 International and Regional Initiatives on Disaster Response with Earth Observation

Theme 5
Focus on Africa: strategies for sustainable development

The technical sessions in Theme 5 will focus on the use of Earth observations and other information technologies to address environment and natural resource issues in Africa. Presentations cover water, land, crops, forest, biodiversity, health and the overall issue of information management for sustainable development.

Theme sessions:

5.1 Earth Observation for sustainable development/urbanisation
5.2 Biodiversity and Ecosystems
5.3 Forest Management
5.4 Water, Desertification and Land degradation
5.5 Science for Health and Well-being

Theme 6
Energy Management: the contributions of Earth Observations to the Energy Sector

Energy is one of nine Societal Benefit Areas of GEO and the focus of the Energy Community of Practice. The objectives of the Energy CoP are found at http://www.geoss-ecp.org/. Relevant areas include:

- Siting of power plants and facilities including environmental and sociological issues
- Optimized design of power systems and facilities
- Yield estimation and resource monitoring based on historic information
- Yield forecast based on near real time weather and forecasting
- Trading and monitoring of power and environmental credits
- Environmental monitoring of impacts
- Economic analyses

Theme 7
Marine resources and dynamics: observation capabilities and applications

For the theme "Marine resources and dynamics", papers are intended to cover methodological improvements and applications of Earth observation data, together with modelling and data assimilation of *in situ* and satellite data, with a particular attention to ocean and ecosystem dynamics, marine resources and water quality applications, coastal zones, and maritime traffic and oil spill monitoring. The advancements proposed by the session presentations and posters concern mainly the development of more accurate retrieval algorithms and the satellite monitoring of the physical, biological and biogeochemical marine environment state variables.

Theme sessions:

7.1 Ocean and Ecosystem Dynamics
7.2 Marine Resources and Water Quality Applications
7.3 Coastal Zones
7.4 Maritime Traffic and Oil Spill Monitoring

Theme 8
Water Resources: a precious but scarce and degraded public good

Access to fresh and clean water is vital for socio-economic prosperity, human health and all ecosystems. The World Summit on Sustainable Development (WSSD) in 2002 identified water as a key priority ("No Water, No Future") for immediate action in particular for developing countries faced to water scarcity and to a rapid population growth.

The ISRSE-33 Symposium welcomed papers on the understanding of the complex water cycle processes and on the monitoring and management of the world's water resources at local, regional and global scales. The Session 8 on Water Resources addresses several important issues for which Space Earth observations in combination with in-situ observations and associated to improved models increasingly contribute, ranging from monitoring and management to predictions/forecasting.

The papers which have been selected take stock of progress made during this first decade of the 21st Century in the development and use of Earth Observation technologies and modern information systems.

Oral and poster presentations on new analytical techniques, results and applications will be made in the following six sessions:

Session 8.1a&b	Water Cycle Strategy and Water Resource Management
Session 8.2	Drought and Desertification
Session 8.3	Snow cover, Glaciers and Ice caps
Session 8.4	Evapotranspiration and Soil Moisture
Session 8.5	Water Quality

It should be noted that a Session on Water Resources will also be organized in the Track "Focus on Africa".

Theme 9
Observing Environmental Factors that Effect Human Health and Well-Being

The increasing types of Earth observations and availability of data have led to increased interest in applying observations relative to issues concerning human health. The ISRSE-33 Symposium welcomed papers examining the use of Earth observations to support assessments of environmental hazards, exposure, and effects on human health. Oral and poster presentations are presented in four sessions – traditional and innovative approaches to the Track structure and sessions are designed to encourage discussion.

Two sessions address perspectives on air quality – one addressing monitoring capabilities and one addressing GEOSS and information systems. A third session examines the emergence of diseases using observations of land characteristics. In a broader fourth session, novel ideas are highlighted regarding health, Earth observations, and public policy issues.

A common objective is to share new work and support end-user health communities with effective monitoring and decision-support tools. Collectively, the papers selected in this track include a wide range of regional approaches and applications, monitoring systems, and methodologies.

Theme sessions:

9.1 Regional Capabilities for Forecasting and Monitoring Air Quality
9.2 Air Quality and GEOSS: Status, Issues and Panel Discussion
9.3 Health: Land use / condition & emerging disease monitoring
9.4 Special Topics: Novel Ideas in Remote Sensing & Human Health

Theme 10
Data and Information Systems: Spatial Data Infrastructures and Emerging Technologies

The more we understand the complexity of interactions and inter-dependencies between environmental and socio-economic phenomena at different levels the more we need dynamic and internationally standardized information systems to provide reliable, accurate, timely, openly accessible and interoperable information at the relevant geographic and temporal scales. In order to be easily accessible data should be properly collected and organized.

A Spatial Data Infrastructure (SDI) is a framework of data and related thematic information, standards, polices and services that facilitate access and sharing of spatial data in an efficient and flexible way.

Data and information from both satellite and *in situ* platforms are increasingly being integrated into spatial data infrastructures, using currently available OGC and ISO standards. This facilitates and improves cross-sectoral thematic analysis capacities and provides a better support to all levels of decision making. It is expected that there will be a large increase in the volume and diversity of earth observation data from inhomogeneous data sources during the next decade.

Data and service interoperability become a key factor to access data stored in distributed data bases but in order to use we should be able to understand different semantics, address problems related to different scales and accuracy, fill gaps though modelling and, quite importantly, ensuring appropriate institutional mechanisms to support SDI development and maintenance.

The six related sessions provide a very good overview of current SDI capacities and challenges to be addressed in relation to:

1) creation of cross-cutting global data sets,
2) discovery of and access to existing data,
3) address different semantics and standards,
4) facilitate integration of remotely sensed and *in-situ* data,
5) best practices for data and information management,
6) setting-up interoperable geospatial web services.

Theme sessions:

10.1 SDI: Global Cross-cutting Data sets
10.2 SDI: Portals, Catalogues and Clearinghouses
10.3 SDI: Data Management
10.4 Sensor Web Technologies and in situ networks
10.5 SDI: Interoperability and Semantics
10.6 SDI: Architecture and Services

Theme 11
Societal Benefits of EO: Applications and Assessment Methodologies

Global Earth observations may be instrumental to achieve sustainable development, but until recently there has been little work on integrated assessments of their economic, social and environmental benefits. It is therefore vital to be able to demonstrate and to value the actual societal benefit of EO and GEOSS. The ISRSE-33 Symposium welcomed papers which on the one hand show tools and methodologies which can be used to assess the societal benefits of EO and GEOSS in a quantitative manner as well as applications which demonstrate qualitatively the societal benefits of EO Systems.

The theme is divided in two sessions. The first one deals with tools and methodologies for benefit assessments of EO and the second one with EO applications which demonstrate their societal benefit.

Theme sessions:

11.1 Societal Benefits of EO: Assessment methodology
11.2 Societal Benefits of Earth Observation: Applications

Theme 12
Airborne Remote Sensing

Sensors aboard airborne platforms have played a key role in the evolution of earth observations since before the first earth observing satellite was launched. Indeed, the 1st International Symposium on Remote Sensing of Environment (ISRSE) in 1962 was devoted exclusively to studies using data from airborne platforms. Today, manned and unmanned aircraft continue to provide platforms for sensor development, data support to satellite observations and data for airborne science studies. At this 33rd ISRSE, delegates from airborne programs throughout the world will discuss state-of-the-art activities in airborne remote sensing.

Session themes include:

12.1 Airborne Platforms
12.2 Airborne Science
12.3 Airborne: Unmanned Aircraft Systems Platforms
12.4 Airborne: UAS Science
12.5 Airborne Science Programs

Theme 13
National, Regional, International Programmes and Applications

This last theme will provide an overall perspective on current, planned and proposed satellite missions and ground segments to address regional and global issues as well as services and applications in support of the sustainable development in the coming decade.

Session Themes:

13.1 New Space Missions
13.2 National, Regional and International Applications
13.2 GMES Services
13.4 GMES Space Component
13.5 VGT3/PROBA
13.6 UNESCO

Day 1

Monday 4 May 2009

10:00 Welcome and Introduction

Monday 4 May 2009	
10:30 - 11.30	
Plenary Session 1	**Global Issues, Global Responses: the GEO Process**
Co-chair:	*Professor José Achache, Director, GEO Secretariat; Geneva, Switzerland*
Co-chair:	*Manuela Soares, European Commission, Director DG Research – Directorate Environment*
S-1-1	Reinforcing Europe's contribution to GEO Dr. Zoran Stancic, Deputy Director General, EC Research Directorate General Reinforcing
S-1-2	Title: To be provided Dr. Philemon Mjwara, Director General, Department of Science and Technology, South Africa
S-1-3	Title: To be provided Dr. D. James Baker, William J. Clinton Foundation - Former Administrator NOAA
S-1-4	Title: To be provided Prof. Toshio Koike, University of Tokyo, Japan

Monday 4 May 2009	
12:00 - 13.00	
Plenary Session 2	**Getting ready for the Challenges Ahead: Space Agencies**
Co-chair:	*Dr. Darasri Dowreang Deputy Director, Geo-Informatics and Space Technology Development Agency-GISTDA and CEOS Chair, Thailand*
Co-chair:	*Gilberto Camara, Director of National Institute for Space Research (INPE), Brazil*
This session includes presentations of current Earth observation programmes and plans from a number of major space agencies. Speakers will also report on international cooperation and coordination activities and initiatives essential for an improved understanding of the Earth processes and evolution.	
S-2-1	The ESA Earth Observation Programmes and Plans Dr. Volker Liebig, ESA Director of Earth Observation Programmes
S-2-2	EUMETSAT Programmes and Plans Dr. Lars Prahm, EUMETSAT Director General
S-2-3	The Japan Space Programme and Plans Yasushi Horikawa, Executive Director of the Japan Aerospace Exploration Agency (JAXA), Japan
S-2-4	The NASA Earth Observation Programmes and Plans

	Dr. Michael Freilich, Director of NASA's Earth Science Division, USA
S-2-5	Argentina's National Space Programme Dr. Conrado F. Varotto, Director General CONAE, Argentina
S-2-6	The NOAA Meteorological Programmes and Plans Dr. Mary Kicza, NOAA Assistant Administrator for Satellite and Information Services, USA

Monday 4 May 2009	
13:00-13:30	
Side Event	**Cosmo-Skymed: An Innovative System for Operational Applications**

Monday 4 May 2009	
15:00 – 16:30	
Technical Session 1	**1.1 Climate Change / Atmosphere: Remote sensing of clouds, albedo, and atmospheric parameters**
Co-chair:	*Brent Smith, NOAA, USA*
Co-chair:	*Michel Verstraete, EC Joint Research Centre, Italy*
This session focuses on the remote sensing of clouds, albedo and water vapor. The role of clouds in radiation balance is one of the most important inputs to understanding local and regional climate change. This is one of most important inputs to global climate change models.	
TS-1-1 (ref 210)	Climate change: new directions at the U.S. EPA. Dr. Pai-Yei Whung, Chief Scientist, Office of the Science Advisor EPA, USA
TS-1-2 (ref 457)	The use of meteorological satellite observations for atmospheric reanalysis and climate monitoring applications. Jean-Noel Thepaut (ECMWF, UK)
TS-1-3 (ref 170)	Retrieving essential climate variables over land from operational surface albedo products. Bernard Pinty, Malcolm Taberner, Nadine Gobron (EC Joint Research Centre, Italy), Thomas Lavergne (Norwegian Meteorological Institute, Norway), Thomas Kaminski (FastOpt, Germany),
TS-1-4 (ref 65)	Arctic atmospheric water vapor climatology from satellite passive microwave data. Leonid Petrovich Bobylev, Elizaveta Zabolotskikh, Olga Aniskina (NIERSC, Russian Federation)
TS-1-5 (ref 88)	Special features of scattering theory application to clouds for radiative calculation. Irina Nikolaevna Melnikova (Research Centre for Ecological Safety Russian Academy of Science, Russian Federation)
TS-1-6 (ref 368)	Spatiotemporal characteristics of clouds over boreal Siberian zone for simulation of shortwave component of the radiative balance in the "forest-atmosphere" system. Tatiana Zhuravleva, Tatiana Bedareva, Tatyana Sklyadneva (Institute of Atmospheric Optics SB RAS, Russian Federation)
TS-1-7 (ref 912)	Retrieval of boundary layer cloud LWP diurnal cycle from geostationary satellite observations. Jean-Louis Brenguier (CNRM/GAME), Anja Hünerbein (Météo-France/CNRS, France)

Monday 4 May 2009

15:00 – 16:30	
Technical Session 2	**2.1a Agricultural Monitoring 1**
Co-chair:	*John Latham, FAO-UN, Italy*
Co-chair:	*Jacques Delincè, EC Joint Research Centre, Italy*
This session considers the problems that are encountered and solutions that have been explored in developing systems for monitoring agricultural production at a variety of scales.	
Keynote TS-2-1	Defining the Value of Remote Sensing for Global Agriculture Monitoring Bradley D. Doorn, United States Department of Agriculture (USDA)
TS-2-2 (ref 84)	Crop yield and CO2 fixation monitoring in Asia by a photosynthetic-sterility model. Daijiro Kaneko (Matsue National College of Technology, Japan), Peng Yang (Key Loboratory of Resources Remote Sensing & Digital Agriculture, Peoples Republic of China), Toshiro Kumakura (Nagaoka University of Technology, Japan)
TS-2-3 (ref 406)	Satellite-based identification of linked vegetation index and sea-surface temperature anomaly areas for food security and crop production estimates. Clement Atzberger, Bruno Combal, Anja Klisch, Anton Vrieling (EC Joint Research Centre, Italy), Thomas Udelhoven (CRP Lippmann, Luxembourg)
TS-2-4 (ref 292)	Forecasting rice yields in China and India: the role of low resolution satellite data. Bettina Baruth, Anja Klisch, Igor Savin, Roberto Confalonieri, Alexandra Rosenmund (EC Joint Research Centre, Italy)
TS-2-5 (ref 412)	Mapping and characterization of urban agriculture with QuickBird imagery in Lisbon. Sérgio Freire, Teresa Santos, Inês Boavida-Portugal, Ana Fonseca, José António Tenedório (Portugal)
TS-2-6 (ref 39)	Imagery-based multistage area frame sampling for assessing agricultural activity. Richard Cicone, Frank Pont (ISciences LLC, USA), Gregory Koeln, Andrew Ralowic (MDA-Federal, USA)

Monday 4 May 2009	
15:00 – 16:30	
Technical Session 3	**4.1 Disaster Management from Space**
Co-chair:	*Gunter Schreier, DLR, Germany or Günter Strunz, Germany*
Co-chair:	*Delilah Al-Khudhairy, EC Joint Research Centre,Italy*
New and higher resolution satellite based Earth observation sensors, improved understanding of image and signal interpretation and an increasing number of satellite missions have contributed to the use of satellite based Earth information to map natural disasters and humanitarian emergencies from space. Whilst the entire disaster response cycle is being supported by space data analysis, the fast and reliable availability of satellite information has especially contributed to support emergency relief in the hours and days immediately following a disastrous event. Papers in this session will specifically address the full disaster management cycle, from risk reduction and preparedness to response and recovery/reconstruction, including organizational and technical aspects of disaster management from space. The invited keynote will give an overview of the United Nations role in capacity building and coordinating space based activities for disaster response.	

TS-3-1 (inv KN)	Earth Observation perspectives on the Disaster Management. Lorant Czaran (United Nations Office for Outer Space Affairs, Bonn, Germany)
TS-3-2 (ref 395)	SIGRIS: a pilot project to demonstrate the use of satellite Earth Observation data for the management of the seismic risk. Stefano Salvi (Istituto Nazionale di Geofisica e Vulcanologia, Italy), Stefano Vignoli (Advanced Computer Systems, Italy), Marco Serra (ASI, Italy), Vittorio Bossi (Dipartimento di Protezione Civile, Italy)
TS-3-3 (ref 400)	Earth Observation as a powerful tool for flood risk management. Christine Fosty, Sonia Heitz, Renaud Hostache, Patrick Matgen, Mara Montanari, Laurent Pfister (Centre de Recherche Public - Gabriel Lippmann, Luxembourg)
TS-3-4 (ref 562)	Applications of remote sensing in disaster management with special reference to India. Narpat Singh Rathore (Mohanlal Sukhadia University, India), Narender Verm (Banaras Hindu University, India)
TS-3-5 (ref 708)	Cooperative exercises as a tool for researchers and practitioners in the domain of Earth Observation in support of disaster management. Olaf Kranz and Stefan Voigt (DLR, Germany)
TS-3-6 (ref 748)	PREMFIRE: towards a holistic integration of Earth Observation Services in wildfire management Marta López Ramos, Ricardo Gonçalves Armas, João Romana (Critical Software, Portugal)

Monday 4 May 2009	
15:00 – 16:30	
Technical Session 4	**9.1 Regional Capabilities for Forecasting and Monitoring Air Quality for Human Health and Well-being**
Co-chair:	*Amelia Budge. ISPRS Commission VIII, Working Group 2-Public Health, USA*
Co-chair:	*Shahid Habib. NASA Goddard Space Flight Center, USA*

Earth observations from satellite and *insitu* platforms are being integrated into numerical models to improve forecasting capabilities for aerosols, dust, ozone, and other pollutants that aggravate respiratory conditions such as asthma, COPD, and myocardial infarction.

This session examines different approaches and capabilities for forecasting and monitoring air quality at global, regional, and local scales. Presenters will describe several forecasting and monitoring systems, and provide regional examples for China, the Po River Valley in Italy, the Southwestern United States, and Bucharest.

Networked monitoring and forecasting systems such as the Sand and Dust Storm Warning and Assessment System and the AIRNow International system also will be discussed. ISPRS Working Group VIII/2 is co-organizing this session.

TS-4-1 (ref 580)	Monitoring Air Quality over China from Space with GOME, SCIAMACHY and OMI. Hennie Kelder (University of Technology of Eindhoven, Netherlands)
TS-4-2 (ref 637)	QUITSAT: an Italian Space Agency pilot project for monitoring, forecasting and planning the air quality. Claudio Tomasi (Institute of Atmospheric Sciences and Climate, Italy)
TS-4-3 (ref 640)	Environmental Public Health Application Systems. Stanley Morain (Earth Data Analysis Center, University of New Mexico, USA)
TS-4-4 (ref 830)	On-Ine air quality Monitoring and Warning Support System for Bucharest Urban Area. Vasile Craciunescu (National Meteorological Administration, Romania)

TS-4-5 (ref 875)	The World Meteorological Organization's Sand and Dust Storm Warning Advisory and Assessment System. William Sprigg (Department of Atmospheric Sciences, University of Arizona, USA)

Monday 4 May 2009	
15:00 – 16:30	
Technical Session 5	**3.1 Global Forest and Land Cover Monitoring**
Co-chair:	*Francoise Pearlman, WRA, USA*
Co-chair:	*Alan Belward, EC Joint Research Centre, Italy*
This session examines different approaches for monitoring forest and land cover types at global to continental scales. Future operational global land, forest or degradation monitoring systems will be also presented and discussed.	
TS-5-1 (ref 791)	The first 300 m Global Land Cover Map for 2005 using ENVISAT MERIS time series: a Product of the GlobCover System. Pierre Defourny(UCL-Geomatics, Belgium), Patrice Bicheron (UCL-Geomatics, France), Carsteen Brockmann (UCL-Geomatics, Germany), Sophie Bontemps, Eric Van Bogaert, Christelle Vancutsem, Mireille Huc, Marc Leroy, Franck Ranera, Frederic Achard, Antonio Di Gregorio, Martin Herold, Olivier Arino
TS-5-2 (ref 316)	Advances in Remote Sensing Of Global Land Degradation And Improvement. Rogier de Jong, David Dent, Zhanguo Bai (ISRIC - World Soil Information, The Netherlands), Michael Schaepman (University of Zurich, Switzerland), Sytze de Bruin (Wageningen University, The Netherlands), Allard de Wit (Alterra – Centre for Geo-information, The Netherlands)
TS-5-3 (ref 766)	Identifying Critical Earth Observations for Forest Monitoring: a Role for GEO Michael Allen Brady (Natural Resources Canada, Canadian Forest Service, Canada)
TS-5-4 (ref 577)	The FAO Global Forest Resource Assessment Remote Sensing Survey. Adam Gerrand (FAO, Italy)

Monday 4 May 2009	
17:00 – 18:30	
Technical Session 6	**11.1 Societal Benefits of Earth Observations: Assessment Methodologies**
Co-chair:	*Manuela Soares, European Commission, Director DG Research – Directorate Environment*
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 benefit 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.	
TS-6-1 (ref 82)	The Value of Earth Observation for Marine Water Quality Management. Jetske Bouma, Onno Kuik, Hans van der Woerd (Institute for Environmental Studies, Vrije Universiteit Amsterdam, Netherlands) Arnold Dekker (CSIRO, Australia), Vanessa

	Daniel (Institute for Environmental Studies, Vrije Universiteit Amsterdam, Netherlands)
TS-6-2 (ref 114)	Simulation of Climate Scenarios And Sensitivity Analysis With The Biophysical Process model EPIC. Franziska Strauss, Erwin Schmid (Institute of Sustainable Economic Development, BOKU University, Vienna, Austria), Elena Moltchanova (Diabetes Unit, National Institute for Health and Welfare, Helsinki, Finland)
TS-6-3 (ref 173)	Landslide Hazard in Afforested Territories of Slovakia. Pavel Liscak, Martin Bednarik (Faculty of Natural Sciences CU, Bratislava, Slovakia), Ján Feranec (Institute of Geography, Slovak Academy of Sciences, Bratislava, Slovakia)
TS-6-4 (ref 219)	The Value of Observations for Reduction of Earthquake-Induced Loss of Life on a Global Scale Nikolay Khabarov, Andriy Bun, Michael Obersteiner (IIASA, Austria)
TS-6-5 (ref 895)	System Dynamics Model for Analyzing and Measuring the Benefits of Global Earth Observation. Felicjan Rydzak, Michael Obersteiner (International Institute for Applied Systems Analysis (IIASA), Austria)
TS-6-6 (ref 887)	Right-sizing observation systems: a worked example using a cost-benefit approach. Robert Scholes (CSIR-Natural Resources and Environment, South Africa)
TS-6-7 (ref 594)	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)

Monday 4 May 2009	
17:00-18:30	
Technical Session 7	**2.1b Agricultural Monitoring 2**
Co-chair:	*Lennart Olsson, Lund University, Sweden*
Co-chair:	*Parihar Jai-Singh, Space Applications Center, ISRO, Ahmedabad, India*
This session considers the problems that are encountered and solutions that have been explored in developing systems for monitoring agricultural production at a variety of scales.	
Keynote TS-7-1	Developing an Agricultural Monitoring System of Systems. Christopher O. Justice, Inbal Becker-Reshef (Geography Dept. University of Maryland, USA), Parihar Jai-Singh (Space Applications Center, ISRO, Ahmedabad, India)
TS-7-2 (ref 120)	Monitoring Crop Status with Remote Sensing - A Case Study of Winter Wheat in North China Plain. Meng Jihua, Wu Bingfang, Li Qiangzi, Du Xin (Institute of Remote Sensing Applications, Chinese Academy of Sciences, Peoples Republic of China)
TS-7-3 (ref 127)	Evaluation of Vegetation Indices from Time-Series of Hyperspectral Satellite Imagery for Monitoring Leaf Chlorophyll in Uzbek Cotton Fields. Gerd Rücker, Jörg Grillenberger (German Aerospace Center (DLR)-German Remote Sensing Data Center (DFD), Germany), Wouter Dorigo (Institute of Photogrammetry and Remote Sensing, Vienna University of Technology, Austria), Kirsten Kienzler (Center for Development Research (ZEF), University of Bonn, Germany), Nazar Ibragimov (Uzbekistan National Cotton Growing Research Institute, Uzbekistan)
TS-7-4	Identification of Agricultural and Land Cover Database Changes using Object-Oriented

(ref 236)	Classification Techniques. Luis A. Ruiz, Jorge A. Recio, Txomin Hermosilla, Alfonso Fdez-Sarría (Universidad Politecnica de Valencia, Spain)
TS-7-5 (ref 466)	Mapping Fractional Canopy Coverage in a Mediterranean Grassland with Airborne Hyperspectral Imagery. Roshanak Darvishzadeh (Shahid Beheshti University, Iran), Andrew Skidmore, Martin Schlerf (International Institute for Geo-Information Science and Earth Observation, Netherlands), Clement Atzberger (EC Joint Research Centre, Italy)
TS-7-6 (ref 680)	Mapping Mediterranean Rangeland condition using MODIS NDVI Time Series. Francesco Fava, Roberto Colombo, Stefano Bocchi, Lorenzo Busetto (University of Milano Bicocca, Italy), Silvia Musinu, Caludio Zucca (University of Sassari, Italy)
TS-7-7 (ref 293)	Rice Acreage Estimation in Kalmykia based on MODIS NDVI. Igor Savin, Bettina Baruth (EC Joint Research Centre, Italy)

Monday 4 May 2009	
17:00 – 18:30	
Technical Session 8	**4.2 Disaster Risk Reduction**
Co-chair:	*Michael Obersteiner, IIASA, Austria*
Co-chair:	*Daniele Ehrlich, EC Joint Research Centre, Italy.*
Disasters undermine the impact and benefits of investments, and can contribute towards an increase in the vulnerability of the affected communities to future disasters, and therefore disasters remain a major impediment to the efforts of countries, especially developing ones, for sustainable development. Papers in this session describe how new methodologies are being applied to data from optical satellite (including very high resolution) sensors, in combination with other spatial data, for vulnerability mapping and disaster risk assessment. The session also addresses the use of GIS as a valuable basis for risk information platforms for disaster risk management. The invited keynote will present the approaches used by insurance companies in mitigating the financial impacts of natural disasters, how they assess natural hazard risks and what models they use.	
TS-8-1 (inv KN)	Traditional and non-Traditional Approaches and Products used in the Insurance Community to Reduce the Mitigate the Financial Impacts of Natural Disasters. Jens Mehlhorn (Director, Swiss Reinsurance Company, Switzerland)
TS-8-2 (ref 305)	Damage and Disaster Risk Assessment in Caribbean Region. Micheline Moula (Universite Antilles-Guyane, France), Danièle Ehrlich, Christophe Louvrier, Andrea Gerhardinger (EC Joint research Centre, Italy)
TS-8-3 (ref 370)	Supporting Slum Mapping using Very High Resolution Satellite Data. Thomas Kemper, Martino Pesaresi, Annett Wania (EC Joint research Centre, Italy)
TS-8-4 (ref 434)	The Central American Probabilistic Risk Assessment (CAPRA): A platform for Disaster Risk Management and Sustainable Development. Stuart Gill, Emma Phillips, Edward Anderson, Francis Ghesquiere (World Bank)
TS-8-5 (ref 512)	The relationship between Landslide Distribution and Contributing Factors for Estimating Risk to Property in New Zealand. Karen Joyce (GNS Science, New Zealand)
TS-8-6 (ref 630)	Forest fire Evaluation and Monitoring using Earth Observation Data at Global and Local Scale. Hicham EZZINE (Centre Royal de Teledetection Spatiale du Maroc, Morocco)

TS-8-7 (ref 873)	INSAR monitoring of landslides using RADARSAT, ALOS and Terra Vern Singhroy (Canada Centre for Remote Sensing, Canada)

Monday 4 May 2009	
17:00 – 18:30	
Technical Session 9	**5.5 Science for Health and Well-being**
Co-chair:	*Stanley A. Morain, University of New Mexico, USA*
Co-chair:	*Gary Foley, U.S. Environmental Protection Agency, USA*

The International Council for Science (ICSU) has approved a programme on Science for Health and Well-being (SHWB) focused on urban environments of Sub-Saharan Africa. It was recognized early that efforts in health and well-being in general would need a systems approach because of the breadth of science, technology, and modelling needs required to link environment to health. Consequently, the GeoUnions within ICSU (ISPRS, IUGG, IUGS, IUSS, and IGU), along with affiliated Unions (IMGA, IAHA, IAVCEI, and INQUA), proposed to evaluate their measurements, observations, and models in context of health and well-being decision and policy making needs in the region.

Three of the four aims and goals of ICSU-SHWB are to: (1) demonstrate how a range of science and technology is important to health and well-being; (2) collaborate to identify unmet needs and produce new ideas for future science and technology development; and (3) develop an inventory of ongoing programmes and activities to address unmet needs. All of these resonate with the general aims and goals of GEOSS and of the GEO User Interface Committee in particular.

This session will present findings of the GeoUnions' Joint Science Program Team (JSPT) for health. Each of the five presentations in the session will address how respective GeoUnion measurements, observations, and models add to the systems approach to sustainable urban health in the region; identify where major gaps exist; and suggest where future science and technology efforts are needed.

TS-9-1 (ref 900)	Building the Systems Approach to Human Health and Well-being in Sub-Saharan African: Contributions to the Modeling Framework from the ISPRS Community Amelia M Budge (ISPRS WG VIII-2, USA)
TS-9-2 (ref 901)	The International Union of Geological Sciences (IUGS) in the ICSU Interdisciplinary Programme on Analysis of Health and Well-being in the Urban Environment Olle Selinus (IUGS, Sweden)
TS-9-3 (ref 902)	Soils and health: Input from soil science to human health and well-being Eiliv Steinnes (Norwegian University of Science and Technology, Norway)
TS-9-4 (ref 903)	The International Council of Sciences (ICSU) Interdisciplinary Programme on a Systems Approach to the Analysis of Health and Well-being in the Urban Environment: Contributions of the International Geographical Union (IGU) Mark Rosenberg (Queen's University, Canada)
TS-9-5 (ref 909)	Geophysical and Hydrological Models Applicable to Urban Health Hazards Ania-Maria Grobicki (IUGG, USA)
TS-9-6 (ref 75)	Space observations for early detection and monitoring malaria in Africa Felix Kogan (NOAA/NESDIS, USA)
18:30-19:30 Round-table	Discussion on the ICSU draft report on Science for Health & Well-being in sub-Saharan Africa

Monday 4 May 2009	
17:00 – 18:30	
Technical Session 10	**3.2 Assessments of Temperate and Boreal Forest ecosystems**
Co-chair:	*Michael Brady, NRCAN, Canada*
Co-chair:	*Jesus San Miguel-Ayanz, EC Joint Research Centre, Italy*
Earth observations from satellite are used to monitor forest ecosystems from continental to national level in temperate and boreal regions. This session examines different approaches for temperate and boreal forest monitoring. Examples in Canada, Europe and Russia will be presented and discussed.	
TS-10-1 (ref 752)	Monitoring ecosystem in Canada's Wapusk National Park with time series MODIS data. Junhua Li, CCRS, Canada
TS-10-2 (ref 462)	Continuing developments in building a nationwide 30-meter forest parameter dataset for forest health risk assessments. James R Ellenwood, Frank J Krist, Frank J Sapio (USDA Forest Service, USA)
TS-10-3 (ref 569)	Seasonal MODIS data for forest mapping. Fernando Sedano, Pieter Kempeneers, Lucia Reithmaier, Jesus San Miguel (EC Joint Research Centre, Italy)
TS-10-4 (ref 599)	The new high-resolution pan-European forest cover map as link between large area and regional forest cover information data: a comparative assessment. Lucia Reithmaier (EC Joint Research Centre, Italy)
TS-10-5 (ref 809)	Full-service technologies for wall-to-wall monitoring of Russian forests. Olga Nikolaevna Gershenzon, Alexsander Maslov (SCANEX, Russian Federation)
TS-10-6 (ref 496)	Remote sensing classification of ground lichen cover. Michael Gilichinsky, Per Sandström, Heather Reese, Mats Nilsson, Sonja Kivinen, Jon Moen (SLU Umeå, Sweden)

Monday 4 May 2009	
11:30-18.30	
Poster Session A1	**1 Climate Change / Atmosphere**
PS-A1-1 (ref 98)	The mathematical model for atmosphere Vladimir P. Budak, Sergey V. Korkin (Moscow Power Engineering Institute, Russian Federation)
PS-A1-2 (ref 448)	Andes glacier monitoring by ALOS Yukio Haruyama (RESTEC, Japan)
PS-A1-3 (ref 87)	The algorithm of cloud optical parameters retrieval from airborne observations of solar diffuse radiance. Irina Nikolaevna Melnikova (Research Centre for Ecological Safety Russian Academy of Science, Russian Federation), Sergey Nikitin (Baltic Technical University, Russian Federation), Charles Gatebe (NASA, USA)
PS-A1-4 (ref 849)	United Nations/Austria/ESA symposium on space applications for sustainable development to support the plan of implementation of the World Summit on Sustainable Development Levent Canturk (United Nations Office for Outer Space Affairs, Turkey)
PS-A1-5 (ref 25)	Climate change and its impact on Costal zone of Nile Delta, Egypt Alaa Hassan Elnahry (Egypt)

Monday 4 May 2009	
11:30-18.30	
Poster Session A1	**1 Climate Change / Atmosphere**
PS-A1-6 (ref 285)	Vulnerability Assessment Concept For Small Island: An Adaptive Strategies to Climate Change Mone Iye Cornelia Marschiavelli (National Agency for Survey and Mapping, Indonesia)
PS-A1-7 (ref 360)	Patterns of Atmospheric Carbon Dioxide and Carbon Monoxide in Siberia Derived from SCIAMACHY and Linkages to Regional Emission Sources Matthias Forkel, Roman Gerlach, Christiane Schmullius (University of Jena, Germany), Sergey Bartalev (Russian Academy of Sciences, Russian Federation)
PS-A1-8 (ref 375)	Assessing aerosol-cloud interactions linking multi-platform observations and remote sensing Greg Roberts, Laurent Gomes, Jean-Louis Brenguier (Météo France, France), Arnoud Apituley, Keith M. Wilson (National Institute for Public Health and the Environment, Netherlands), Damien Josset, Jacques Pelon (Service d'Aéronomie, France), Matthieu Boquet (LEOSPHERE, France), Reinout Boers (Royal Netherlands Meteorological Institute, Netherlands), Jamie Trembath, Hugh Coe (University of Manchester, UK)
PS-A1-9 (ref 522)	Simultaneous Extraction of Optical Properties of Asian Dust and Ground Reflectance from Satellite Ryuichi Taniguchi, Takashi Kusaka (Kanazawa Institute of Technology, Japan)
PS-A1-10 (ref 523)	Multisensor study of cold air outbreaks over the Bering and Okhotsk Seas Leonid M Mitnik, Michael K Pichugin, Irina A Gurvich, Maia L Mitnik (V.I. Il'ichev Pacific Oceanological Institute FEB, Russian Federation)
PS-A1-11 (ref 635)	Impact of assimilated observations on reducing bias in tropospheric ozone simulations Palmira Valentina Messina, Federico Fierli, Massimo D'Isidoro, Alberto Maurizi (ISAC-CNR, Italy)
PS-A1-12 (ref 641)	Measurement of aerosol optical properties in the Po basin: statistics and closure studies for remote sensing applications Mauro Mazzola, Christian Lanconelli, Angelo Lupi, Monica Campanelli, Maurizio Busetto, Claudio Tomasi, Vito Vitale (Institute of Atmospheric Sciences and Climate, National Research Council, Italy)
PS-A1-13 (ref 647)	A comparison of mixed-layer evolution as inferred from lidar and balloon observations and MM5 simulations in Milan (Italy) Tony Christian Landi, Paolo Stocchi, Federico Angelini, Francesca Barnaba, Ezio Bolzacchini, Luca Caporaso, Gabriele Curci, Luca Ferrero, Rossella Ferretti, Gian Paolo Gobbi (ISAC – CNR, Italy)
PS-A1-14 (ref 675)	Parameterization of two BRDF models for the retrieval of surface albedo over the Po Valley (Italy) from MISR observations Christian Lanconelli, Mauro Mazzola, Angelo Lupi, Monica Campanelli, Maurizio Busetto, Vito Vitale, Claudio Tomasi (ISAC – CNR, Italy)
PS-A1-15 (ref 677)	Desert Dust Aerosol Characterization from SEVIRI and MODIS: a Synergy between Geostationary and Polar Satellite Alessandro Tiesi, Walter Di Nicolantonio, Giovanni Ballista, Alessandra Cacciari (Carlo Gavazzi Space, Italy)
PS-A1-16 (ref 685)	Exploring MODIS Land Surface Temperature Time Series (2000-2007) over North Asia Martin Milbradt, Roman Gerlach, Christiane Schmullius (University of Jena, Germany)

Monday 4 May 2009	
11:30-18.30	
Poster Session A1	**1 Climate Change / Atmosphere**
PS-A1-17 (ref 710)	Particulate matter sampling and characterization at urban, rural and remote sites in the Po Valley in the QUITSAT project: number size distribution, chemical composition and vertical profiles Luca Ferrero (University of Milano-Bicocca, Italy)
PS-A1-18 (ref 759)	Changing Climate System and Natural Disasters: A big Societal Challenge Shahid Habib (NASA – Goddard, USA)
PS-A1-19 (ref 775)	Constraining European biogenic isoprene emissions using satellite observations of formaldehyde Gabriele Curci (CETEMPS- U. L'Aquila, Italy), Paul Palmer (University of Edinburgh, UK)
PS-A1-20 (ref 780)	Evaluation of large scale impact of NO2 on O3 using assimilation in Chimere: case study for 2007 African forest fires. Barbara Grassi (CETEMPS/University of L'Aquila, Italy)
PS-A1-21 (ref 788)	Performance Modeling for Space-based Observations of Hot-spot Events using Microbolometers Peyman Rahnama, John Hackett (COM DEV Ltd., Canada), Linda Marchese, Francois Chateauneuf (INO, Canada) (COM DEV Ltd., Canada), Martin Wooster (King's College London, UK), Tim Lynham (Natural Resources Canada, Canada)
PS-A1-22 (ref 793)	Simulation and Retrieval of Satellite Imagery for Thermal Imaging Systems Peyman Rahnama (COM DEV Ltd., Canada), Christopher E. Sioris (Environment Canada, Canada)
PS-A1-23 (ref 808	A Regional Climate Change Decision Support Center for Addressing Climate Change Adaptation and Mitigation Kyle C McDonald, Stephanie Granger, Michael Garay, Gary Geller, Said Kaki, Noah Molotch, Erika Podest, Rob Raskin (Jet Propulsion Laboratory, USA)
PS-A1-24 (ref 898)	Remote Sensing of Atmospheric Aerosols Alexander Yegorov (Russian State Hydrometeorological University, Russian Federation)

Monday 4 May 2009	
11:30 – 18:30	
Poster Session A2	**2 Agriculture: Food Crisis – reducing poverty and hunger**
PS-A2-1 (ref 140)	Development of method to forecast the cocoa swollen shoot virus epidemic with SPOT5 images and geographical information system for two production areas in Togo (Litime and Kloto). Franck Zohou Oro (CIRAD-IRD, France)
PS-A2-2 (ref 451)	Use of Earth Observation for building commodity value chain database for agricultural production in Africa. Andre Nonguierma (UNECA, Ethiopia)
PS-A2-3 (ref 477)	Study on estimating methods for multiple cropping index based on NDVI time-series. Feifei Zhang (CAS, China)
PS-A2-4 (ref 573)	Efficient spatial modeling of ground water and soil for sustainable agriculture. Faheem – Iqbal (Gloabl Change Imapct Studies Centre, Pakastan)
PS-A2-5 (ref 582)	Integrating FORMOSAT-2 high-temporal and high-spatial resolution images with field data for crop monitoring.

Monday 4 May 2009	
11:30 – 18:30	
Poster Session A2	**2 Agriculture: Food Crisis – reducing poverty and hunger**
	Argentina Teodora Nertan, Gheorghe Stancalie, Anisoara Irimescu (National Meteorological Administration, Romania)
PS-A2-6 (ref 724)	Standardization of the land cover classes in the LPIS using FAO Land Cover Classification System (LCCS). Pavel Kristiyanov Milenov, Wim Devos (EC Joint Research Centre, Italy)
PS-A2-7 (ref 64)	Hunger hotspots in Sub-Saharan Africa: a spatially explicit assessment. Junguo Liu (Swiss Federal Institute of Aquatic Science and Technology, Peoples Republic of China), Steffen Fritz, Michael Obersteiner (International Institute for Applied Systems Analysis, Austria), Hong Yang (Switzerland)
PS-A2-8 (ref 483)	Inundation impacts of Three Gorge Dam on the land cover and land production, China. Zhang Lei (Peoples Republic of China)
PS-A2-9 (ref 79)	The Use of MODIS-NDVI Data for Mapping Cropland across the Great Lakes Basin, USA Ross Lunetta (Environmental Protection Agency, USA)
PS-A2-10 (ref 280)	Synergistic analysis of global land cover data sets indicating areas of loss in Russians agriculture Marcel Urban (University of Jena, Germany)
PS-A2-11 (ref 361)	Inter-Annual Variability Of Vineyard Production In Northeastern Portugal (Douro Valley) Célia Gouveia (CGUL-FCUL; EST-IPS, Portugal), Margarida L.R. Liberato (Universidade de Trás-os-Montes e Alto Douro, Portugal), Ricardo Machado Trigo (Centro Geofísica Universidade Lisboa, Portugal)
PS-A2-12 (ref 399)	Mapping historical conversion of Brazilian savannas into agricultural lands in the southeast portion of the Mato Grosso State, Brazil Rosana Cristina Grecchi, Q. Hugh J. Gwyn, Goze Bertin Benie (Université de Sherbrooke, Canada), Antonio Roberto Formaggio (National Institute for Space Research, Brazil)
PS-A2-13 (ref 709)	Land Use due to Agrarian Policy in Costa Rica Rebeca Brenes (Costa Rica)
PS-A2-14 (ref785)	Discrimination of a soil-borne disease complex due to simultaneous infection of Heterodera schachtii and Rhizoctonia solani in sugar beet Christian Hillnhütter, Richard Alexander Sikora, Erich Christian Oerke (University of Bonn, Germany)
PS-A2-15 (ref 826)	On the transferability of vegetation spectral library Rama Rao Nidamanuri, Bernd Zbell (Leibniz - Centre for Agricultural Landscape Research, Germany)
PS-A2-16 (ref 192)	Consequences of abolishment of the set aside obligation in the EU CAP Birger Faurholt Pedersen, Inge Toft Kristensen (University of Aarhus, Denmark)
PS-A2-17 (ref 834)	Crop specific monitoring of biophysical variables at regional scale using MODIS imagery Gregory Duveiller, Pierre A. Defourny (UCL-Geomatics, Belgium), Frédéric Baret (INRA-EMMAH, France), Isabelle Piccard (VITO-TAP, Belgium)

Monday 4 May 2009	
11:30 – 18:30	
Poster Session A3	**4 Disaster Reduction and Response (1/2)**

Monday 4 May 2009	
11:30 – 18:30	
Poster Session A3	**4 Disaster Reduction and Response (1 / 2)**
PS-A3-1 (ref 315)	Contribution of Earth-Observation for Integrated Flood Risk Management in Romania Gheorghe Stancalie, Vasile Craciunescu, Corina Alecu (National Meteorological Administration, Romania)
PS-A3-2 (ref 437)	Using MODIS Remote Sensing data to discover the wildland fire regime and assess the current management activities Mohamed Elgamri Attaelmanan Ibrahim (Sudan University of Science and Technology, Sudan)
PS-A3-3 (ref 550)	Added value products obtained from EO historical series analysis produced within ASI-SRV project infrastructures Massimo Musacchio, Malvina Silvestri, Maria Fabrizia Buongiorno (Istituto Nazionale di Geofisica e Vulcanologia, Italy), Luigi Dini, Simona Zoffoli (ASI, Italy)
PS-A3-4 (ref 71)	Assessing tsunami vulnerability in Alexandria, Egypt by using optical VHR satellite data. Sandra Eckert (EC - Joint Research Centre, Italy)
PS-A3-5 (ref 145)	Toward spatially variable fire risk indices based on weather data and satellite observations. Milan Onderka (Institute of Hydrology, Slovakia), Igor Melichercik (Comenius University, Slovakia)
PS-A3-6 (ref 242)	Tsunami risk assessment in coastal regions in Indonesia. Guenter Strunz (DLR, Germany)
PS-A3-7 (ref 363)	Cross-application of artificial neural network model for landslide susceptibility analysis. Biswajeet Pradhan, Manfred F. Buchroithner (TU-Dresden, Germany)
PS-A3-8 (ref 376)	Mapping and cataloguing earthquake environmental effects: a tool for seismic hazard assessment. Luca Guerrieri, Eutizio Vittori, Valerio Comerci, Leonello Serva (EC - Joint Research Centre, Italy), Eliana Esposito, Sabina Porfido (CNR – IAMC, Italy), Alessandro Maria Michetti (University of Insubria, Como, Italy)
PS-A3-9 (ref 422)	The regime of summer wildfires in Portugal how can it be anticipated. Teresa Calado, Carlos DaCamara, Célia Gouveia (CGUL, Portugal)
PS-A3-10 (ref 467)	Landslide susceptibility assessment using geomatic and weight-of-evidence approach: the case of complex Rif mountains in Morocco. Ezzine Hicham (Royal Centre for Remote Sensing, Morocco), El Merrouni Fatima Ezohra (Faculté des sciences, Morocco), Majid Mansour (Ecole Nationale d'Architecture, Morocco)
PS-A3-11 (ref 505)	Determination of the characteristics in the zone of beginning of the debris flows using a SIG. Guillermo Cardoso-Landa (Instituto Tecnologico de Chilpancingo, Mexico)
PS-A3-12 (ref 515)	Application of frequency ratio, logistic regression and artificial neural networks models for Ingegration of landslide susceptibiliyt maps using ASTER imagery and GIS. Saro Lee (Korea Institute of Geoscience and Mineral Resouces, Korea), Hyun-Joo Oh (Yonsei University, Korea)
PS-A3-13 (ref 543)	GIS based ground subsidence hazard mapping using artificial neural network and logistic regression models. Saro Lee (Korea Institute of Geoscience and Mineral Resouces, Korea), Hyun-Joo Oh (Yonsei University, Korea)
PS-A3-14 (ref 729)	Abrupt change in greenhouse gases emission rate as possible genetic model of TIR anomalies observed from satellite in earthquake active regions.

Monday 4 May 2009	
11:30 – 18:30	
Poster Session A3	**4 Disaster Reduction and Response (1 / 2)**
	Valerio Tramutoli, Carolina Aliano, Rosita Corrado (University of Basilicata, Italy), Carolina Filizzola, Nicola Pergola (IMAA-CNR, Italy), Nicola Genzano, Mariano Lisi (University of Basilicata, Italy), Vito Lanorte (Regional Agency for the Environmental Protection, Italy), Tamar Tsamalashvili (M.Nodia Institute of Geophysics - Georgian Academy of Sciences, Giorgia),
PS-A3-15 (ref 70)	Thermal Monitoring: Identification Tool Of Natural Disasters Risks Response To Local Climatic Effects Miroslav Vysoudil, Aleš Létal, Renata Pavelkova (Palacky University Olomouc, Czech Republic)
PS-A3-16 (ref 130)	Integrated Fire Management Based On The Spatial Distribution Of Forest Fuels J. Germán Flores Garnica (INIFAP, Mexico)
PS-A3-17 (ref 260)	Multi-temporal assessment of forest fire in the Brazilian Amazon using MODIS images and change vector analysis Eduardo Eiji Maeda, Petri Pellikka (University of Helsinki, Finland), Gustavo Felipe Arcoverde, Yosio Edemir Shimabukuro (National Institute for Space Research, Brazil), , (National
PS-A3-18 (ref 274)	Complex approaches for the study of landslide areas in mountainous pilot areas of Uzbekistan using remote sensing data and GIS techniques Pulat Mavlyanov (Uzbekistan)

Monday 4 May 2009	
11:30 – 18:30	
Poster Session A4	**11 Societal Benefits of Earth Observations: Applications and Assessment Methodologies**
PS-A4-1 (ref 470)	The Application of GIS In Mineral Exploration: A Spatial Analysis of The Kwale Heavy Mineral Sands Deposit. Martin Nyakinye (Mines & Geological Department, Government of Kenya, Kenya)
PS-A4-2 (ref 525)	Appraising different classification techniques to develop an aquatic landcover map of Lake Taupo, New Zealand. Muhammad Salman Ashraf, Lars Brabyn, Kevin Collier (Department of Geography, The University of Waikato, New Zealand), Brendan Hicks (Department of Biological Sciences, The University of Waikato, New Zealand)
PS-A4-3 (ref 528)	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 (ref 661)	Monitoring UV Radiation using Ground-based and Satellite Measurements at Sub Antartic Region-Rio Gallegos, Argentina. Jacobo Omar Salvador (CEILAP-CITEFA, Argentina)
PS-A4-5 (ref 786)	Very High Resolution SAR satellite data. Livio Rossi (Telespazio-Eurimage-SIN, Italy)
PS-A4-6 (ref 792)	3D Geodata Recovery from High Resolution Satellite Imagery. Daniela Poli (ETH Zurich, Switzerland)

Monday 4 May 2009	
11:30 – 18:30	
Poster Session A4	**11 Societal Benefits of Earth Observations: Applications and Assessment Methodologies**
PS-A4-7 (ref 845)	Real-Time Monitoring System in Millimeter and Optical Ranges. Yaroslav Savenko, Fedir Repa (National Technical University of Ukraine "Kiev Polytechnic Institute", Ukraine), Volodymyr Vodotovka (Kyiv National University of Technology and Design, Ukraine),
PS-A4-8 (ref 289)	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 (ref 408)	Will GEO Work? - A Economist's View Alexey Smirnov, Michael Obersteiner (IIASA, Austria)
PS-A4-10 (ref 453)	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 (ref 218)	Value of Weather Observations for Reduction of Forest Fire Impact on Population. Nikolay Khabarov, Michael Obersteiner (International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria), Elena Moltchanova (Diabetes Unit, National Institute for Health and Welfare, Helsinki, Finland),
PS-A4-12 (ref 610)	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 (ref 888)	The role of GEOSS in monitoring ecosystems and their services Belinda Reyers (CSIR, South Africa)
PS-A4-15 (ref 291)	Improvement in Optimal Forest Management through Earth Observations - A Global Integrated Analysis Considering Fire Risk Michael Obersteiner, Sabine Fuss, Jana Szolgayova, Michael Obersteiner, Sabine Fuss, Jana Szolgayova (IIASA, Austria)
PS-A4-16 (ref 204)	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)

Day 2

Tuesday 5 May 2009	
09:00 – 10:30	
Plenary Session 3	**National and International Programmes in Earth Observation**
Co-chair:	*Stephen Briggs, Head of ESA's Earth Observation Applications, ESA-ESRIN, Italy*
Co-chair:	*Per-Erik Skrovseth, Norvegian Space Centre, Norway*
This session describes a number of national and international on-going or in a planning stage Earth observation applications programmes.	
S-3-1 (ref 819)	Title to be provided Dr. Gilberto Camara, Director of National Institute for Space Research (INPE), Brazil
S-3-2 (ref 165)	Leveraging the United States Group on Earth Observations (USGEO) to achieve coordinated and sustained observations of the Earth System Dr. Helen M. Wood, NOAA/NESDIS, USA
S-3-3 (ref 309)	Applications of Remote Sensing in Geo-Environmental Analysis Emphasizing Participatory Water Resource Management in Bangladesh Md. Waji Ullah, Shahriar Rahman, Bangladesh
S-3-4	the German National EO Programme Thomas Reiter, Chairman for Space (DLR)
S-3-5	The NASA Applied Earth Science Programme Teresa Fryberger, NASA Headquarters
S-3-6 (ref 452)	Contributions to GEOSS in Asia-Pacific region Dr. Yukio Haruyama, RESTEC, Japan
S-3-7	The Continental Country: An Australian Perspective on Earth Observation and GEOSSStuart Minchin, Research Director, CSIRO Land and Water Lab. Canberra, Australia

Tuesday 5 May 2009	
11:00 – 12:30	
Technical Session 11	**10.1 SDI: Global Cross-cutting Data sets**
Co-chair:	*Stephen Peedell, EC Joint Research Centre, Italy*
Co-chair:	*John Latham, FAO-UN, Italy*
Coordinate data management approaches encompass a broad perspective of the observation data life-cycle – from input to processing, archiving, and dissemination, including preprocessing, analysis and visualization of large volumes and diverse types of data. This session examines the current state-of-the-art in observational capacities and mainly focuses on transforming earth observations from space into cross-cutting global data sets.	
TS-11-1 (ref 58)	Analysis and Improvement of altimetric quality of Shuttle Radar Topography Mission data, SRTM-3 Juliana Mio de Souza, Ruth Emilia Nogueira Loch (Universidade Federal de Santa Catarina, Brazil)

TS-11-2 (ref 413)	Accuracy assessment of features extracted from QuickBird imagery for urban management purposes Teresa Santos, Sergio Freire, Ines Boavida-Portugal, Ana Fonseca, Tenedório José (Ines Boavida, Portugal)
TS-11-3 (ref 746)	Geometric Localisation and DEM Potentials of RADARSAT-2 Data René Chénier, Thierry Toutin (Natural Resources, Canada)
TS-11-4 (ref 29)	The ASTER Global Topographic Data Set: A New Contribution to GEOSS Michel J. Abrams (Jet Propulsion Laboratory, California Institute of Technology, USA)
TS-11-5 (ref 501)	Concepts for high resolution thermokarst lake change analysis in Siberia using multitemporal VHR data. Sören Hese (Friedrich-Schiller, University Jena, Germany)

Tuesday 5 May 2009	
11:00 – 12:30	
Technical Session 12	**4.3 Disaster Early Warning**
Co-chair:	*Robert Brakenridge, Dartmouth Flood Observatory, USA*
Co-chair:	*Tom de Groeve, EC Joint Research Centre, Italy*
No matter what the origin of disasters or their geographical context, there is a common need by all actors involved in disaster preparedness and response for timely, relevant and reliable information to make decisions, very often within stringent time scales and under extreme duress. The papers in this session address the application of space and information technologies to developing global and continental, near-real time, early warning and alerting systems for volcanoes, tsunamis, fires, floods, and landslides. The session also presents a novel approach to the early detection of seismic precursors from remote sensing data. The invited keynote will present an overview of GEO/GEOSS initiatives in disaster management, especially global early warning systems for disasters.	
TS-12-1 (inv KN)	GEO/GEOSS initiatives in disaster management, focusing on early warning systems. Veronica Grasso (GEO Secretariat)
TS-12-2 (ref 213)	Development of a fire information system: monitoring fires underneath transmission lines. Philip Frost (CSIR, South Africa)
TS-12-3 (ref 738)	A newly developed Decision Support System for improved tsunami early warning. Torsten Peter Riedlinger, Ulrich Raape (DLR, Germany)
TS-12-4 (ref 592)	Studies on seismic precursors. Ewa Słomińska, Małgorzata Jenerowicz, Anna Kalicka, Martyna Stelmaszczuk (Space Research Center, Polish Academy of Sciences, Poland)
TS-12-5 (ref 744)	Real-time global flood and landslide prediction using satellite observations. Robert Adler, Koray Yilmaz (University of Maryland, USA), Frederick Policelli (NASA, USA), Yang Hong (University of Oklahoma, USA), Dalia Bach Kirschbaum (University of Columbia, USA), Harold Pierce (SSAI, USA)

Tuesday 5 May 2009

11:00 – 12:30	
Technical Session 13	**3.3 Tropical Forest monitoring for REDD**
Co-chair:	*Gilberto Camara, Director of National Institute for Space Research (INPE), Brazil*
Co-chair:	*Jean-Paul Malingreau, EC Joint Research Centre, Belgium*
Earth observations are needed to monitor tropical forest cover in developing countries in the framework of a potential REDD mechanism (Reduction of Emissions from Deforestation and Degradation) under discussion at the UNFCCC. Presenters will describe different forest monitoring approaches at pan-tropical to national levels with examples in Guinea-Bissau, Cameroon, Indonesia and Thailand.	
TS-13-1 (ref 625)	Earth observation and political negotiations: linking requirements and capabilities in the context of the UNFCCC/REDD process. Martin Herold, Frederic Achard, Ruth De Fries, Danilo Mollicone, Carlos Souza (University of Jena, Germany)
TS-13-2 (ref 657)	Monitoring Forest cover at global scale: the EC Joint Research Centre approach. Frederic Achard, René Beuchle, Catherine Bodart, Andreas Brink, Hugh Eva, Philippe Mayaux, Rastislav Rasi, Hans-Jürgen Stibig (EC Joint Research Centre, Italy), Silvia Carboni, Dario Simonetti (Reggiani Spa, Italy)
TS-13-3 (ref 426)	REDD pilot projects in Cameroon and Bolivia: contribution to the UNFCCC post-Kyoto protocol process. Thomas Haeusler, Sharon Gomez (GAF, Germany), Joerg Seifert-Granzin (Bolivia), Joseph Amagou (Cameroon)
TS-13-4 (ref 407)	Quantification of deforestation rates in Guinea-Bissau – a baseline for carbon trading under REDD. Duarte Oom (Instituto de Investigação Científica Tropical, Portugal), Patrícia Lourenço (Portugal), Ana Cabral (Portugal), Maria Vasconcelos (Portugal), Luís Catarino (Portugal), Viriato Cassamá (Guinea-Bissau)
TS-13-5 (ref 689)	Reducing emissions from deforestation and degradation in South Sumatra, Indonesia: a remote sensing supported feasibility study. Gernot Ruecker, Florian Siegert, Florian Moder (ZEBRIS GbR, Germany)

Tuesday 5 May 2009	
11:00 – 12:30	
Technical Session 14	**8.1a Water Cycle Strategy and Water Resource Management 1**
Co-chair:	*Rick Lawford, University of Manitoba/University of Maryland Baltimore County, Canada*
Co-chair:	*Hans-Peter Plag, University of Nevada, USA*
The understanding of the complex global Water Cycle processes and its linkage to the global Energy Cycle is essential for the monitoring of the climate variability and change. This session includes presentations related to the contribution of geodetic observations to the global Water Cycle as well as presentations on the current GEO Water Cycle related activities and plans. It also includes presentations on water resource observations in support to modeling and predictions.	
TS-14-1	Geodetic Monitoring of the Global Water Cycle: Potential and Status Hans-Peter Plag (Nevada Bureau of Mines and Geology, University of Nevada, Reno,

Tuesday 5 May 2009	
11:00 – 12:30	
Technical Session 14	**8.1a Water Cycle Strategy and Water Resource Management 1**
Co-chair:	*Rick Lawford, University of Manitoba/University of Maryland Baltimore County, Canada*
Co-chair:	*Hans-Peter Plag, University of Nevada, USA*
(ref 532)	USA)
TS-14-2 (ref 703)	Generalized User Needs for Understanding/Monitoring the Global to Regional/Local Water Cycle, and the Adaptive Management of Water Resources Sushel Unninayar (NASA/GSFC, USA)
TS-14-3 (ref 763)	Advancing Water Cycle Observation and Research Programs within the Framework of the Global Earth Observation System of Systems (GEOSS) Rick Lawford (University of Manitoba/University of Maryland Baltimore County, Canada)
TS-14-4 (ref 778)	Results of the Water and Energy Nexus and the GEO Process John Grimson Lyon (IEEE, USA) and Michael Tinkleman (ASME, USA)
TS-14-5 (ref 331)	A prototype observation system for water resources in South – East Asia: ground and space measurements to support hydrological and atmospheric modeling of the Qinghai – Tibet Plateau Massimo Menenti (Delft University of Technology,The Netherlands), Jerome Colin (University Louis Pasteur, France), Li Jia (Wageningen University and Research Center, The Netherlands)
TS-14-6 (ref 473)	Evaluation of alternative model-data fusion approaches in retrospective water balance estimation across Australia Albert van Dijk and Luigi Renzullo (CSIRO Land and Water, Australia)

Tuesday 5 May 2009	
11:00 – 12:30	
Technical Session 15	**13.1 New Space Missions**
Co-chair:	*Brent Smith, NOAA, USA*
Co-chair:	*Francesco Pignatelli, EC Joint Research Centre, Italy*
This session will review some of the currently proposed new Earth Observation missions and proposals from a range of International Space Agencies and Organisations.	
TS-15-1 (ref 117)	Iridium NEXT partnership for Earth observation: Exploitation of a commercial global satellite constellation for remote sensing Om P Gupta, Don Thoma, Bill Simpson (Iridium Satellite LLC)
TS-15-2 (ref 281)	Continuing the LANDSAT Legacy: Enabling Studies of the Past and Looking Toward the Future Thomas R. Loveland (U.S. Geological Survey, USA), James R. Irons (NASA, USA)
TS-15-3 (ref 175)	Global Change Observation Mission (GCOM) Haruhisa Shimoda (JAXA, Japan)
TS-15-4 (ref 248)	COSMO-SkyMed Mission: achievements, performances and utilization Giovanni Valentini, Fabrizio Battazza, Alessandro Coletta, Fabio Covello, Ettore Lopinto, Claudia Fiorentino, Luca Pietranera, Simona Zoffoli (Agenzia Spaziale Italiana, Italy)

TS-15-5 (ref 184)	The PRISMA Mission Claudio Galeazzi (Agenzia Spaziale Italiana, Italy)
TS-15-6 (ref 252)	The Earth Observation Ground Segment of DLR in GMES Gunter Schreier, Erhard Diedrich, Eberhard Mikusch, Holger Maass (DLR, Germany)

Tuesday 5 May 2009	
14:00 – 15:30	
Technical Session 16	**10.2 SDI: Portals , Catalogues and Clearinghouses**
Co-chair:	*Ivan De Loatch, FGDC, US (tbc)*
Co-chair:	
GeoPortals, Community catalogues and Global Clearinghouses are at present the key to making geospatial data and information widely accessible to users at both technical and management levels. This session examines and demonstrates a number of existing capacities which are active at both national, regional and international levels.	
TS-16-1 (ref 537)	Improving access and use of Imagery using open interoperable off-the-shelf technologies Guenther Pichler (ESRI, Germany), Marten Hogeweg (ESRI, USA)
TS-16-2 (ref 353)	The ESA-FAO GEO Portal an Operational Gateway to GEOSS Mirko Albani, Jolyon Martin (ESA, Italy), Francesca Casale (Sapienza Consulting, Italy)
TS-16-3 (ref 837)	The INSPIRE Community Geoportal Ioannis Kanellopoulos, Gianluca Luraschi, Roberto Lucchi, Hong Cao, Nicole Ostlaender (EC Joint Research Centre, Italy)
TS-16-4 (ref 56)	The Polar Metadata Catalogue as a Resource for Canadian IPY Scientists Ellsworth LeDrew (University of Waterloo, Canada)
TS-16-5 (ref 148)	Providing access to terabytes of Earth Observation data - infrastructure, services, and licensing Armin Burger, Paul Haseohr, Pär Johan Åstrand (EC - Joint Research Centre, Italy)
TS-16-6 (ref 138)	Making the Most Out Of What We Have Clifford Albert Jacobs (National Science Foundation, USA)

Tuesday 5 May 2009	
14:00 – 15:30	
Technical Session 17	**12.1 Airborne Platforms**
Co-chair:	*Anthony Guillory, NASA, USA*
Co-chair:	*Dave Marcotte, NRC, Canada*
This session will discuss the current state and recent advances in airborne platforms.	
TS-17-1 (ref 288)	EUFAR : The EUropean Facilities for Airborne Research Jean-Louis Brenguier (Meteo-France, EUFAR, France)
TS-17-2 (ref 254)	The WB57 aircraft as an airborne remote sensing platform. Kenneth Dale Cockrell (NASA/Johnson Space Center, USA)

TS-17-3 (ref 325)	Assessment of the discrimination potential of bathymetric LIDAR and multispectral imagery for intertidal and subtidal habitats. Maitane Grande, Guillem Chust, Jose Antonio Fernandes, Ibon Galparsoro (AZTI, Spain)
TS-17-4 (ref 736)	Aerial infrared thermography of cities for energy leaks mapping. Sylvain Pierrard, Jean-Baptiste Henry, Sabrina Lecadre, Matthieu Paraire, Didier Bassi, Pascal Ridoux (Laboratoire National de Metrologie et d'Essais, France)
TS-17-5 (ref 559)	A new procedure for the radiometric normalisation of very high resolution imagery in fluvial environments. Lejot Jérome, Patrice Carbonneau, Hervé Piégay (Durham University, UK)

Tuesday 5 May 2009	
14:00 – 15:30	
Technical Session 18	**3.4 Assessment of Tropical Forests from radar imagery**
Co-chair:	*Martin Herold, Friedrich Schiller University of Jena, Germany*
Co-chair:	*Frédéric Achard, EC Joint Research Centre, Italy*
Earth observations from satellite radar sensors are starting to be used operationally to map tropical forest cover at continental to regional scales. Presenters will describe new approaches for forest cover or biomass mapping and monitoring using satellite imagery from different SAR sensors (e.g. ENVISAT ASAR, ALOS PALSAR or TerraSAR-X) at different scales.	
TS-18-1 (ref 521)	Mapping forest cover change in the Amazonia using Synthetic Aperture Radar (SAR) images. Md. Mahmudur Rahman, Josaphat Tetuko Sri Sumantyo (Chiba University, Japan)
TS-18-2 (ref 617)	Forest cover mapping in French Guiana since 1992 using satellite radar imagery. Tuomas P. Häme (VTT, Finland), Yrjö Rauste (VTT, Finland), Laura Sirro (VTT, Finland), Nicolas Stach (IFN, France)
TS-18-3 (ref 664)	First Light Imagery and Thematic Observations of the ALOS-PALSAR Continental Scale Africa Radar Mosaic Gianfranco De Grandi, Jean Paul Malingreau, Ake Rosenqvist, Andrass Balazs (EC Joint Research Centre, Italy), M. Shimada (JAXA)
TS-18-4 (ref 551)	FRA-SAR 2010 - An experimental analysis of high resolution synthetic aperture radar within the framework of the FAO's FRA 2010. Ralf Knuth, Robert Eckardt, Nicole Richter, Christian Thiel, Christiane Schmullius (Friedrich-Schiller-Universität Jena, Germany)
TS-18-5 (ref 605)	Operational SAR monitoring: from snow to tropical rainforest. Jörg Haarpaintner, Eirik Malnes, Inge Lauknes (Northern Research Institute Tromsø, Norway)
TS-18-6 (ref 858)	Emerging SAR techniques to support tropical forest carbon accounting. Niels Wielaard (SAR Vision, The Netherlands), Dirk Hoekman (Wageningen University, The Netherlands)

Tuesday 5 May 2009	
14:00 – 15:30	
Technical Session 19	**8.1b Water Cycle Strategy and Water Resource Management 2**

Co-chair:	*Massimo Menenti, Delft University of Technology, Netherlands*
Co-chair:	*Douglas Cripe, GEO Secretariat, Switzerland*
The session focuses on concrete examples of integrated water resources management applications related to surface waters and wetlands as well as ground waters and aquifer systems. These applications are addressing a wide variety of geographical areas (Asia, Australia, Africa and Russia) and landscape/ecosystem conditions.	
TS-19-1 (ref 474)	Developing Australia's first national water resource and hazard observation system Albert van Dijk, Luigi Renzullo, Juan Pablo Guerschman (CSIRO Land and Water, Australia), Edward King (CSIRO Marine and Atmospheric Research, Australia)
TS-19-2 (ref 587)	Assessment of wetland distribution in the Upper Brahmaputra Basin by means of object oriented land cover classification of TerraSAR-X data Bettina Boehm, Wolfgang-Albert Fluegel (Friedrich-Schiller-University of Jena, Germany), Peter Selsam and Christoph Boehm (H.G. Geo Data Solutions GmbH, Germany)
TS-19-3 (ref 618)	Earth observation and GIS: Integration within a probalistic approach for groundwater prospecting in arid zone (Ighrem, Morocco) Ahmed Er Raji and Driss El Hadani (CRTS, Morocco)
TS-19-4 (ref 800)	Water level dynamics in Gorky Reservoir of the Volga River (satellite altimetry measurements and in situ observations) Galina Rybushkina, Irina Soustova, Yuliya Troitskaya (Institute of Applied physics RAS, Russian Federation), Sergey Lebedev (Geophysical center of RAS, Russian Federation), and Andrey Panyutin (Hydrometeorology and Environmental Monitoring Center in Nizhny Novgorod, Russian Federation)
TS-19- 5 (ref 894)	Characterization of temporary surface water bodies in sub-Saharan Western Africa based on SPOT VEGETATION Eva Haas, Etienne Bartholomé, and Bruno Combal (EC - Joint Research Centre, Italy)
TS-19-6 (ref 539	Variability of the hydraulic resources of the San Juan-Brave River basin in Mexico over climate change impact. Guillermo Cardoso-Landa, José Luis Rodríguez-García (Instituto Tecnológico de Chilpancingo, Mexico)

Tuesday 5 May 2009	
14:00 – 15:30	
Technical Session 20	**13.1 National, Regional and International Applications**
Co-chair:	*Mario Hernandez, UNESCO, France*
Co-chair:	*Rodolfo Guzzi, ASI, Italy*
The aim of this session is to review some of the current plans to exploit existing and future sensors and generate useful information in support of policy-making in the fields of climate, environment and natural hazards.	
TS-20-1 (ref 877)	Status of USA's Earth Climate Observations: Current Status and Future Prospects Compton J. Tucker (NASA/Goddard Space Flight Center, USA)
TS-20-2 (ref 181)	Italian Space Agency pilot projects to support disaster management and environmental monitoring Cristina Ananasso, Giuseppe Bianco, Rosa Loizzo, Laura Candela, Francesco NIrchio, Luciano Garramone, Marco Serra, Luigi Dini (Agenzia Spaziale Italiana, Italy)

TS-20-3 (ref 277)	The ESA-China MOST Dragon 1 and 2 Programmes Andrew David Zmuda (Serco S.p.A., Italy), Yves-Louis Desnos (ESA, Italy), Karl Bergquist (ESA, France), Zengyuan Li, Zhihai Gao Research (Institute of Forest Resources Information Techniques, Chinese Academy of Forestry, Beijing, China)
TS-20-4 (ref 147)	Success Factors in Applying Earth Science in Decision Making Lawrence Friedl, Lucien Cox (NASA, USA)
TS-20-5 (ref 78)	The Swedish National Remote Sensing Programme - User Part Robert Lundin (Swedish National Space Board, Sweden)
TS-20-6 (ref 749)	Remote Sensing Enhancements from the International Earth Science Constellations Angelita C. Kelly, Warren F. Case (NASA, USA)
TS-20-7 (ref 863)	Exploitation of remote sensing tools in e-SOTER project Vit Penizek (EC Joint Research Centre, Italy)

Tuesday 5 May 2009	
16:00 – 17:30	
Technical Session 21	**10.5 SDI: Interoperability and Semantics**
Co-chair:	*Stefano Nativi, CNR, Italy (tbc)*
Co-chair:	*Ryosuke Shibasaki, University of Tokyo, Japan (tbc)*
Effective and efficient sharing and exchange of data and information, either space-based or *in situ* collected, requires a suite of tools and international standards-based technologies which allow for both technical information system/database interaction for achieving interoperability as well as internationally agreed capacities for system semantics in order for them to 'speak the same language'. This session will present and demonstrate a number of interoperability and semantics capacities which are at the heart of a functioning SDI.	
TS-21-1 (ref 307)	EuroGEOSS: building inter-disciplinary interoperability for the global community Massimo Craglia (Italy), Francis Bertrand (france)
TS-21-2 (ref 741)	How the GEO Standards and Interoperability Forum (SIF) Advances the Interoperability Goals of GEOSS Siri Jodha Singh Khalsa (University of Colorado, USA), Paul Emils Eglitis (Norwegian Meteorological Institute, Norway)
TS-21-3 (ref 622)	Challenges for Metadata Creation and Discovery in a multilingual SDI - facing INSPIRE Michael Lutz, Nicole Ostländer (EC - Joint Research Centre, Italy)

Tuesday 5 May 2009	
16:00 – 17:30	
Technical Session 22	**12.2 Airborne Science**
Co-chair:	*Armond Joyce, SAIC, USA*
Co-chair:	*Lean-Louis Brenguier, Meteo-France, EUFAR, France*
This session will be devoted to presentations of earth observations studies using data from airborne platforms.	
TS-22-1	Extraction of Gap and Canopy Properties derived from LIDAR and Multispectral Imagery

(ref 373)	for Forest Microclimate Modelling. Zulkiflee Abd Latif, Alan George Blackburn (Lancaster University, UK)
TS-22-2 (ref 670)	Tree species classification and forest stand delineation based on remote sensing data - large scale monitoring of biodiversity in the forest. Petra Maria Krahwinkler (RWTH Aachen University, Germany)
TS-22-3 (ref 733)	Remote sensing techniques for the study of tree regeneration and mortality in a tropical rainforest. Elena Lobo (University of Illinois, USA), Carlomagno Soto (Organization fro Tropical Studies, Costa Rica), Cynthia Rossi (University of Illinois, USA)
TS-22-4 (ref 533)	The potential of high spatial, temporal and spectral resolution imagery for monitoring ed tides in Monterey Bay, California, USA. Andrew Martin Fischer (Monterey Bay Aquarium Insitute, USA)
TS-22-5 (ref 99)	Characterization of aerosols and bidirectional reflectance distribution function from airborne radiation measurements over snow, sea ice, and clouds. Charles K. Gatebe (NASA GSFC Michael D King University of Colorado, USA)

Tuesday 5 May 2009	
16:00 – 17:30	
Technical Session 23	**5.2 Biodiversity and Ecosystems**
Co-chair:	*Philippe Mayaux, EC Joint Research Centre, Italy*
Co-chair:	*Douglas Michael Muchoney, USGS, USA*
Changes in vegetation cover are a prime indicator of human impact in ecosystems; this session examines a range of applications covering changes in canopy characteristics and examining implications in terms of biodiversity and carbon budget.	
TS-23-1 (ref 401)	Towards an automated estimation of vegetation cover fractions on multiple scales: Examples of Eastern and Southern Africa Ursula Gessner, Doris Klein, Christopher Conrad (University of Wuerzburg, Germany), Michael Schmidt, Stefan Dech (German Aerospace Center, German Remote Sensing Data Center, Germany)
TS-23-2 (ref 620)	Spatial and temporal heterogeneity of phenology patterns in Kruger National Park, South Africa: different drivers for different areas Francesca Parrini, Barend Erasmus (University of the Witwatersrand, South Africa)
TS-23-3 (ref 854)	The satellites data use for monitoring the degradation process of natural resources in semi arid zones - Case of southern region of the Aurès (Algeria) Benmessaod Hassen (Algeria)
TS-23-4 (ref 702)	Land Cover Change in West Africa: Trends, Implications for Biodiversity and Carbon Fluxes, and Vulnerability to Climate Change Larry L Tieszen, G. Gray Tappan (USGS-EROS, USA)
TS-23-5 (ref 402)	Modelling the Carbon Budget at regional scale in West Africa using 250 m MODIS data and ground observations Miriam Machwitz (University of Wuerzburg, Germany), Ulrike Falk (University of Bonn, Germany), Jochen Richters (TU Berlin, Germany), Christopher Conrad (University of Wuerzburg, Germany), Stefan Dech (German Aerospace Center, German Remote Sensing Data Center, Germany)
TS-23-6	Remotely sensed data for sustainable biodiversity management – the case model of

(ref 479)	Kakamega Forest in western Kenya Gertrud Schaab, Tillmann Lübker, Tobias Lung, Nick Mitchell (Karlsruhe University of Applied Sciences, Germany)
TS-23-7 (ref 441)	Towards an interoperable web service for the assessment of African protected areas Gregoire Dubois, Andrew Hartley, Andrew Nelson, Philippe Mayaux (EC - Joint Research Centre, Italy)

Tuesday 5 May 2009	
16:00 – 17:30	
Technical Session 24	**8.2 Monitoring Drought and Desertification**
Co-chair:	*Albert van Dijk, CSIRO Land and Water, Australia*
Co-chair:	*Juergen Vogt, EC Joint Research Centre, Italy*
Although drought can occur anywhere, desertification is most noticeable in drylands, which are characterized not only by a very limited and highly variable water availability, but also by underdevelopment indicators such as remoteness from centres of economic activity and political power, lack of services and infrastructures, low population density, fragile environment, low vegetation and animal productivity, high risks of land degradation (overgrazing, erosion, salinization), etc. Within the overall scope of the 'Water' theme, this session will focus on the effective monitoring of the causes and consequences of water deficit, and suggest renewed and more focused efforts to organize and coordinate environmental data acquisition and analysis in drylands. This is essential to provide the empirical foundation for research on the processes involved, to support policy planning and decision making, as well as to evaluate the efficiency of the measures adopted, including the possibility of adjusting policies and management practices to an evolving situation.	
TS-24-1 (ref 220)	Designing a dynamic global monitoring system for drylands Michel M. Verstraete (EC Joint research Centre, Italy), Mark Stafford Smith (CSIR, Australia) and Robert J. Scholes (CSIR, South Africa)
TS-24-2 (ref 397)	Drought Monitoring over Africa using the Standardized Precipitation Index (SPI) Paulo Barbosa, Blaz Kurnik and Jurgen Vogt (EC Joint Research Centre, Italy) Hussein Gadain (SWALIM - Somalia Water and Land Information Management System, Somalia)
TS-24-3 (ref 392)	Retrieval of Crop Water Stress Factor Using Remotely Sensed Biomass Products Pengxin Wang and Tao Su (China Agricultural University, China)
TS-24-4 (ref 600)	Environmental degradation and susceptibility to the desertification process in the region of Jaguaribe river in Ceara State, Brazil Sonia Barreto Perdigão Oliveira and Francisco Roberto Bezerra Leite (Fundação Cearense de Meteorologia e Recursos Hídricos – FUNCEM, Brazil)
TS-24-5 (ref 700)	Remote sensing drought indicators within the European Drought Observatory Simone Rossi, Christof, J. Weissteiner and Stefan Niemeyer (EC Joint Research Centre (Italy)

Tuesday 5 May 2009
16:00 – 17:30

Technical Session 25	**13.5 Vegetation3 / PROBA**
Co-chair:	*Gary Johnson, North Dakota, USA*
Co-chair:	*Dirk Van Speybroeck, Vito - Flemish Institute for Technological Research, Belgium*
This session will review the state of preparation and plans for the PROBA V platform, as well as the ground segment to process the data that will be generated by this satellite and the Vegetation 3 instrument.	
TS-25-1 (ref 864)	The PROBA-V Payload L. De Vos, W. Moelans, J. Versluys, (OIP, Belgium), V. Moreau (AMOS, Belgium), JF Jamoye (Nanoshape, Belgium), Jan Vermeiren (XenICS, Belgium)
TS-25-2 (ref 865)	Small satellite technology to monitor the global earth: The PROBA-V mission K. Mellab (ESA – ESTEC, The Netherlands)
TS-25-3 (ref 866)	PROBA V mission : Technical implementation and challenges Frank Preud'homme, Davy Vrancken, Marliene Claessens (VERHAERT SPACE, Belgium)
TS-25-4 (ref 867)	The SPOT VEGETATION and PROBA-V user segments Jan C. Dries (VITO, Belgium)
TS-25-5 (ref 499)	View Angle Effects on the Relationship between CHRIS/PROBA Reflectance data and Above Ground Biomass in a Tropical Rain Forest site Flávio Jorge Ponzoni, Lênio Soares Galvão, João Roberto Santos (INPE, Brazil), Veraldo Liesenberg (Freiberg University of Mining and Technology, Germany)

Tuesday 5 May 2009	
10:30 – 17:30	
Poster Session B1	**3 Forests and Ecosystems: reversing current degradation trends**
PS-B1-1 (ref 621)	Building saliency, legitimacy, and credibility towards operational global and regional land cover observations and assessments. Martin Herold (GOFC-GOLD Land Cover Office, Germany)
PS-B1-2 (ref 623)	The GOFC-GOLD/CEOS land-cover harmonization and validation initiative: Technical design and implementation framework. Martin Herold, Curtis Woodcock, Steve Stehman, Mike Wulder, Frederic Baret, Christiane Schmullius (GOFC-GOLD Land Cover Office, Germany)
PS-B1-3 (ref 863)	Accuracy assessment of a 300 m global land cover map : the GlobCover experience. Pierre Defourny (UCL-Geomatics, Belgium), Leon Schouten (Netherlands), Sergey Bartalev (Russian Federation), Sophie Bontemps (Belgium), Peter Cacceta (Australia), Allard de Witt (Netherlands), Carlo di Bella (Argentina), Bruno Gérard (Ethiopia), Chandra Giri (USA), Valery Gond (Canada), Gerard Hazeu, Andreas Heinimann (Switzerland), Martin Herold (Germany), Gabriel Jaffrain (France), Rasim Latifovic (Canada), Huang Lin (China), Philippe Mayaux (Italy), Sander Muncher (Netherlands), Andre Nonguierma (Ethiopia), Hans-Juergen Stibig (Italy), Eric Van Bogaert, Christelle Vancutsem (Belgium), Patrice Bicheron, Marc Leroy (France), Olivier Arino (Italy)
PS-B1-4 (ref 227)	GIMMS-NDVI based mapping of the growing season circumpolar north of 50°N for the 1982-2006 period Stein Rune Karlsen, Kjell Arild Høgda, Arve Elvebakk(Norway), Anne Tolvanen (Finland), Xiaoqiu Chen (China), Violetta Fedotova (Russian Federation)
PS-B1-5	Prototyping a "best land cover map approach" using existing global land cover datasets

Tuesday 5 May 2009	
10:30 – 17:30	
Poster Session B1	**3 Forests and Ecosystems: reversing current degradation trends**
(ref 633)	and comparative accuracy assessment Hendrik Goehmann, Martin Herold, Martin Jung, Michael Schulz, Christiane Schmullius (University of Jena, Germany)
PS-B1-6 (ref 891)	Global Phenology Data Elisabeth Josefine Koch (Zentralanstalt für Meteorologie und Geodynamik, Austria), Mark D. Schwartz (University of Wisconsin-Milwaukee, USA)
PS-B1-7 (ref 487)	Development of an integral environmental monitoring scheme (Lebedinsky mining and concentration complex - Yamskaya steppe). Sergei Vladimirovich Shtefanov (Rosgiproles, Russian Federation), Mikhail Yuryevich Puzachenko, Alexander Nikolaevich Krenke, Robert Borisovich Sandlerskiy (Russian Academy of Science, Russian Federation)
PS-B1-8 (ref 545)	The technology for forest monitoring base on using high resolution space images and digital aerial survey. Alexander Guk (Siberian State Academy of Geodesy, Russian Federation)
PS-B1-9 (ref 570)	Fusion of LR and HR multispectral imagery for Pan-European forest mapping. Pieter Kempeneers, Fernando Sedano, Lucia Reithmeier, Jesus San Miguel Ayanz (EC Joint Research Centre, Italy)
PS-B1-10 (ref 811)	Sustainability assessment of forest use through retrospective analysis of RS data. Vladimir Evgenevich Gershenzon, Dmitri Aksenov (SCANEX, Russian Federation)
PS-B1-11 (ref 235)	The effect of sensor resolution on classification of alpine vegetation in Sweden. Heather Reese, Mats Nilsson, Anna Allard, Håkan Olsson (Swedish University of Agricultural Sciences, Sweden)
PS-B1-12 (ref 189)	Optimization of the Application of Principal Component Analysis (PCA)in Digital Processing of Satellite Images Ramzanali Khorrami (Research Center of Mazandaran, Iran)
PS-B1-13 (ref 564	Harmonized large area mapping of protection forest in mountainous areas and its future trend: case study alps Lucia Reithmaier (EC Joint Research Centre, Italy), Stefano Casalegno
PS-B1-14 (ref 579)	Evaluation of forest cover change in the Oku montane forest of the North West province of Cameroon using remote sensing and GIS. Takem Mbi Bienvenu Magloire (UNEP-WCMC, UK)
PS-B1-15 (ref 632)	REDD observation in Cambodia using data fusion of MODIS burnt area index and VHR imagery. Jan-Peter Mund (DLR, Germany)
PS-B1-16 (ref 67)	Land Use/Land Cover Monitoring in the Municipality of Manoel Urbando - State of Acre, Brazil Vicente Paulo Soares, Jairo Rodrigues Silva, José Marinaldo Gleriani, João Luiz Lani, Carlos Antonio Alvares Soares Ribeirio (Federal University of Vicosa, Brazil)
PS-B1-17 (ref 287)	Developing national forest monitoring capacities for REDD participation of Vanuatu Jacqueline Sambale, Martin Herold, Robert Eckardt, Robert Hubald, Marcel Urban (Friedrich Schiller University Jena, Germany)
PS-B1-18 (ref 313)	Accuracy assessment for estimating historical forest area changes: a REDD case study for the pacific island state of Vanuatu Christian Berger, Marcel Urban, Martin Herold, Jacqueline Sambale (Friedrich-Schiller-University Jena, Germany)

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10:30 – 17:30	
Poster Session B1	**3 Forests and Ecosystems: reversing current degradation trends**
PS-B1-19 (ref 326)	Three classifications of forest coverage and land use in san Ramon, Costa Rica Marta Ligia Araúz-Almengor (Universidad de Costa Rica, Costa Rica), Carlomagno Soto Castro, Christian Vargas Bolaños, Rebeca Brenes Roldán (Centro Nacional de Alta Tecnología (CeNAT), Costa Rica)
PS-B1-20 (ref 42)	SRTM-derived local geomorphometry as input for vegetation mapping in three Brazilian biomes Polyanna da Conceição Bispo, Márcio de Morisson Valeriano, Tatiana Mora Kuplich (Instituto Nacional de Pesquisas Espaciais – INPE, Brazil)
PS-B1-21 (ref 152)	Use of Landsat imagery to estimate hydrological erosion of Colima state, Mexico. Jose Armando Velasco Herrera (UNICACH, Mexico), Francisco Moreno Sànchez (INIFAP, Mexico), Juan Jose Ramirez Ruiz (Universidad de Colima, Mexico), J. German Flores Garnica (INIFAP, Mexico)
PS-B1-22 (ref 271)	Application of hyperspectral and SAR images for mineral exploration in Kerman, Iran. Alireza Sharifi, Majid Rasouli, Mohammadreza Saradjian (University of Tehran, Iran)
PS-B1-23 (ref 404)	Early assessment of ozone injuries on vegetation by advanced remote sensing techniques. Sergio Cogliati, Micol Rossini, Michele Meroni, Valentina Picchi, Cinzia Panigada, Roberto Colombo (Univeristy of Milan, Italy)
PS-B1-24 (ref 454)	Database of atmospheric profiles over Europe for correction of Landsat thermal data Jose Antonio Sobrino (University of Valencia, Spain), C. Mattar, Y. Julien, J. C. Jiménez-Muñoz, G. Soriá, J. Cuenca, M. Romaguera (Spain), V. Hidalgo, B. Franch, R. Oltra.
PS-B1-25 (ref 502)	Characterizing Forest Structure and Height by Comparing ICESat/GLAS, Forest Inventory and Airborne Laser Data: A Case Study for a Test Site in Mecklenburg-Vorpommern, Germany Claudia Hilbert, Martin Herold, Sören Hese, Christiane Schmullius (Friedrich Schiller University Jena, Germany), Kai Jütte (Forestry Agency Mecklenburg-Vorpommern, Germany)
PS-B1-26 (ref 649)	Tree species classification using airborne laser and optical scanner data Hans Fuchs, Nils Tremer, Christoph Kleinn (Universität Göttingen, Germany), Jürgen Roßmann (RWTH Aachen University, Germany)
PS-B1-27 (ref 693)	Canopy height measurements in a sage-steppe ecosystem with airborne LiDAR Jessica J Mitchell, Nancy F Glenn (Idaho State University, USA)
PS-B1-28 (ref 723)	Forest Inventory based on airborne remote sensing data Arno Buecken, Jürgen Rossmann (RWTH Aachen University, Germany)
PS-B1-29 (ref 53)	A Hybrid Remote Sensing Protocol For Tracking Types Of Land Change In The Seasonal Tropics Danny Redo, Andrew C Millington (Texas A&M University, USA)
PS-B1-30 (ref 761)	Soil Moisture Monitoring at the Kampinoski National Park, Poland Wojciech M. Marczewski (Space Research Centre, Poland), Jaroslaw J. Zawadzki, Karol Przezdziecki, Karol Szymankiewicz (Warsaw University of Technology, Poland)

Tuesday 5 May 2009

10:30 – 17:30	
Poster Session B2	**5 Focus on Africa: strategies for sustainable development**
PS-B2-1 (ref 613)	Fraction Images In Tailing Multi-Temporal Change Detection Nouha Mezned (Laboratoire de l'environnement, Tunisia)
PS-B2-2 (ref 491)	Influence of composite period and date of observation on phenological metrics extracted from MODIS data. Konrad Wessels (CSIR, South Africa)
PS-B2-3 (ref 814)	Mapping of seasonal inundation in the Congo River basin using ALOS PALSAR ScanSAR Ake Rosenqvist (EC Joint Research Centre, Italy)
PS-B2-4 (ref 60)	On the possible use of indicator variograms of NDVI data for scaling droughts impact Gregoire Dubois, Bruno Combal, Andrew Nelson, Philippe Mayaux (EC Joint Research Centre, Italy)
PS-B2-5 (ref 554)	Classification and monitoring of Biological Soil Crusts (BSCs) by means of hyperspectral remote sensing data Bettina Weber (University of Kaiserslautern, Germany), Claas Olehowski, Tanja Knerr, Joachim Hill (University of Trier, Germany)
PS-B2-6 (ref 40)	Using remote sensing information as a tool for decision support in monitoring the environment Samuel Edward Senkunda (Uganda Department of Meteorology, Uganda)
PS-B2-7 (ref 72)	Intra-annual Vegetation Dynamic as potential Indicator for Environmental Change in the West African Sahel Zone Reik Leiterer, Johannes Reiche, Christian Thiel, Christiane Schmullius (Friedrich-Schiller-Universität Jena, Germany)
PS-B2-8 (ref 225)	GIS Based Shoreline Change Detection along the Cameroon Coast Buh Wung Gaston (Labolatory of Geotechnology, Cameroon), O.Ajayi (Obafemi Awolowo University, Nigeria)
PS-B2-9 (ref 540)	Mapping sodic patches in the Kruger National Park, South Africa, using object-based image classification techniques on multispectral data Linda Gail Kleyn, Barend Erasmus (University of the Witwatersrand, South Africa), Izak Smit (Scientific Services, Kruger National Park, South Africa)
PS-B2-10 (ref 857	Ecosystem Assessment in Savanna Ecosystems in Namibia based on multi-scale Earth Observation data Christian Huettich, Ursula Gessner, Manfred Keil, Stefan Dech, Ben Strohbach, Martin Herold (University of Wuerzburg, Germany)
PS-B2-11 (ref 166)	Effect Of Weather And Climate Variabilities On Cattle Production Systems And Constraints In Semi-Arid Areas Of Tanzania Nassoro Salum Mnanike (Tanzania Meteorological Agency, Tanzania)

Tuesday 5 May 2009	
10:30 – 17:30	
Poster Session B3	**9 Observing Environmental Factors that affect Human Health and Well-being**
PS-B3-1 (ref 191)	Remote sensing of atmospheric aerosols. Alexander Yegorov, Anry Perelman, Lyubov Maslova, Maxim Rauch, Nadezhda Sanotskaya (Romania)

Tuesday 5 May 2009	
10:30 – 17:30	
Poster Session B3	**9 Observing Environmental Factors that affect Human Health and Well-being**
PS-B3-2 (ref 234)	Forecasting atmospheric ozone and dust for public health. Amelia M Budge, Stanley A Morain (Earth Data Analysis Center, University of New Mexico, USA), Mary Helen Flowers (NM Department of Health, USA)
PS-B3-3 (ref 598)	Ragweed monitoring and control system in Hungary supported by remote sensing, GIS and GPS. Gábor Csornai, Gábor Mikus, Gizella Nádor, Irén Hubik, István László (Institute of Geodesy, Hungary)
PS-B3-4 (ref 645)	Satellite Remote Sensing for Air Quality Monitoring in Northern Italy tested in QUITSAT project Walter Di Nicolantonio, Alessandra Cacciari, Andrea Petritoli, Claudio Carnevale, Enrico Pisoni, Luisa Volta, Paolo Stocchi, Ezio Bolzacchini, Luca Ferrero, Claudio Tomasi (Carlo Gavazzi Space, Italy)
PS-B3-5 (ref 327)	The U.S. EPA's interdisciplinary, community of practice approach to examining the links between biodiversity and emerging diseases. Montira Pongsiri, Gary Foley (U.S. Environmental Protection Agency, USA)
PS-B3-6 (ref 334)	Identification of the soil properties using spectral and laboratory analyses on field. Balt Suvdantsetseg (Keio University, Japan)
PS-B3-7 (ref 103)	Mining site rehabilitation mapping and monitoring using Earth Observation (EO) data: support to sustainable development commitments. Michel Rheault (MIR Teledetection, Canada), Pierre Vincent (VIASAT Geo-Technologies Inc, Canada), Michel Fontaine (Medialand Inc, Canada)
PS-B3-8 (ref 34)	Remote sensing-based dynamical systems analysis of land cover change surrounding the Itumbiara tropical reservoir (Goiás State, Brazil) Enner Herenio Alcantara, Evlyn Novo, Jose Stech, Arley Souza (Brazilian Institue for Space Research, Brazil)
PS-B3-9 (ref 264)	A Detailed UVI Distribution Over Greece Harry D Kambezidis, Dimitris G Zevgolis (National Observatory of Athens, Greece)
PS-B3-10 (ref 604)	Comparison between aerosol optical properties and PM measurements in the Po Valley: implications for air quality evaluation from space Francesca Barnaba, Gian Paolo Gobbi (Institute of Atmospheric Science and Climate (ISAC-CNR), Frank Dentener, Carsten Gruening, Jean Philippe Putaud, (EC Joint Research Centre, Italy)
PS-B3-11 (ref 659)	Satellite and Lidar remote sensing of aerosol optical properties to estimate particulate matter content at the surface Alessandra Cacciari, Walter Di Nicolantonio, Paolo Stocchi, Francesca Barnaba, Gian Paolo Gobbi, Tony Christian Landi, Federico Angelini, Ezio Bolzacchini, Luca Ferrero (Carlo Gavazzi Space S.p.A., Italy)
PS-B3-12 (ref 674)	Comparison of Satellite, Model and Ground-Based Tropospheric NO2 Data within QUITSAT Project Ivan Kostadinov, Samuele Masieri, Andrea Petritoli, Margherita Premuda, Fabrizio Ravegnani, Giorgio Giovanelli, (CNR-ISAC, Italy), Daniele Bortoli (GCE-UE, Italy), Enrico Pisoni, Claudio Carnevale, Marialuisa Volta (DEA, University of Brescia, Italy)

Tuesday 5 May 2009	
10:30 – 17:30	
Poster Session B3	**9 Observing Environmental Factors that affect Human Health and Well-being**
PS-B3-13 (ref 776)	Influence of the MM5 PBL scheme on high-resolution CHIMERE simulations Paolo Stocchi, Gabriele Curci, Rossella Ferretti, (University of L'Aquila, Italy) Tony Landi, Luca Ferrero, Giampaolo Gobbi (Istituto per le Scienze dell'Atmosfera e del Clima del CNR, Italy)

Tuesday 5 May 2009

10:30 – 15:00

Side Event: Reinforcing Europe's contribution to GEO

Chair: *Manuela Soares, Director of Environment, DG Research - European Commission*

The European Commission (EC) organises a half-day side event and a poster session to promote the integration of European Research activities in GEO in key areas such as Carbon Cycle and Climate, Biodiversity or Capacity Building to cite a few. The event will build upon the outcomes of the first GEO European Projects (GEP) Workshop held on 3 and 4 September 2008 in Brussels. The aim of the Brussels Workshop was to start consolidating the efforts of EC financed projects related to Earth Observation (EO) and have them contribute to an integrated EO approach in Europe in the context of the GEO effort to build a Global Earth Observation System of Systems (GEOSS).

In the morning session we intend to review progresses made, in particular as regards the involvement of European programmes in GEO tasks and Committees. In the afternoon session we will go one step further and ask relevant European stakeholders to attempt to identify the right path that will allow demonstrating the benefit of the European contribution to the GEOSS Common Infrastructure at the 2010 Ministerial Summit milestone.

Emphasis will be given to the aspects of registration of components and services in the GEOSS, including R&D, and availability of data to the global community. Participants will contribute to exposing pan-European and national views on the virtuous process resulting from international cooperation and leading to achieving scientific progress and societal benefit on a regional and global scale.

Contact: Gilles Ollier, Gilles.Ollier@ec.europa.eu and Florence Beroud, Florence.Beroud@ec.europa.eu

Tuesday 5 May 2009	
10:30 – 17:30	
Poster Session B4	**14 Reinforcing Europe's contribution to GEO**
PS-B4-1 (ref 595)	The contribution to GEOSS of the core atmospheric component of GMES Manfred Kloeppel (ECMWF, UK)
PS-B4-2 (ref 596)	European Centre for Medium-Range Weather Forecasts Manfred Kloeppel (ECMWF, UK)
PS-B4-3 (ref 860)	The COST programme as a tool for supporting and enhancing Earth Observation research, activities and applications Carine Petit (COST Office, Belgium), Sylvain Joffre (Finnish Meteorological Institute, Finland)
PS-B4-4 (ref 924)	AMESD The African Monitoring of the Environment for Sustainable Development Initiative Vincent Gabaglio (Eumetsat, Germany)
PS-B4-5 (ref 925)	PUMA Preparation for Use of Meteosat Second Generation in Africa Vincent Gabaglio (Eumetsat, Germany)

Tuesday 5 May 2009	
10:30 – 17:30	
Poster Session B4	**14 Reinforcing Europe's contribution to GEO**
PS-B4-6 (ref 926)	CEOP-AEGIS Coordinated Asia-European long-term Observing system of Quinghai-Tibet Plateau hydro-meteorological processes and the Asian-monsoon system with ground satellite image data and numerical simulations Massimo Menenti, Jérôme Colin (Louis Pasteur University, France), Li Jia (International Institute for Geo-information science and Earth Observation, The Netherlands)
PS-B4-7 (ref 927)	AEGOS African-European Georesources Observation System Stuart Marsh (British Geological Survey, UK)
PS-B4-8 (ref 928)	DevCoCast GEONETCast for and by Developing Countries Tim Jacobs (VITO, Belgium)
PS-B4-9 (ref 929)	OneGeology Europe Stuart Marsh, Garry Baker (British Geological Survey, UK)
PS-B4-10 (ref 930)	EBONE European Biodiversity Observation Network: a project to design and test a biodiversity observing system, integrated in time and space Christine Estreguil (EC Joint Research Center, Italy)
PS-B4-11 (ref 931)	e-SOTER Regional pilot platform as EU contribution to a Global Soil Observing System Rogier de Jong, Zhanguo Bai (ISRIC - World Soil Information, The Netherlands)

Tuesday 5 May 2009

18:00- 20:30

Special Session: International Earth Observation activities in Africa

Africa is experiencing an unprecedented deployment of information technologies. Improved communication networks and widening of access to space based navigation systems as well as a renewed interest for the setting and use of satellite observation systems addressing a variety of information needs represent concrete responses to those emerging needs. Today, several African as well as non African countries from all continents are, together with international bodies, actively pursuing investments in those technologies in Africa.

It is fair to say that satellite derived information has become central to address the many problems of Africa; satellites facilitate the identification and access to resources, the acquisition of the intelligence necessary for investments (in exploitation and infrastructure), and the setting up and operation of sustainable management plans; they are often indispensable to properly address security questions. Investments in satellites, ground receiving stations, information exchange, product distribution networks as well as in a wide variety applications (agriculture, forestry, water resources, environment quality, security, etc.) are constantly growing. The importance of Earth Observation in support to decision making processes for sustainable development policies is the more and more recognized. However, coordination between stakeholders needs to be fostered and current initiatives need further channeling.

Thus, while the offer for infrastructure and services continues to improve, the demand base is likely to growth in a significant manner, given also rapid changes in data access. Such deployment of technologies will ultimately profit the states and their economies but also individual interest groups and hopefully the citizens. There has been so far little attempt to put together a complete picture of this fast changing situation.

ISRSE will explore in several technical sessions applications of remote sensing in Africa. The side event will offer the opportunity to bring together key actors in this drive toward further equipping Africa with satellite observing technologies. The objective of the event is to provide an opportunity to share information on current and future plans and to evaluate their strategic importance with respect to African needs. Current realizations and near to mid term initiatives related to dedicated satellite, receiving stations, application programmes, networking will be described in full transparency. Participants representing the international community of practitioners, decision making will profit from such information in terms of positioning their own agenda in the overall international efforts.

Contact: Jean-Paul Malingreau, Jean-Paul.Malingreau@ec.europa.eu

Day 3

Wednesday 6 May 2009	
09:00 – 10:30	
Plenary Session 4	**GMES: Current Status and Perspectives**
Co-chair:	*J. Aschbacher, Head of GMES Office, ESA Directorate of Earth Observation Programmes, Italy*
Co-chair:	*V. Moutarlier, Head of GMES Bureau, European Commission DG Enterprise, Belgium*
GMES started in 1998 in Baveno, Italy, just a few kilometres from this year's ISRSE conference. Significant progress has been made since then. A strong user base has been built up through programmes initiated by the ESA and the EC leading to a series of fast-track services covering the main themes of land, marine and atmosphere monitoring as well as emergency response and security. Based on observation needs expressed by these user communities, the EU and ESA decided to co-invest in the build-up of the necessary space infrastructure as a complementary capacity to those available in its member states. The GMES Space Component therefore aims at accessing both types of Earth observation missions, those held at national and EUMETSAT level as well as the dedicated ESA-developed Sentinel missions. Integration of these into a harmonious data stream to users is a major challenge and is carried out as part of a distributed ground segment design allowing interoperability with these missions. Presentations in this session will address all aspects of GMES and in particular its services and infrastructure components. Focus will be given on the latest programmatic developments related to the establishment of an operational EU programme for GMES which should develop a long-term operational Earth observation capacity for Europe addressing in particular governance, financing and legal aspects.	
S-4-1 (ref 257)	GMES Services Overview R. Schulte-Braucks (EC)
S-4-2	GMES Space Component – Status & Prospects J. Aschbacher (ESA)
S-4-3	Access to EO missions for GMES G. Kohlhammer, B. Hoersch, E. Forcada (ESA)
S-4-4	In-situ component of GMES (title TBC) C. Steenmans (EEA)
S-4-5	GMES – Towards a new operational EU programme V. Moutarlier (EC)

Wednesday 6 May 2009	
11:00 – 12:30	
Technical Session 26	**5.1 Earth Observation for Sustainable Development / Urbanisation**
Co-chair:	*Alan Belward, EC Joint Research Centre, Italy*
Co-chair:	*Michael Teweldemedhin Gebreslasie, University of Kwa-Zulu Natal, South Africa*

Remote sensing is applied to a range of issues related to sustainable development. This session combines overview of the situation with specific applications to urban settlements in Africa	
TS-26-1 (ref 26)	Focus On Africa International Remote Sensing Study Results: Sustainable Development Shawana Patrice Johnson (Global Marketing Insights, USA)
TS-26-2 (ref 546)	EO applications in Africa : Obstacles and opportunities Elhadani Driss (Royal Center for Remote Sensing, Morocco)
TS-26-3 (ref 815)	DevCoCast in support of environmental management and sustainable development in Africa Tim Jacobs, Geert Borstlap (VITO, Belgium), Etienne Bartholomé (EC Joint Research Centre, Italy), Ben Maathuis (ITC, The Netherlands)
TS-26-4 (ref217)	Analysis of urban and rural settlement in Africa from VHR satellite imagery Matina Halkia, Daniele Ehrlich, Martino Pesaresi (EC Joint Research Centre, Italy)
TS-26-5 (ref 136)	Analysis of urban sprawl at mega city Cairo, Egypt using landscape metrics and gradient analysis with multisensoral remote sensing data Hannes Taubenböck, Martin Wegmann, Achim Roth, Harald Mehl, Stefan Dech (German Aerospace Center, Germany)
TS-26-6 (ref 497)	Development Of The Kwale District GIS Database As A Sub-Node For The Kenya SDI Initiative Martin Nyakinye (Kenya)
TS-26-7 (ref 572	Phenological Characteristics of Southern Africa Karen Steenkamp, Konrad Wessels (CSIR Meraka Institute, South Africa), Graham von Maltitz, Sally Archibald (CSIR Natural Resources and the Environment, South Africa)

Wednesday 6 May 2009	
11:00 – 12:30	
Technical Session 27	**7.1 Ocean and Ecosystem Dynamics**
Co-chair:	*Nadia Pinardi, University of Bologna, Italy*
Co-chair:	*Johnny Johannessen, NERSC, Norway*
This session includes presentations of topics such as dynamics of ecosystem and their links to atmospheric forcing, detection capabilities of tsunamis and intense ocean surface current regimes, integrated monitoring and information network, and a dedicated demonstration of an operational oceanography and data assimilation system tailored to the Mediterranean Sea. As such issues regarding air-sea interaction, mesoscale ocean dynamics, coupled physical-biogeochemical processes, and prediction skills of the three dimensional ocean state will be addressed in view of satellite and in-situ observation capabilities, process understanding and modeling tools.	
TS-27-1 (ref 19)	Seasonal dynamics of the phenomenon of massive coccolithophore blooms across the Bay of Biscay as revealed from space Pozdnyakov Dmitry, Korosov Anton, Morozov Eugene (Nansen International Environmental and Remote Sensing Centre, Russian Federation)
TS-27-2 (ref 758)	Coupling of Atmospheric Forcing and Ecosystem Dynamics in the Mediterranean Sea: Multi-Sensor Observations of Selected Environmental Hotspots Martin Gade (Institute of Oceanography, University of Hamburg), Vittorio Barale (EC Joint Research Centre, Italy)
TS-27-3 (ref 312)	Tsunami detection by satellite data Saverio Paolella, Riccardo Notarpietro, Giovanni Perona (Polytechnic of Turin, Italy)

TS-27-4 (ref 816)	Operational data assimilation system in the Mediterranean Sea Srdjan Dobricic (CMCC, Italy)
TS-27-5 (ref 905)	Direct ocean surface velocity measurements from space: Improved quantitative interpretation of ENVISAT ASAR observations Johnny A Johannessen, Knut-Frode Dagestad (NERSC, Norway), Bertrand Chapron (Ifremer, France), Fabrice Collard, Alexis Mouche (CLS, France), Vladimir Kudryavtsev (NIERSC, Russian Federation)

Wednesday 6 May 2009	
11:00 – 12:30	
Technical Session 28	**12.3 UAS Platforms**
Co-chair:	*Volkert Harbers, DLR, Germany*
Co-chair:	*James Huning, SAIC, USA*
This session will discuss the latest technology in unmanned airborne platforms.	
TS-28-1 (ref 132)	NASA Global Hawk: a new tool for earth science research. Chris Naftel (NASA, USA)
TS-28-2 (ref 468)	UAS for remote sensing, myths and realities. Steve Wegener (Bay Area Environmental Research Institute, USA)
TS-28-3 (ref 656)	Very-long endurance solar powered autonomous stratospheric UAV for Mediterranean Sea border surveillance, forest fire monitoring, fishery, etc. Giulio Romeo (Politecnico di Torino, Italy)
TS-28-4	UAS regulations: the European perspective. Marc Deboeck (Eurocontrol, Belgium)
TS-28-5 (ref 231)	Challenges to using unmanned aircraft systems (UAS) for remote sensing in the United States national airspace system. Brenda L Mulac (NASA Airborne Science Program, USA)
TS-28-6 (ref 300)	Big potential for small UAS. Geoff Bland, Ted Miles, Lawrence Hilliard (NASA, USA)

Wednesday 6 May 2009	
11:00 – 12:30	
Technical Session 29	**3.5 Biophysical parameters**
Co-chair:	*Garik Gutman, NASA, USA*
Co-chair:	*Ake Rosenqvist, EC Joint Research Centre, Italy*
Earth observations from satellite are being widely used to derive biophysical parameters. Presentations will focus on the determination of biomass in forest ecosystems (boreal and tropical). An application of a new satellite mission (SMAP) and applications to the identification of structural vegetation parameters in Puerto Rico and Arizona will also be presented.	
TS-29-1 (ref 364)	Above-ground forest biomass estimation by ALOS/PALSAR over boreal forest in Alaska accompanied with ground-based forest survey. Rikie Suzuki, Reiichiro Ishii (JAMSTEC, Japan), Yongwon Kim (University of Alaska

	Fairbanks, USA),
TS-29-2 (ref 553)	An estimation of tropical forest biomass with a combination of JERS-1 and Landsat TM data. Mark Cutler (University of Dundee, UK), Giles Foody, Doreen Boyd (University of Nottingham, UK),
TS-29-3 (ref 381)	Assessment of the impact of hurricanes on light regime and biomass in tropical forest ecosystems: a Puerto Rico case-study. Inge Jonckheere, Pol Coppin (Katholieke Universiteit Leuven, Belgium), Liza S. Comita, Maria Uriarte (Columbia University NY, USA), ,
TS-29-4 (ref 802)	Monitoring seasonal temperature and moisture controls on boreal ecosystem productivity: linking terrestrial water and carbon cycles with NASA's Soil Moisture Active/Passive (SMAP) mission. Kyle C McDonald (NASA, USA), John S Kimball (University of Montana, USA)
TS-29-5 (ref 852)	An assessment of remotely sensed land surface phenology for detecting spatio-temporal landscape change patterns: Arizona and its national parks. Willem J.D. van Leeuwen (University of Arizona, USA)

Wednesday 6 May 2009	
11:00 – 12:30	
Technical Session 30	**10.4 Sensor Web Technologies and *in situ* networks**
Co-chair:	*George Percivall, OGC, USA*
Co-chair:	*Jay Pearlman, IEEE, USA*
Ground-based sensing networks are an important source of information if properly combined with space data. With advances in communications technology and ground-based *insitu* technologies, it is now feasible to consider webs of sensors on all types of platforms with rapid access for observations; this technology has been developed under the names of Sensor Webs and Sensor Networks. This session will focus on sensor networks and integration of in situ and space data.	
TS-30-1 (ref 754)	Sensor Networks For Intelligent Environmental Monitoring Ima Ituen (York University, Canada)
TS-30-2 (ref 488)	The Open Source DataTurbine Initiative: Streaming data middleware for environmental observing systems Tony R. Fountain, Sameer Tilak, Paul Hubbard, Peter Shin (University of California, San Diego, USA), Lawrence Freudinger (NASA Dryden Flight Research Center, USA)
TS-30-3 (ref 156)	Serving the whole planet with metric resolution data: e-CORCE Jean Pierre Antikidis (CNES, France)
TS-30-4 (ref 829)	Integrated *in situ* and remote sensing monitoring for water risk management Lasse H. Pettersson, Trill Hamre (Nansen Environmental and Remote Sensing Center, Norway), Alastair R. Allan, Bernhard H.C. Sputh, Oliver Faust (University of Aberdeen, UK)
TS-30-5 (ref 163)	Improvement of Satellite Data Validation Using Self-Organized Models in Connectionist Systems Ernst Pechtl, Hans Geiger (SuperWise Technologies, Germany)

Wednesday 6 May 2009

11:00 – 12:30	
Technical Session 31	**13.3 GMES Services**
Co-chair:	*GMES Bureau (tbd), Belgium*
Co-chair:	*Francesco Pignatelli, Joint Research Centre – European Commission, Italy*
The current status of the various Core Services (Land, Marine Atmosphere, Emergency and Security) provided by GMES with the financial support of the European Commission will be described in this session.	
TS-31-1 (ref 692)	The GMES Marine Service Mikko Strahlendorff, Arno Kaschl, Valère Moutarlier (European Commission, DG Enterprise, GMES Bureau, Belgium)
TS-31-2 (ref 681)	The Contribution of GMES to European climate change policies Arno Kaschl, Mikko Strahlendorff, Valère Moutarlier (European Commission, DG Enterprise, GMES Bureau, Belgium)
TS-31-3 (ref 683)	The GMES Atmosphere Service Arno Kaschl, Mikko Strahlendorff, Valère Moutarlier (European Commission, DG Enterprise, GMES Bureau, Belgium)
TS-31-4 (ref 767)	SAFER - Services and Applications For the Emergency Response. Gil Denis (Infoterra, France)
TS-31-5 (ref 243)	GMES Core Service- Land monitoring Ana Sousa, Andrus Meiner (EEA, Denmark)
TS-31-6 (ref 591)	GMES Land Information Services support the protection and sustainable management of our environment Stefan Knabe, A. Kaptein (EADS Astrium GmbH, Germany) , S. Kuntz (Infoterra, Germany)

Wednesday 6 May 2009	
11:00-12.30	
Technical Session 32	**1.2 Climate Change: Remote Sensing of surface changes and role of Carbon**
Co-chair:	*Ghassem Asrar, WMO, Switzerland*
Co-chair:	*Alan Belward, EC Joint Research Centre, Italy*
An understanding of the role of carbon in the climate change studies is essential to the development of climate change models. This session presents some new data from satellites and discusses the importance of the carbon cycle in environmental change and the development of climate change models. This session also presents specific examples where land cover changes are occurring and how that affects local and regional climate change.	
TS-32-1 (ref 168)	Data assimilation for assessing terrestrial carbon pools in the southern United States. Nicolas H Younan, Surya S Durbha, Roger L King, Feng32iang Han, Zhiling Long, Haiqing Zhu, Narendra Rongali (Mississippi State University, USA)
TS-32-2 (ref 440)	Assessment of aboveground carbon spatial variation in a Siberian forest tundra ecosystem. Paul Magdon, Hans Fuchs, Christoph Kleinn (Georg-August-Universität Göttingen, Germany)

TS-32-3 (ref 822)	Overview and relevance of the ESA-EC JRC FAPAR products for land applications. Nadine Gobron (EC Joint Research Centre, Italy)
TS-32-4 (ref 842)	Carbon accounting through integration of satellite forest data with either ecosystem models or ground data. Gary Richards (Department of Climate Change, Australia), A. Ale32ander Held (CSIRO, Australia), Peter Caccetta (CSIRO, Australia), Robert Waterworth (Department of Climate Change, Australia)
TS-32-5 (ref 835)	Detection of arctic vegetation change as indicator of climate change Douglas Nebert (USGS, USA)
TS-32-6 (ref 812)	CryoClim - a new system for cryospheric climate monitoring. Rune Solberg (Norwegian Computing Center, Norway), Lars-Anders Breivik, Liss Marie Andreassen, Ole Morten Olsen

Wednesday 6 May 2009	
14:00 – 15:30	
Technical Session 33	**7.2 Marine Resources and Water Quality Applications**
Co-chair:	*Nick Hoepffner, EC Joint Research Centre, Italy*
Co-chair:	*Mark Dowell, EC Joint Research Centre, Italy*
There is growing concern on the status of the global marine resources in the presence of the natural and anthropogenic change of environment and climate. This session on Marine Resources and Water Quality Applications highlights monitoring capabilities to provide risk assessments of coral reef ecosystems, algal bloom and water quality monitoring services, and potential management and control tool in support to pelagic fisheries. Knowledge requirements of the optical properties in the upper layers of the ocean as well as strength and weaknesses of the remote sensing observing system will therefore also be addressed.	
TS-33-1 (ref 542)	Coral reef risk assessment using DMSP night time lights - Temporal trends and global perspectives Christoph Aubrecht (Austrian Research Centers, Austria), Chris D. Elvidge, C. Mark Eakin, Daniel Ziskin, Kim E. Baugh (National Oceanic & Atmospheric Administration, USA)
TS-33-2 (ref 850)	The habitat mapping of bluefin tuna derived from Earth Observation data: a potential management and control tool for pelagic fisheries Jean-Noel Druon (EC Joint Research Centre, Italy)
TS-33-3 (ref 742)	Imaging Spectroscopy and Spectral Analysis in Support of Coral Reef Ecosystem Biodiversity Research Liane S. Guild (NASA, USA), James Goodman (University of Puerto Rico, Puerto Rico), Brad Lobitz (University Corporation at Monterey Bay, USA), Roy Armstrong, Fernando Gilbes (University of Puerto Rico, Puerto Rico), Jeremy Kerr (CSU Monterey Bay, USA), Randall Berthold (NASA, USA)
TS-33-4 (ref 828)	Extendable Near Real-Time Algal Bloom and Water Quality Monitoring Services Anton Korosov, Lasse H. Pettersson, Dmitry V. Pozdnyakov (Nansen International Environmental and Remote Sensing Center, Russian Federation)
TS-33-5 (ref 179)	Determining inputs to artificial neural network in the retrieval of water optical properties Jinyan Guan, Mingrui Zhang (Winona State University, USA), Zhongping Lee (Mississippi State University, USA)
TS-33-6	Monitoring water quality parameters in the Caspian Sea using MODIS satellite imagery:

(ref 101)	Application of genetic algorithm and Fuzzy system Ali Moridnejad, Hossein Abdollahi, Jamal Mohammad Vali Samani (Tarbiat Modares University, Iran), Seyed Kazem Alavipanah (University of Tehran, Iran)

Wednesday 6 May 2009	
14:00 – 15:30	
Technical Session 34	**9.2 Air Quality and GEOSS: Status, Issues and Panel Discussion**
Co-chair:	*Rudy Husar, Washington University at St.Louis, USA*
Co-chair:	*Lawrence Friedl, NASA Earth Science Division, USA*
The evolving Global Earth Observing System of Systems (GEOSS) infrastructure facilitates the sharing and integration of atmospheric composition observations and models relevant to societal benefit areas (SBAs) such as air quality, chemical climate and atmospheric disasters. Connecting observations and SBAs through GEOSS is particularly timely because: (1) Satellite observations and models of the global and local atmosphere constitute rich and under-utilized resources; (2) Multiple SBAs are actively seeking input from observations and models to improve decision-making; (3) Connecting observations/models to SBA decision makers is currently hampered by the fragmentation of resources and activities. This session focuses especially on the information technology and interoperability aspects of GEOSS related to air quality and public health issues. The session will use a unique format of very brief presentations on 5 GEOSS-related projects and a panel discussion on air quality initiatives within GEOSS.	
TS-34-1 (ref 196)	AIRNow-International: the future of the United States real-time air quality reporting and forecasting program and GEOSS participation (Information Technology aspects) John White (U.S. Environmental Protection Agency, USA)
TS-34-2 (ref 209)	Delivery of forecasted atmospheric ozone and dust for a public health decision-support system: architecture and functionality. William Hudspeth (Earth Data Analysis Center - University of New Mexico, USA)
TS-34-3 (ref 745)	The GEO air quality Community of Practice. David McCabe (U.S. Environmental Protection Agency, USA)
TS-34-4 (ref 781)	Enhancing data discovery, understanding and usage through an air quality metadata system. Rudolf Husar (Washington University in St. Louis, USA)
	Panel Discussion

Wednesday 6 May 2009	
14:00 – 15:30	
Technical Session 35	**3.6 Ecosystems and Biodiversity**
Co-chair:	*Willem J.D. van Leeuwen, University of Arizona, USA*
Co-chair:	*Philippe Mayaux, EC Joint Research Centre, Italy*
Earth observations from satellite are being used to monitor ecosystems biodiversity. This session	

examines different approaches to characterize the biodiversity of different ecosystems. Presenters will provide a few examples of methodologies to derive biodiversity indicators (ecosystems and habitats extent, fragmentation …) from remote sensing and geospatial techniques.	
TS-35-1 (ref 652)	The GEO Biodiversity Observation Network – GEO BON. Douglas Michael Muchoney (USGS, USA)
TS-35-2 (ref 221)	Characterization and assessment of endemic ecosystems with the aid of remote sensing techniques and transformations. Michael A. Edwards (NOAA, USA), Reginald Blake (New York City College of Technology, USA)
TS-35-3 (ref 128)	Spatial variation of forest ecosystems biodiversity based on geostatistics strategies. J. Germán Flores Garnica (INIFAP, Mexico)
TS-35-4 (ref 347	Phenological trends derived from Spot VEGETATION time series to indicate European biodiversity decline: case study of farmland birds. Eva Ivits (EC Joint Research Centre, Italy), Graeme Buchanan (RSBP, UK), Michael Cherlet (EC Joint Research Centre, Italy)
TS-35-5 (ref 558)	Remote sensing based habitat suitability modelling – a case study for red kite (Milvus milvus). Axel Buschmann, Christoph Kleinn, Henning Aberle (University of Goettingen, Germany)
TS-35-6 (ref 495)	Data harmonization for delivering the CBD indicator "Trends in extent of selected biomes, ecosystems and habitats" for 1990, 2000 and further to 2010. Irina Alekseevna Merzlyakova, Yuri Georgievich Puzachenko, Mikhail Yurievich Puzachenko (Russian Academy of Sciences, Russian Federation)

Wednesday 6 May 2009	
14:00 – 15:30	
Technical Session 36	**10.3 SDI: Data Management**
Co-chair:	*Alessandro Annoni, EC Joint Research Centre, Italy*
Co-chair:	*Jelle U. Hielkema, ex-FAO, Italy*
A Spatial Data Infrastructure or SDI is a framework of data, technology, policies, standards, and human resources, necessary to facilitate the sharing and using of spatial information. Realization of an SDI, be it at national, regional or global levels clearly involves both institutional, organizational and technical aspects. This session will mainly focus on data management aspects.	
TS-36-1 (ref 684)	Data management and SDI - Experiences from the GITEWS project Ralph Kiefl, Christian Strobl, Fabian Henkel, Torsten Riedlinger (German Remote Sensing Data Center, Germany)
TS-36-2 (ref 628)	The Fluvial Information System Patrice E. Carbonneau (Durham University, UK), Stephen J. Dugdale, Stuart Clough (APEM Ltd., UK)
TS-36-3 (ref 889)	Scenarios of Vector/Raster Spatial Analysis, for determining the Geographic Area wise effective layers, their relations, level of usefulness and Result Analysis in Relation to Managing Global Warming Issues and Environmental Sustainability Hussein M. Abdulmuttalib (Hungary)
TS-36-4 (ref 560)	Advanced Application For Water Information System Based On GIS In Palestinian Water Authority Basheer Ahmed Obaid (Palestinian Territory)

TS-36-5 (ref 113)	Integrating Land Cover, Topographic Reference Data, and Information from Remote Sensing in Germany Andreas Busch (BKG, Germany)
TS-36-6 (ref 430)	A Distributed Hydrological System using Graph Structure for Unified Water Flow Representation Sergio Rosim, Antonio Miguel Vieira Monteiro, Camilo Daleles Rennó, João Ricardo de Freitas Oliveira (INPE, Brazil)

Wednesday 6 May 2009	
16:00 – 17:30	
Technical Session 37	**5.3 Forest Management**
Co-chair:	*Pierre Defourny, Catholic University of Louvain, Belgium*
Co-chair:	*Andreas Brink, EC Joint Research Centre, Italy*
This session will address the measurement of forest canopy characteristics and of land use in forest ecosystems.	
TS-37-1 (ref 62)	Extracting forest structural attributes in South Africa using image texture analysis, and artificial neural networks from IKONOS imagery Michael Teweldemedhin Gebreslasie (University of Kwa-Zulu Natal, South Africa)
TS-37-2 (ref 232)	Forest Cover Change and Socioeconomic Drivers in Southwest Ethiopia Dereje Tadesse Wakjira (Bonn University, Germany)
TS-37-3 (ref 186)	Shifting cultivation and forest cover change in the tropics: the case of Niassa, Mozambique João Neves Silva, Marina Temudo, Maria Vasconcelos, Duarte Oom (Tropical Research Institute, Portugal)
TS-37-4 (ref 349)	Deforestation or regrowth? A quantification of forest extension in the Miombo of Angola for the period 1990 – 2000 Ana Cabral, Maria Vasconcelos, Duarte Oom (Tropical Research Institute, Portugal) Raul Sardinha (Piaget Institute, Portugal)
TS-37-5 (ref 410)	Re-growth of mangrove forests of Guinea-Bissau Patrícia Lourenço, Ana Cabral, Duarte Oom, Maria Vasconcelos, Luís Catarino, Marina Temudo (Tropical Research Institute, Portugal)
TS-37-6 (ref 831)	The Observatory for Central African Forests: from information to decisions Philippe Mayaux (EC Joint Research Centre, Italy), Pierre Defourny (Université Catholique de Louvain, Belgium), Didier Devers, Carlos de Wasseige (FORAF Project, Republic of Congo), Alain Billand (CIRAD, France), Robert Nasi (CIFOR, Indonesia), Nicolas Bayol (Forest Resource Management, France)

Wednesday 6 May 2009	
16:00 – 17:30	
Technical Session 38	**7.3 Coastal Zones**
Co-chair:	*Martin Gade, Universität Hamburg, Germany*

Co-chair:	*Vittorio Barale, EC Joint Research Centre, Italy*
Coastal zones are complex, dynamic regions situated at the land-sea-air interface, and they play significant roles in the carbon and water cycles. Furthermore, they are significant human population centers, with ever increasing levels of urbanization and anthropogenic impacts (e.g., changes in land use and land cover). Manifestations and impacts of climate change will be particularly evident in these regions. In this context, this session addresses changes and impacts on both sides of the land-sea interface, including issues associated with sea level rise, shoreline change and mapping, habitat variability, ecosystem dynamics, and biogeochemical variability using multi-sensor satellite and other observations.	
TS-38-1 (ref 531)	Earth Observations as Decision Support for Adaptation and Mitigation Strategies in Response to Coastal Sea Level Rise Hans-Peter Plag (Nevada Bureau of Mines and Geology, University of Nevada, USA)
TS-38-2 (ref 581)	Spatial regression analysis to predict the distribution of mangroves based on its environmental parameters Gnanappazham Lakshmanan (M. S. Swaminathan Research Foundation, India)
TS-38-3 (ref 679)	On the Joint Use of Microwave and Optical Remote Sensing Sensors for the Observation of Dry-Fallen Intertidal Flats in the German Bight Martin Gade (Universität Hamburg, Germany), Kerstin Stelzer (Brockmann Consult, Germany)
TS-38-4 (ref 686)	Regional sea level change: projections and impacts in the Basque coast Ainhoa Caballero, Guillem Chust (Azti-Tecnalia, Spain), Marta Marcos (UIB-Imedea, Spain)
TS-38-5 (ref 730)	Empirical Algorithm for the CDOM assessment: Preliminary results of the Albanian and Montenegrin Coastal Areas Cristiana Bassani (CNR-IIA-LARA, Italy), Alessandra Campanelli (CNR-ISMAR, Italy), Rosa Maria Cavalli (CNR-IIA-LARA, Italy), Mauro Marini (CNR-ISMAR, Italy), Stefano Pignatti (CNR-IMAA, Italy), Federico Santini (CNR-IIA-LARA, Italy)

Wednesday 6 May 2009	
16:00 – 17:30	
Technical Session 39	**9.3 Land-Use / Condition and Emerging Disease Monitoring**
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-39-1 (ref185)	Statistical and biological modeling of malaria transmission using remotely sensed information Richard Kiang (NASA Goddard Space Flight Center, USA)
TS-39-2 (ref 897)	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, Bratislava, Slovakia)
TS-39-3 (ref 787)	Satellite data and epidemiology Lorenzo de Simone (FAO, Italy)

TS-39-4 (ref 438)	A study on land cover change of two typical cities in Northeast Asia using satellite data. Liu Yang (Japan)
TS-39-5 (ref 59)	Numerical environment modeling based on the geological factors: A case study in the Jinqu basin of Zhejiang Province, China. Shanlong Lu (Institute of Remote Sensing Applications Chinese Academy of Sciences, China)
TS-39-6 (ref 839)	Dynamic risk-mapping of zones potentially occupied by mosquitoes main vectors of Rift Valley Fever in Senegal. Murielle Lafaye, Cécile Vignolles (CNES, France), Jean-Pierre Lacaux (Laboratoire d'Aérologie, France), Jacques-André Ndione (Centre de Suivi Ecologique, Senegal), Yves Marie Tourre (METEO, France)
TS-39-7 (ref 892)	Earth Observation and Global Health – options for better health delivery Lennart Olsson (Lund University Centre for Sustainability Studies, Sweden), Per-Olof Ostergren (Dept. of Health Sciences, Lund University, Sweden)
TS-39-8 (ref 698)	GIS and Management of infant pathologies in Aguegues Local Government in Republic of Benin: Case study of Malaria, Anemia, Diarrhea and Breathing diseases. Bernardin Fulbert Agbo, Inoussa Toko-Mohammadou (Regional Centre for Training in Aerospace Surveys, Nigeria), Jesugbe Pelagie Zannou (IGN, Benin),

Wednesday 6 May 2009	
16:00 – 17:30	
Technical Session 40	**3.7 Wetlands**
Co-chair:	*Kyle C McDonald, NASA, USA*
Co-chair:	*Ake Rosenqvist, EC Joint Research Centre, Italy*
This session examines new approaches using Earth observation and GIS techniques for monitoring wetland ecosystems. Examples of applications for global monitoring of wetlands, monitoring marshes in Tunisia, assessing extent of mangroves in Mexico and in Pakistan, discriminating peat swamp forests in Indonesia, and detection changes in wetlands in Mozambique will be presented.	
TS-40-1 (ref 799)	Global monitoring of inundated wetland ecosystems with integrated satellite remote sensing. Erika Podest, Kyle McDonald (NASA-JPL, USA), Ronny Schroeder (University of Hohenheim, Germany)
TS-40-2 (ref 651)	The use of object-oriented multi-resolution image analysis and the combined topo-bathymetric data to monitoring the Ichkeul marshes vegetation (Tunisia). Kassouk Zeineb Lili Chabaane Zohra, Deffontaines Joseph Benoit, Ghrabi zeineb (UMLV_INAT, Tunisia), Caloz Regis (EPFL, Switzerland)
TS-40-3 (ref 427)	Assessing a nationwide spatial distribution of mangrove forest for Mexico: an analysis with high resolution images. Joanna Acosta-Velázquez, Teresa Rodríguez-Zuñiga, José Reyes Díaz-Gallegos, Sergio Cerdeira-Estrada, Carlos Troche-Souza, Isabel Cruz, Rainer Ressl, Raul Jiménez (CONABIO, Mexico)
TS-40-4 (ref 498)	View angle effects on the discrimination of some land cover types in a tropical Peat Swamp Forest environment Veraldo Liesenberg, Richard Gloaguen (Freiberg University of Mining and Technology, Germany), Hans-Dieter Viktor Boehm (Kalteng Consultants, Germany),
TS-40-5	Pakistan Wetlands GIS - a multi-scale national wetlands inventory.

(ref 530)	Faisal Mueen Qamer, Hassan Ali, Nazir Hussain (WWF, Pakistan), Muhammad Salman Ashraf (University of Waikato, New Zealand), , Syed Muhammad Raza (Pakistan Wetlands Programme, Pakistan),
TS-40-6 (ref 585)	Land cover characterization and change detection using multispectral imagery for the Beira district, Mozambique. Lídia Amaral Quental, Maria João Batista, Tomás Oliveira, Ruben Dias, Judite Fernandes (INETI, Portugal)

Wednesday 6 May 2009	
16:00 – 17:30	
Technical Session 41	**10.6 SDI: Architecture and Services**
Co-chair:	*Ioannis Kanellopoulos, EC Joint Research Centre*
Co-chair:	*Doug Nebert, FGDC, USA (tbc)*
A Spatial Data Infrastructure is a framework of data, metadata and tools that are interactively connected in order to use spatial data in an efficient and flexible way. Data and information from both satellite and *in situ* platforms are increasingly being integrated into spatial data infrastructures (SDI), using currently available OGC and ISO standards, to improve cross-sectoral thematic analysis capacities and for generating information which can be absorbed by and used at decision making levels in thematic applications. This session will focus on architectural components and will highlight some lessons learnt in implementing interoperable geospatial services.	
TS-41-1 (ref 740)	BEAM Toolbox for optical Earth Observation data Carsten Brockmann (Brockmann Consult), Norman Fomferra, Peter Regner (ESA-ESRIN, Italy)
TS-41-2 (ref 350)	Upgrade of Space Data Information System for Use in Natural Disaster Cases Victor Petrovich Savorskiy, Yuriy Grigorievich Tishchenko (Center of Processing and Storing the Space Information, Russian Federation)
TS-41-3 (ref167)	Lessons learned from INTAMAP, an interoperable web service for the real-time interpolation of environmental variables Gregoire Dubois, Jorge de Jesus, Brian Doherty (EC Joint Research Centre, Italy), Dan Cornford (Aston University, UK), Edzer Pebesma (University of Münster, Germany)
TS-41-4 (ref 801)	Interoperable GMES services for marine pollution monitoring and forecasting in European regional seas Stein Sandven, Torill Hamre (Norway)
TS-41-5 (ref 369)	GENESI-DR - paving the way towards facilitated access to all Earth Science data Luigi Fusco, Roberto Cossu (ESA, Italy)
TS-41-6 (ref 155)	Interoperabilty and SDI on a dialogical MDG policy-base. Rainer María Hauser (Sistema Nacional de Coordinación de Información Territorial de Chile, Chile)

Wednesday 6 May 2009
10:30 – 17:30

Poster Session C1	7 Marine resources and dynamics: observation capabilities and applications
PS-C1-1 (ref 593)	Digital photography in support of passive microwave investigation of sea surface roughness Dmitry Ermakov, Mikhail Smirnov (Institute of Radioengineering of RAS, Russian Federation), Ilya Sadovsky (Institute of Space Research of RAS, Russian Federation)
PS-C1-2 (ref 398)	ESONET: European Sea Obserservatory NETwork Ingrid Puillat, Roland Person (IFREMER, France)
PS-C1-3 (ref 838)	The Mediterranean Operational Oceanography Network: an open ocean and shelf areas short term forecasting system for the Mediterranean Sea Nadia Pinardi (University of Bologna, Italy)
PS-C1-4 (ref 721)	Oceanic and atmospheric internal waves in non-tidal seas: satellite observation and contact measurements Olga Yu. Lavrova, Marina I Mityagina, Tatiana Yu Bocharova (Space Research Institute of RAS, Russian Federation)
PS-C1-5 (ref 713)	Missing value imputation in buoy networks for validation purposes Marco Picone, Francesco Lagona (DIPES, University of Roma Tre, Italy), Gabriele Nardone (EC Joint Research Centre, Italy)
PS-C1-6 (ref 176)	A knowledge-guided image processing tool for tracking ocean color anomalies Mingrui Zhang (Winona State University, USA), Amit Khanal, Chuanmin Hu (University of South Florida, USA)
PS-C1-7 (ref 695)	The Chlorophyll Global Integrated Network (ChloroGIN): building capacity for coastal biological observations Mark Dowell (European Commission, Joint Research Centre, Italy)
PS-C1-8 (ref 803)	Integrating Hyperspectral and Lidar Data for Habitat Classification in Coral Reef Ecosystems James Goodman, Miguel Velez-Reyes (University of Puerto Rico at Mayaguez, Puerto Rico)
PS-C1-9 (ref 694)	Providing Cost Efficient Near Real Time Fisheries Monitoring Capability to Remote and Isolated Areas of the Globe - the Case of Comoros Harm Greidanus, Thomas Lefort, Marte Indregard (European Commission, Joint Research Centre, EC Joint Research Centre), Robert Gallagher (Navigs, France), Veronica Aznar-Abian (EADS Astrium, France)
PS-C1-10 (ref 332)	Small Satellite and UAS Assets for Coral Reef and Algal Bloom Monitoring Stephen Dunagan (NASA Ames Research Center, USA)
PS-C1-11 (ref 774)	Geostatistical Modelling of Outfall Plume Dispersion Patricia Alexandra Ramos, Nuno Abreu (Portugal)
PS-C1-12 (ref 337)	Polarization Airborne Lidar (PAL-1m) Using For Research In The Interest Of Fisheries Oceanography Information Providing Vladimir Borisovich Zabavnikov, Sergey Anatolievich Egorov (Russian Federation)
PS-C1-13 (ref 416)	Estimation of Water Quality in the Red Sea Based on Remote Sensing Maged Shoukry Geurguess (National Institute of Oceanography and Fisheries, Alexandria, Egypt)
PS-C1-14 (ref 722)	Discrimination of Phanerogams Communities Through Spectral Analysis: Preliminary Study of Montenegro Coastal Areas Rosa Maria Cavalli, Federico Santini (CNR-IIA-LARA, Italy), Zoran Kljajić (Institute of Marine Biology in Kotor), Vesna Macic (Institute of Marine Biology in Kotor), Angelo Palombo, Simone Pascucci, Stefano Pignatti (CNR-IMAA, Italy),
PS-C1-15 (ref 589)	Marine Resources Management and Coastal Mapping M. Arid Hassan (Royal Center of Remote Sensing, Morocco)

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Poster Session C1	**7 Marine resources and dynamics: observation capabilities and applications**
PS-C1-16 (ref 43)	Coastline mapping and evolution with respect to amplitude, coherence and phase information of ERS SAR tandem pair Aung Lwin (Ministry Of Science And Technology, Myanmar)
PS-C1-17 (ref 329)	Object based thematic mapping of coastal waters using MODIS satellite images Jacek Andrzej Urbanski (Institute of Oceanography, University of Gdansk, Poland)
PS-C1-18 (ref 626)	MODIS capability to detect oil during the Lebanon crisis Barbara Bulgarelli, Guido Ferraro di Silvi e Castiglione (EC Joint Research Centre –, Italy), Samuel Djavidnia (EMSA, Portugal),
PS-C1-19 (ref 601)	Focus on Maritime Security & Environmental Protection Maria Angelucci, Giovanni Cannizzaro, Paola Nicolosi, Dino Quattrociocchi (Telespazio, Italy)
PS-C1-20 (ref 817)	MONRUK: Monitoring the marine environment in Russia, Ukraine and Kazakhstan Stein Sandven (Norway), Torill Hamre, Vladimir Kudriavtsev (Russian Federation)
PS-C1-21 (ref 568)	A MODIS-based robust satellite techniques for near real time oil spill detection and monitoring. Caterina Sara Livia Grimaldi, Irina Coviello, Teodosio Lacava, Nicola Pergola, Valerio Tramutoli (National Research Council (CNR), University of Basilicata, Italy)
PS-C1-22 (ref 612)	Possibilities and limitations in using satellite SAR for oil spill monitoring in the Northeast Caspian Sea – Project MONRUKPetros Pavlakis, Guido Ferraro (EC Joint Research Centre, Italy)
PS-C1-23 (ref 383)	Monitoring of harbor dredging using remote sensing and optical in situ data. Liis Sipelgas (Estonia)
PS-C1-24 (ref 391)	Observation of the evolution of eddies in the Baltic Sea using SAR, SST, ocean color and in situ data Rivo Uiboupin (Tallinn University of Technology, Estonia)
PS-C1-25 (ref 442)	Monitoring water quality parameters in the Caspian Sea using MODIS satellite imagery: Application of genetic algorithm and Fuzzy system Ali Moridnejad, Hossein Abdollahi, Jamal Mohammad Vali Samani (Tarbiat Modares University, Iran), Seyed Kazem Alavipanah (University of Tehran, Iran)
PS-C1-26 (ref 446)	GPS assessment of shoreline extraction using high resolution images Rodrigo Mikosz Goncalves, Cláudia Pereira Krueger (Federal University of Paraná, Brazil), Bernhard Heck (Karlsruhe Technical University, Germany), Joseph Awange (Curtin University of Technology, Australia), João Batista Ramos Cortes (Federal University of Paraná, Brazil)
PS-C1-27 (ref 643)	Oil Spill Detection based on SAR and METOCEAN/Contextual Data Fusion Michele Vespe, Monica Posada, Guido Ferraro, Barbara Bulgarelli, Harm Greidanus (EC Joint Research Centre, Italy)
PS-C1-28 (ref 824)	Application of Multi-sensor Satellite Data for Tidal Flat Study Joo-Hyung Ryu, Hong-Rhyong Yoo (Korea Ocean Satellite Center, Korea)
PS-C1-29 (ref 833)	ISPRA-MED Web portal goals Gabriele Nardone, Mauro Bencivenga (EC Joint Research Centre, Italy), Paolo Di Giacomo (AlphaConsult, Italy)

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10:30 – 17:30	
Poster Session C1	**7 Marine resources and dynamics: observation capabilities and applications**
PS-C1-30 (ref 884)	The Mapping, Monitoring and Management of Madagascar Reef Environments Using Airborne Hyperspectral Imagery Terry Cocks (Integrated Spectronics, Australia)

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10:30 – 17:30	
Poster Session C2	**10 Data and Information Systems**
PS-C2-1 (ref 20)	Development of Remote Sensing and GIS based Information System for Village level planning: A Pilot Study of Prakasam District, Andhra Pradesh, India. Reddy Mareddy Anji (J N T University Hyderabad, India)
PS-C2-2 (ref 81)	GIMS - Technology For The Monitoring Coastal And Marine Ecosystems Ferdenant Mkrtchyan (FIRE RAS, Russian Federation)
PS-C2-3 (ref 228)	Morphological Routine Proposal To Extraction Of Highways In High Resolution Images Erivaldo Antonio Silva (UNESP, Brazil)
PS-C2-4 (ref 269)	Accuracy Assessment of Extracted Endmembers for Hyperspectral Images Classification Alireza Sharifi (University of Tehran, Iran)
PS-C2-5 (ref 272)	Evaluation of effectiveness radiometric resolution reduction in accuracy of IRS-P5 Image classification Alireza Sharifi (University of Tehran, Iran), Majid Rasouli (K.N. Toosi University of Technology, Iran), Mohammadreza Saradjian (University of Tehran, Iran)
PS-C2-6 (ref 308)	The Study of Geomorphologic Units Using Landscape and Photomorphic Unit Saeid Gharachelo (SEMNAN University, Iran), Seyed Kazem Alavipanah (University of Tehran, Iran)
PS-C2-7 (ref 390)	A methodological proposal for quantifying environmental compensation through the spatial analysis of vulnerability indicators Fabio Enrique Torresan (Embrapa, Brazil), Reinaldo Lorandi (UFSCar, Brazil)
PS-C2-8 (ref 449)	Cartographic Update Through Image Digital Processing By Mathematical Morphology Techniques Raquel Grando Stroppa, Fabricio Leonardi, Erivaldo Silva (FCT/UNESP – Depto de Cartografia, Campus Universitário, Brazil)
PS-C2-9 (ref 563)	A New Approach to Infrastructure Development Planning in Gaza Strip Using GIS Techniques Basheer Ahmed Obaid (Palestinian Territory)

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10:30 -17:30	
Poster Session C3	**12 Airborne Remote Sensing**
PS-C3-1	Remote Sensing and Satellite Validation from the NASA DC-8 Aircraft.

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Poster Session C3	**12 Airborne Remote Sensing**
(ref 94)	Richard E Shetter, George Seielstad, Adam Webster, David Van Gilst (NSERC, USA)
PS-C3-2 (ref 146)	The Real Time Mission Monitor: a Situational Awareness Tool for Airborne Science. H. Michael Goodman, Richard J. Blakesee (NASA Marshall Space Flight Center, USA) and John Hall, Yubin He, Kathryn Regner, Danny Hardin (University of Alabama in Huntsville, USA)
PS-C3-3 (ref 151)	Streamlining Access to and Improving Utilization of NASA's Airborne Science Fleet. Michael T. Gaunce (NASA, USA) Martin N. Ross (Aerospace Corporation, USA) Adam Webster (NSERC, USA)
PS-C3-4 (ref 233)	Cyberinfrastructure for airborne sensor webs. Lawrence Freudinger (NASA, USA)
PS-C3-5 (ref 261)	Sensor webs for the next generation of NASA airborne science. Jeff Myers (NASA, USA), Carl Sorenson (Univ. of California, Santa Cruz, USA)
PS-C3-6 (ref 541)	NASA airborne science network communications infrastructure for the Global Hawk UAS. Carl Sorenson (Univ. of California, Santa Cruz, USA)
PS-C3-8 (ref 673)	NASA's Airborne Science Program. Randal Thomas Albertson, Andrew Roberts, Matthew Fladeland, Anthony Guillory, Susan Schoenung (NASA, USA)
PS-C3-9 (ref 871)	Application of Spectral Mixture Analysis to Urban Land Use/Land Cover Extraction. Meysam Argany (University of Tehran, Iran)
PS-C3-10 (ref 874)	A localised cloud masking method for Malaysia. Asmala Ahmad, Shaun Quegan (UK)
PS-C3-11 (ref 202)	Future of HAPS for Global Change Monitoring, for Surveillance of the Territory, Meteorology and Broad Band Telecommunications. Leopoldo Stefanutti (IRPI-CNR, Italy), Robert MacKenzie (University of Lancaster, UK), David Grace (University of York, UK), Rodolfo Guzzi (ASI, Italy)
PS-C3-12 (ref 737)	A State-of-the-Art Airborne Microwave Temperature Profiler (MTP) Michael Joseph Mahoney, Richard Frank Denning (JPL, USA)
PS-C3-13 (ref 80)	Remote Sensing Capabilities for Polar Regions using Unmanned Aircraft Systems Susan M. Schoenung (Longitude 122 West, Inc, USA), Randal T. Albertson (NASA Dryden Flight Research Center, USA)
PS-C3-14 (ref 125)	Airborne Remote Sensing Capabilities of NOAA Aircraft James D. McFadden (NOAA, USA)
PS-C3-15 (ref 294)	Interagency Working Group for Airborne Data and Telecommunication Systems Christopher J Webster (NSF/NCAR, USA), Lawrence C Freudinger (NASA, USA)
PS-C3-16 (ref 336)	Aircraft-Laboratory 'ARTIKA' As Research Platform For Marine Ecosystem Surveys Vladimir Borisovich Zabavnikov, Sergey Anatolievich Egorov (Russian Federation)
PS-C3-17 (ref 428)	Implementations of Sensor Webs Utilizing Uninhabited Aerial Systems Donald V Sullivan (NASA Ames Research Center, USA)
PS-C3-18 (ref 433)	Urban Heat Islands and Urban Thermography project DESIREX 2008 Jose Antonio Sobrino (University of Valencia, Spain), R. Bianchi, M. Paganini, A. Fernandez-Renau, J. A. Gomez, E. de Miguel, M. Jiménez, M.Pujada (ESA, Italy)
PS-C3-19 (ref 469)	Synergism of UAS and Orbital Platforms for Volcanological Remote Sensing and In Situ Sampling David C Pieri (Jet Propulsion Laboratory, USA)

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Poster Session C3	**12 Airborne Remote Sensing**
PS-C3-20 (ref 590)	An Overview Of The NASA P-3B Airborne Laboratory Anthony Guillory, George Postell (NASA/Wallops Flight Facility, USA)
PS-C3-21 (ref 609)	Accurate SVM Classification Using Border Training Patterns Begüm Demir, Sarp Ertürk (Kocaeli University, Turkey)
PS-C3-22 (ref 851)	First Test Results Of The Airborne Dispersive Pushbroom Imaging Spectrometer Apex Koen Meuleman, Bart Bomans, Kristin Vreys, Sindy Sterckx (VITO-TAP, Belgium), Klaus I. Itten, Michael Schaepman, Edoardo Alberti (Univ. of Zürich, Switzerland), Francesco Dell'Endice, Petra D'Odorico, Andreas Huen, Mathias Kneubuehler, Daniel Schläpfer (Univ. of Zürich, Switzerland), Jens Nieke, Gerd J. Ulbrich (ESA-ESTEC, Netherlands),
PS-C3-23 (ref 872)	Airborne Missions in Costa Rica - National monitoring program using UAS Allan J. Campos Gallo, Melissa Camacho Elizondo (PRIAS, CeNAT, Costa Rica)
PS-C3-24 (ref 131)	A small UAS payload suite for rapid ecological assessments in remote regions. Matthew Fladeland, Steve Dunagan (NASA Ames Research Center, USA), Geoff Bland (NASA Goddard Wallops Flight Facility, USA), James Maslanik (University of Colorado at Boulder, USA), Thaopaul Bui (NASA Ames Research Center, USA)
PS-C3-25 (ref 387)	Detection of water stress in maize with hyperspectral imagery. Micol Rossini, Sergio Cogliati, Andrea Marchesi, Francesco Fava, Roberto Colombo, Michele Meron, Lorenzo Busetto, Mirco Migliavacca (University of Milano Bicocca, Italy), Claudia Giardino, Cinzia Panigada, Mariano Bresciani, Mirco Boschetti (IREA-CNR, Milano, Italy), Valentina Picchi (University of Milan and Plant Virology Institute, Milano, Italy), Stefano Amaducci, Massimo Vincini (Università Cattolica del Sacro Cuore, Italy),

Wednesday 6 May 2009	
10:30 – 17:30	
Poster Session C4	**13 National, Regional and International Programmes and Applications**
PS-C4-1 (ref 393)	High resolution BRDF measurement of natural surfaces Marc Schwarzbach (Universität Stuttgart, Germany)
PS-C4-2 (ref 436)	Evaluation Of Information Content And Feature Extraction Capability Of IRS_P5 Pan-Sharpened Images Maryam Nikfar, Mohammad Javad Valadan Zouj (K.N. Toosi University of Technology, Iran)
PS-C4-3 (ref 669)	MAIS+: the SDI of the Italian Environmental Information and Monitoring System Nico Bonora, Claudio Maricchiolo, Michele Munafò, Fabio Baiocco, Ines Marinosci (EC – Joint Research Centre, Italy)
PS-C4-4 (ref 707)	Communication in the GMES Process Herbert Haubold (Austrian Environment Agency, Austria)
PS-C4-5 (ref 718)	GMES Services Supporting EU Peace-Keeping Missions Olaf Kranz, Denis Bruckert, Dr. Stefan Lang, Dirk Tiede, Carlos Uribe, Stephen Clandillon
PS-C4-6 (ref 818)	Arctic Regional Ocean Observing System Stein Sandven, Ola M. Johannessen (NERSC, Norway), Leonid Bobylev (NERSC, Russian Federation), Hans Dahlin (EuroGOOS Secretariat, Sweden)

Wednesday 6 May 2009 (13:30-18:30) and **Thursday 7 May 2009 (09:30-16:30)**

Hotel La Palma – Stresa

Side Event: GMES Global Land Workshop

This workshop is organised by the GMES Bureau with the support of the Joint Research Centre. Objective of the workshop is to discuss the scope of the Global component of the GMES Land Monitoring Core Service (LMCS) ,its main implementation issues and condition for its sustainability. The Global component of the LMCS covers Global scale information and the International dimension of the LMCS. A document prepared by the Global Land Working Group will be presented and reviewed during the workshop. In particular, the objective is to discuss with stakeholders the role of GMES in the provision of information on Land at global level on an operational and sustainable basis, including terrestrial Essential Climate Variables (as defined by GCOS). It will cover the definition of the contents of the service based on user needs and technical feasibility, space and in situ observation requirements, and discussions on architecture and governance aspects.

The workshop will be held in two days. The first day (6 may, 13:30-18:30) will be focused on the GLMCS global systematic monitoring service and will include one plenary session on land cover and land cover changes and three parallel thematic sessions on:

Session 1: vegetation and fire
Session 2: water and soil,
Session 3: snow, glaciers and ice sheets (including permafrost)

The second day (7 may 9:00-16:30) the GLMCS hot spot monitoring service and the GLMCS thematic services will be disiscussed in the morning and in the afternoon it will take place the general discussion with workshop conclusions.

Contact: Virginia Puzzolo, Virginia.puzzolo@ec.europa.eu

Wednesday 6 May 2009

17:30-18:00

Side Event: GEO Call for Proposals – Information Session: EO in Decision Support

GEO has issued a Call for Proposals "Earth Observations in Decision Support" which seeks to identify and promote practical applications of Earth observations to improve decision-making. The CFP aims to call attention to specific examples in which Earth observations provide societal benefit, and the CFP also seeks people interested in serving as Advisors to projects from developing countries. This session will provide information about the Call for Proposals, including time for people to ask questions. The GEO CFP is available on the GEO Website at:

http://www.earthobservations.org/documents/cfp/200902_cfp_eodsp.pdf

Contact: Lawrence A. Friedl, lfriedl@nasa.gov

Day 4

Thursday 7 May 2009	
09:00 – 10:30	
Plenary Session 5	**Digital Earth: How Earth Observations Data will be Accessed and by Whom?**
Co-chair:	*Guo Hudong, Center for Earth Observation and Digital Earth, Chinese Academy of Sciences, China*
Co-chair:	*Alessandro Annoni, EC Joint Research Centre, Italy*

Ten years ago, then U.S. Vice-President Al Gore articulated a vision of "Digital Earth" as a multi-resolution, three-dimensional representation of the planet that would make it possible to find, visualize, and make sense of vast amounts of georeferenced information on the physical and social environment. Such a system would allow users to navigate through space and time, access to historical data as well as future predictions based for example on environmental models, and support access and use by scientists, policy-makers, and children alike (Gore, 1998). At the time, this vision seemed almost impossible to achieve given the requirements it implied about access to computer processing cycles, broadband internet, interoperability of systems, and above all data organization, storage, and retrieval.

Ten years later, many of the elements of Digital Earth are not only available but also used daily by hundreds of millions of people worldwide thanks to innovative ways to organize and present the data and rapid technological advancements. It is now time to ask: has the vision of Digital Earth been achieved?

The more we understand the complexity of interactions and inter-dependencies between environmental and social phenomena at different levels, local, regional, global, the more we need dynamic information systems to provide reliable, accurate, timely, and openly accessible information at the relevant geographic and temporal scales. The more geographic information we have, the more we see the need for sophisticated processing and analysis models that can turn information into insight and intelligent action. It is now necessary therefore to take stock of current developments and refocus the vision towards the next generation Digital Earth.

S-5-1	Global Spatial Data Infrastructure (GSDI) Ivan De Loatch USGS (USA; invited)
S-5-2	Digital Earth: Ten Years Experiences Guo Huadong (Center for Earth Observation and Digital Earth, Chinese Academy of Sciences, China)
S-5-3	The Age of the Citizen Cartographer : Building SDI's from the Ground Up Ed Parsons (Google)
S-5-4	SDI Amazonia Eduardo Acquarone (TV Globo, Brazil)
S-5-5	Toward the next generation of Digital Earth Max Craglia (EC Joint Research Centre, Italy)

Thursday 7 May 2009	
11:00 – 12:30	
Technical Session 42	**8.3 Snow cover, Glaciers and Ice caps**
Co-chair:	*Siri Jodha Singh Khalsa, University of Colorado, USA*
Co-chair:	*Regula Frauenfelder, Norwegian Geotechnical Institute, Norway*
Snow cover, glaciers and ice caps store large amounts of fresh water and are critical components of the Water Cycle. They also play a significant role in the climate system due to their high albedo. In addition, the continuous monitoring of these cryosphere components has many major applications for agriculture/irrigation, hydraulic energy production, hydrology, flood forecasting. The session will describe the potential and utility of space optical observations for these applications.	
TS-42-1 (ref 262)	A physically based method for mapping debris cover thickness from ASTER satellite imagery: development and testing at Miage Glacier, Italian Alps By Lesley Foster, Ben Brock and Mark Cutler (School of Social and Environmental Sciences - Geography, University of Dundee, United Kingdom)
TS-42-2 (ref 299)	Glacier mapping from multi-temporal optical remote sensing data within the Brahmaputra river basin Regula Frauenfelder (Norwegian Geotechnical Institute, Norway) and Andreas Kääb (Department of Geosciences, University of Oslo, Norway)
TS-42-3 (ref 597)	Evaluating the utility of the EUMETSAT HSAF snow recognition product in mapping snow cover extent Serdar Sürer (Geodetic and Geographic Information Technologies – METU), Zuhal Akyürek (Civil Engineering Department – METU), Aydın Gürol Ertürk (Turkish State Meteorological Service), Ali Ünal Şorman (Civil Engineering Department – METU, Turkey) and Jan Kanak (Slovak Hydrometeorological Institute, Slovakia)
TS-42-4 (ref 731)	Applications of snowmelt runoff model for upper Euphrates basin using snow depletion curves Gökhan Marım (METU, Division of Geodetic and Geographic Information Technologies, Ankara), Aynur Şensoy Şorman (Anadolu University, Department of Civil Engineering) and Ali Ünal Şorman (METU, Department of Civil Engineering, Turkey)
TS-42-5 (ref 743)	Characterizing Global Snow and Ice Cover with Nine Years of MODIS Data Siri Jodha Singh Khalsa and Andrew Andrew Barrett (University of Colorado, USA)
TS-42-6 (ref 104)	Study of the Composition and Spatial Distribution of Phytoplankton under the Ice in Lake Teletskoye (Russia) Using Terra MODIS Data Nelley Mikhailovna Kovalevskaya, Laboratory of ecological mapping, Elena Yur'evna Mitrofanova and Vladimir Victorovich Kirillov (Laboratory of Hydrobiology), Konstantin Alexandrovich Boenko (Laboratory of geoinformatics, IWEP SB RAS, Russian Federation)

Thursday 7 May 2009	
11:00-12:30	
Technical Session 43	**2.2 Agriculture: Crop Modeling**

Co-chair:	*Wim van Leeuwen, University of Arizona, USA*
Co-chair:	*Christopher O. Justice, University of Maryland, USA*
The session explores the ways in which different types of remote sensing data can be used in estimating parameters that drive process-based models of crop yield.	
TS-43-1 (ref 330)	Climate Black Swans: how to manage the Agricultural Risk. Michael Ferrari (USA)
TS-43-2 (ref 223)	Satellite Imagery Applications in Regional Crop Condition and Yield Assessment. Paul Doraiswamy (U.S. Department of Agriculture, Agricultural Research Service, USA)
TS-43-3 (ref 411)	Improving Regional Crop Yield Forecasts Using Satellite-Derived Soil Moisture and Crop Modeling. Allard de Wit (Netherlands)
TS-43-4 (ref 804)	A Generalized Wheat Yield Model using Daily Coarse Resolution Remotely Sensed Information. Inbal Becker-Reshef, Eric Vermote, Chris Justice (University of Maryland, USA)
TS-43-5 (ref 365)	Estimation of Harvest Index of Winter Wheat Based on Remote Sensing Data. Xin Du, Bingfang Wu, Qiangzi Li, Jihua Meng (Institute of Remote Sensing Applications, Chinese Academy of Sciences, Peoples Republic of China)

Thursday 7 May 2009	
11:00 – 12:30	
Technical Session 44	**13.4 GMES Space Component**
Co-chair:	*Francesco Pignatelli, EC Joint Research Centre, Italy*
Co-chair:	*J. Aschbacher, ESA Directorate of Earth Observation Programmes, Italy*
The Sentinel Missions carry a variety of sensors designed to respond to user needs. They include all-weather SAR instruments for land, ocean and ice applications (Sentinel-1), high resolution optical sensors for land services (Sentinel-2), large scale optical and infrared sensors for global land and ocean applications as well as an ocean altimetry package (Sentinel-3) and atmospheric sensors in geostationary and low-earth orbits (Sentinel-4/5). The session will provide an overview of these satellite observation capacities and the related ground segment.	
TS-44-1 (ref 578)	The Sentinel-1 Mission E. Attema, P. Snoeij, G. Levrini, M.Davidson (ESA, Netherlands)
TS-44-2	The Sentinel-2 Mission F. Spoto, P.Martimort, O.Sy (ESA, Netherlands)
TS-44-3 (ref 396)	The Sentinel-3 Mission Bruno Berruti, Constantin Mavrocordatos (ESA, Netherlands)
TS-44-4 (ref 283)	The Sentinel-4/5 Missions Marco Arcioni (ESA, Netherlands), Yasjka Meijer (ESA, Italy)

Thursday 7 May 2009

11:00 – 12:30	
Technical Session 45	**12.4 UAS Science**
Co-chair:	*Susan Schoenung, NASA, USA*
Co-chair:	*Joachim Reuder, USA*
This session will discuss advances in sensor technology for unmanned airborne platforms.	
TS-45-1 (ref 301)	Lessons Learned: experiences in UAS Sensor Operations Supporting Disaster Scenarios (Wildfires) in the United States. Vincent Gerard Ambrosia (CSUMB / NASA-Ames Research Center, USA)
TS-45-2 (ref 519)	High-Altitude MMIC Sounding Radiometer (HAMSR) on the Global Hawk UAV for Tropical Cyclone Reconnaissance. Shannon Thomas Brown, Richard Denning, Todd Gaier, Pekka Kangaslahti, Bjorn Lambrigtsen, Jordan Tanabe, Alan Tanner (JPL, USA)
TS-45-3 (ref 586)	Application of UAV Based Aerial Images, Georeferencing, Mosaicing and Information Extraction. Christoph Boehm (Geo Data Solutions, Germany)
TS-45-4 (ref 769)	Video Based Motion tracking and River Detection with an Unmanned Aerial Vehicle. João Correia, Ricardo Bencatel, André Marçal, André Puga, João Sousa, Gil Gonçalves (University of Porto, Portugal)
TS-45-5 (ref 284)	UAVSAR: a new Airborne L-band RADAR for Repeat Pass Interferometry. Thomas H Mace, Yunling Lou (NASA, USA)
TS-45-6 (ref 122)	The Unique Capabilities of the Global Hawk Aircraft for the Study of Climate Changes. Francesco Cairo, Robert E. Curry, Bruno Carli (CNR ISAC, Italy)

Thursday 7 May 2009	
11:00 – 12:30	
Technical Session 46	**3.8 Degradation of Ecosystems**
Co-chair:	*Per-Erik Skrovseth, Norvegian Space Centre, Norway*
Co-chair:	*Andreas Brink, EC Joint Research Centre, Italy*
This session examines new approaches using earth observation imagery for monitoring degradation of ecosystems and their consequences. Examples of applications at global (impacts of vegetation fires on CO_2 emissions), continental (forest fragmentation in Europe), national (forest degradation in Cameroon) and local (insect disturbance and cedar decay) scales will be presented.	
TS-46-1 (ref 377)	Inter-comparison of Global Estimates of CO_2 Emission derived from Satellite-Based Burnt Biomass Products. Pietro Alessandro Brivio, Daniela Stroppiana, Cynthia Zambrano (CNR-IREA, Italy), Jean-Marie Grégoire (EC - Joint Research Centre, Italy) Italy), Catherine Liousse (Laboratoire d'Aérologie, France), Aude Mieville (Service d'Aéronomie, France), Mian Chin (NASA-GSFC, USA)
TS-46-2 (ref 415)	Investigating Different Sensors for Forest Degradation Mapping in Cameroonian Tropical Forests. Manuela Hirschmugl, Mathias Schardt (Joanneum Research, Austria), Sharon Gomez (GAF, Germany)

TS-46-3 (ref 95)	'Hot-spots' Provinces of Forest Loss and Fragmentation in Europe. Coralie Mouton, Christine Estreguil (EC Joint Research Centre, Italy)
TS-46-4 (ref 379)	Analysis of Spatial Patterns – adding attributes to Forest Patches to evaluate the Importance of Individual Fragments for Spatial Landscape Integrity. Martin Wegmann (University of Wuerzburg, Germany), Michael Schmidt (DLR, Germany), Stefan Dech (DLR, Germany)
TS-46-5 (ref 484)	Temporal Changes of Surface Temperature Resulting from an Insect Forest Disturbance. Martin Hais (University of South Bohemia, Czech Republic), Tomáš Kučera (Academy of Sciences of the Czech Republic, Czech Republic)
TS-46-6 (ref 507)	Statistical and Spatial Modelling for Ecological Characterisation and Cartography of Cedar Decay: the case of Azrou Forest in Atlas Mountains (Morocco). Hicham Ezzine (CRTS, Morocco), Mustapha Ezzahiri (Ecole nationale forestière d'Ingénieurs, Morocco), Bakhiyi Belghazi (Ecole nationale forestière d'Ingénieurs, Morocco), Badr Abouelasoued (Ecole nationale forestière d'Ingénieurs, Morocco)

Thursday 7 May 2009	
14:00 – 15:30	
Technical Session 47	**8.4 Evapotranspiration and Soil Moisture**
Co-chair:	*Wolfgang Wagner, Vienna University of Technology, Austria*
Co-chair:	*Richard Andrew Weinmann, Charles Darwin University, Australia*
The measurement of total evapotranspiration (ET) over land is very important for water management but remains a largely unsolved problem. Remote sensing techniques cannot measure evaporation or ET directly. One indirect way to estimate ET is to solve the energy balance equation for the latent heat flux. The session will present several attempts and associated methodologies to derive ET from space and in situ field observations. Soil moisture plays an important role in climate as boundary condition controlling fluxes to the atmosphere and for water resource management, in particular for agricultural and forestry applications. The session will provide encouraging examples of the potential of passive and active microwave sensors for soil moisture measurements.	
TS-47-1 (ref 37)	Remotely Sensed Derived Riparian Evapotranspiration and Land Cover Change in a Northern Mexico Semi Arid Basin. Erick Sánchez-Flores (Department of Planning and Urban Development), Alfredo Granados-Olivas and Hugo Rojas-Villalobos (Department of Environmental Engineering and Ecosystems, Universidad Autónoma de Ciudad Juárez , Mexico)
TS-47-2 (ref 207)	Scintillometry, Eddy Covariance and Remote Sensing for Evapotranspiration Mapping in West-Africa Ulrike Falk, Jan M. Hendrickx, Christopher Conrad, Carina Kübert and Paul L. G. Vlek (Center for Development Reseach, University Bonn , Germany)
TS-47-3 (ref 421)	Estimation of Crop Water Requirements for vineyard from optical E.O. data Francesco Vuolo (Ariespace s.r.l.,Ercolano), Guido D'Urso and Katja Richter (DIAAT, Facoltà di Agraria, Università degli studi di Napoli "Federico II"), John Prueger (USDA-ARS Ames, Iowa, National Soil Tilth Laboratory, USA) and William Kustas (USDA-ARS, Hydrology and Remote Sensing Lab, Beltsville, USA)

TS-47-4 (ref 844)	Using remote Sensing to Model Changes in Evapotranspiration Due to Land Clearing in Tropical Savannahs Richard Andrew Weinmann and Lindsay Hutley, (TRaCK - Charles Darwin University, Australia)
TS-47-5 (ref 194)	Towards Multi-Source Global Soil Moisture Datasets for Unravelling Climate Change Impacts on Water Resources Wolfgang Wagner (Vienna University of Technology, Austria), Richard de Jeu (Department of Hydrology and Geo-Environmental Sciences, Vrije Universiteit Amsterdam , Netherlands), Peter van Oevelen (International GEWEX Project Office, USA)
TS-47-6 (ref133)	Spatio-Temporal Evaluation of TRMM Satellite Precipitation Data in Haihe Basin Jun Xiong (IRSA, China)
TS-47-7 (ref 565)	Satellite Based Estimates of Top Soil Moisture over the Tibetan Plateau. Z. Bob Su (ITC, The Netherlands)

Thursday 7 May 2009	
14:00-15:30	
Technical Session 48	**2.3a Agriculture: Crop Management 1**
Co-chair:	*Bradley Doorn, USDA-FAS, USA*
Co-chair:	*Bettina Baruth, EC Joint Research Centre, Italy*
This session examines remote sensing solutions that have been developed and evaluated for the more efficient management of agricultural crop production.	
TS-48-1 (ref 61)	Food for a Hungry World George Seielstad (University of North Dakota, USA), Rick Lawrence (Montana State University, USA), Cheryl Reese South Dakota State University, USA), Ramesh Sivanpillai (University of Wyoming, USA), Xiaodong Zhang (University of North Dakota, USA)
TS-48-2 (ref 111)	Remote Sensing-Based Identification and Mapping of Salinised Irrigated Soils: a case Study Along the Orange River between Upington and Keimoes, South Africa. Zama Eric Mashimbye (Geo-Informatics Department, South Africa), Hendrik Lourens Zietsman, Bernardt Heinrich Schloms (South Africa)
TS-48-3 (ref 115)	Applying advanced polarimetric techniques for agricultural tillage mapping. Anna Pacheco (Agriculture and Agri-Food Canada, Canada)
TS-48-4 (ref 123)	Operational Western corn Rootworm Damage Monitoring. Gizella Nádor, Diána Fényes (Institute of Geodesy, Cartography and Remote sensing, Hungary), György Surek (MLog Ltd, Hungary), László Vasas (Agricultural Office of County Békés, Hungary)
TS-48-5 (ref 323	Precision Farming in Sunflower: First Experiences in La Pampa, Argentina. María Soledad Mieza, Federico Darío Kovac (Argentina)
TS-48-6 (ref 717)	Satellite and Aerial Photographs Evaluation in Collapsible Soils Detection and Analysis. Ernesto Abril (Departamento Construcciones Civiles Facultad de Ciencias Exactas, Físicas y Naturales Universidad Nacional de Córdoba, Argentina)

Thursday 7 May 2009
14:00 – 15:30

Technical Session 49	**4.4 Disaster Emergency Response and Damage Assessment**
Co-chair:	*Paolo Boccardo, ITHACA, Italy*
Co-chair:	*Martino Pesaresi, EC Joint Research Centre, Italy*
Remote sensing technology is playing an increasingly important role within the emergency response community as one of the sources of information that can provide support to decision making and emergency relief operations. The papers in this session describe the challenges of deriving useable information from the new generation of very high resolution radar satellite data, as well as the combined use of remote sensing, information, mobile and GIS technologies to deliver operational post-disaster monitoring capability. The keynote will provide an overview of the perspectives at the Centre for Earth Observation and Digital Earth, Chinese Academy of Science, for remote sensing technology in disaster management, focusing especially on emergency response.	
TS-49-1 (inv KN)	Perspectives on EO Technologies in Support of Emergency Response and Disaster Management. Prof. Guo (Centre for Earth Observation and Digital Earth, Chinese Academy of Science, China)
TS-49-2 (ref 648)	The Limes And G-Mosaic European Commission Integrated Projects To Support Crisis Management In Africa Giovanni Cannizzaro (Telespazio, Italy)
TS-49-3 (ref 322)	Comparison of VHR SAR data for the Wenchuan, May 2008 Earthquake. Paolo Gamba (University of Pavia, Italy), Fabio Dell'Acqua (EUCENTRE, Italy), Gianni Lisini (IUSS – CeRS, Italy)
TS-49-4 (ref 333)	Use of QuakeSim and UAVSAR for Earthquake Damage Mitigation and Response. Andrea Donnellan, Jay W. Parker, Scott Hensley (Jet Propulsion Laboratory, NASA, USA), Gerald W. Bawden (US Geological Survey, USA),
TS-49-5 (ref 445)	A Semi-Automated, Object-Based Algorithm for Burned Area Mapping in the Mediterranean Region Using Multisensoral Remote Sensing Data. Marcus Bindel, Christiane Schmullius (Friedrich-Schiller-University, Jena, Germany), Monika Gähler, Tobias Schneiderhan (DLR, Germany),
TS-49-6 (ref 682)	Satellite-derived Fire Information for Disaster Management: Societal Impacts and Lessons Learned. Diane K Davies, Minnie Wong, Shriram S. Ilavajhala, Gisueppe Molinario, Christopher O Justice (University of Maryland, USA), John S Latham, Antonio Martucci (FAO, Italy)
TS-49-7 (ref 739)	Combined Use of Optical Remote Sensing and GIS for Landslide Mapping: Example from Pakistan. Regula Frauenfelder (Norwegian Geotechnical Institute, Norway), Andreas Kääb (University of Oslo, Norway), Kalle Kronholm (Norwegian Geotechnical Institute, Norway)

Thursday 7 May 2009	
14:00 – 15:30	
Technical Session 50	**9.4 Special Topics: Novel Ideas in Remote Sensing & Human Health**
Co-chair:	*Lawrence Friedl, NASA Earth Science Division, USA*

Co-chair:	*Gary Foley, U.S. Environmental Protection Agency, USA*
If you want to hear novel ideas at this year's ISRSE conference, this is your session. This collection of six, very-interesting papers provide unique perspectives on roles of remote sensing in analysis, policy, or health. Whether you agree or disagree with the speakers, they'll certainly make you think about health and remote sensing in new ways. Isn't that what a conference is all about?	
TS-50-1 (ref 847)	Connectivity between Environment and Health - Synergies with Remote Sensing and their influence on New Legislative Policies. Andreas Skouloudis (EC Joint Research Centre, Italy)
TS-50-2 (ref 765)	Regulatory Exceptional Event Analysis Using the GEOSS Infrastructure. Rudolf Husar (Washington University in St. Louis, USA)
TS-50-3 (ref 139)	Traffic Monitoring from Space for Sustainable Development of the Road Network. Siri Øyen Larsen (Norwegian Computing Center, Norway)
TS-50-4 (ref 603)	Space weather and human health: a new issue? Ermanno Amata (INAF-IFSI, Italy)
TS-50-5 (ref 771)	Abrupt Weather Changes and Atmospheric Pollution Influence on Sickness and Death Rates (for Moscow and Caucasian Mineral Waters Regions). Igor Granberg, A. M. Obukhov (Institute of Atmospheric Physics, Russian Academy of Sciences, Russia)
TS-50-6 (ref 253)	Construction of a Map of Comfort in the Urban Environment of Belo Horizonte. Ana Maria Carneiro (Brazil)

Thursday 7 May 2009	
14:00 – 15:30	
Technical Session 51	**3.9 New Land Cover Applications at Global to National Scales**
Co-chair:	*Erika Podest, NASA, USA*
Co-chair:	*Frédéric Achard, EC Joint Research Centre, Italy*
This session examines new applications using earth observation imagery for land use or land cover monitoring from global to national scales. Two applications at global level (tropical forests and urbanization), one appliocation at European level (GlobCorine change map) and two applications for Mexico (land cover monitoring and tree distribution) will be presented.	
TS-51-1 (ref 552)	Global Monitoring Of Tropical Forest Cover Changes by Means of a Sample Approach and Object-Based Classification of Multi-Scene Landsat Imagery: Pre-Processing and First Results. Catherine Bodart, René Beuchle, Dario Simonetti, Hugh Eva, Rastislav Raši, Silvia Carboni, Andreas Brink, Hans-Jürgen Stibig, Frédéric Achard, Philippe Mayaux (EC Joint Research Centre, Italy)
TS-51-2 (ref 286)	Urbanization: a Global Change Issue. Hannes Taubenböck (DLR, Germany)
TS-51-3 (ref 520)	Land Cover Assessment Using Moderate Resolution Satellite Imagery in Mexico. Tzitziki Janik Garcia, Jean Francoise Mas (UNAM, Mexico)
TS-51-4 (ref 54)	Potential and Limitations Of Multi-Temporal Earth Observation Data to improve Modeled Results of Tree Species Distribution in Mexico. Anna Cord, Michael Schmidt, Stefan Dech (DLR, Germany)

TS-51-5 (ref 796)	GlobCorine - A joint EEA-ESA Project for Operational Change Detection at pan-European Scale Sophie Bontemps, Pierre Defourny, Eric Van Bogaert (UCL-Geomatics, Belgium), Jean-Louis Weber (EEA, Denmark), Olivier Arino (ESA-ESRIN, Italy)
TS-51-6 (Inv)	Towards Operational Global Forest Monitoring: Next Steps John Townshend (University of Maryland, USA)

Thursday 7 May 2009	
16:00 – 17:30	
Technical Session 52	**7.4 Maritime Traffic and Oil Spill Monitoring**
Co-chair:	*Harm Greidanus, EC Joint Research Centre, Italy*
Co-chair:	*Evert Attema, ESA-ESTEC, Netherlands*

In response to the growing human activities at sea operational systems are now gradually emerging to provide enhanced vessel traffic monitoring and eventually early warning of possibly dangerous situations. Through better distribution of navigational and safety information to ships the operational systems might therefore also offer significant value in case of an emergency situation including search and rescue operation or an oil spill accident as well as better surveillance in support of fishery management.

However, the systems clearly need further improvements regarding data collection by new and novel sensor technologies and platforms and through better harmonization and integration of auxiliary marine data products. Fragmented regional capacities should also be tackled in order to implement of maritime situational awareness system at Pan-European level.

TS-52-1 (ref 504)	PEARL - Environmental Management System for Port Authorities Martyna Stelmaszczuk (Space Research Centre PAS, Poland), Pepa Sedo, Rodrigo Diaz (Atos Origin, Spain), Laia Romero (Starlab, Spain), Bertrand Chapron (Ifremer, France), Vincent Kerbaol (Boost Technologies, France), Herman Journee (Ecoports, The Netherlands), Nick Kitson (ABPmer, UK)
TS-52-2 (ref 841)	Satellite Monitoring of Illicit Maritime Pollution: Backtracking Towards Source Identification Marko Perkovic, Oliver Müllenhoff, Harm Greidanus, Guido Ferraro (EC Joint Research Centre, Italy), Simone Cosoli (National Institute of Oceanography and Experimental Geophysics, Italy), Leonard Delgado (Transas Technology, Russian Federation), , Rick Harsch (University of Ljubljana, Slovenia)
TS-52-3 (ref 555)	Surveying shipping and fishing in the SW Indian Ocean with satellite SAR Harm Greidanus (European Commission - EC Joint Research Centre, Italy), David Ardill, Neil Ansell (Mauritius), Francois-Xavier Thoorens (Italy), Pierre Peries (Mauritius)
TS-52-4 (ref 102)	Near real-time automatic oil spill detection in SAR images Øivind Due Trier, Anne H. S. Solberg, Rune Solberg (Norwegian Computing Center, Norway)
TS-52-5 (ref 385)	PRIMI: A Pilot Project on Marine Oil Pollution Francesco Nirchio (Agenzia Spaziale Italiana, Italy), Gianfranco Pandiscia, Giovanni Ruggieri (Telespazio, Italy), Rosalia Santoleri (ISAC-CNR, Italy), Francesco Tataranni (Consorzio Innova, Italy), Paolo Trivero (UNIPO, Italy), Nadia Pinardi (INGV, Italy), Andrea Masini (FlyBy, Italy), Giuseppe Manzella (ENEA, Italy), Chiara Castellani (ACS, Italy)

TS-52-6 (ref 932)	Dual polarisation SAR for combined vessel and oil spill detection Marte Indregard, Tony Bauna (Kongsberg Satellite Services, Norway) Harm Greidanus, Juan I. Cicuendez-Perez (EC Joint Research Centre, Italy)

Thursday 7 May 2009	
16:00-17:30	
Technical Session 53	**2.3b Agriculture: Crop Management 2**
Co-chair:	*Marcelo Gandina, University of Buenos Aires, Argentina*
Co-chair:	*Olivier Leo, EC Joint Research Centre, Italy*
This session examines remote sensing solutions that have been developed and evaluated for the more efficient management of agricultural crop production.	
TS-53-1 (ref 112)	Spectral reflectance properties of soils in the Chianti Area. Francesca Garfagnoli (University of Florence, Italy)
TS-53-2 (ref 169)	Development of land suitability model for irrigation management (LSM) using remote sensing, GIS, GPS and field studies: a case study of a part of Nagarjunasagar command area, Andhra Pradesh, India. Koppula Santosh Kumar (Insitute of Science & Technology, JNT University, Kukatpally, Hyderabad, India)
TS-53-3 (ref 423)	A broad-band leaf chlorophyll estimator at the canopy scale for variable rate nitrogen fertilization. Massimo Vincini (Universite Cattolica del Sacro Cuore, Italy)
TS-53-4 (ref 879)	Using remote sensing and GIS for precision farming system in El Salhia area, Ismaillia, Egypt. Alaa Hassan Elnahry (Egypt)
TS-53-5 (ref 784)	Hyperspectral Discrimination of Sugar Beet Diseases. Anne-Katrin Mahlein, Ulrike Steiner, Heinz-Willhelm Dehne, Erich-Christian Oerke, (University of Bonn, INRES-phytomedicine, Germany)

Thursday 7 May 2009	
16:00 – 17:30	
Technical Session 54	**4.5 International and Regional Initiatives on Disaster Response with Earth Observation**
Co-chair:	*Gunter Schreier, DLR, Germany*
Co-chair:	*Jean-Paul Malingreau, EC Joint Research Centre, European Commission, Belgium*
Disaster response from space requires international cooperation. Cooperation, which starts in the coordination of tasking, receiving and distributing data from various international missions immediately after a disaster. The "Charter on Space and major Disasters" is such a coordination scheme. Further cooperation is required in analyzing the data, interactions with the users (e.g. international organizations, NGO's, national relief agencies), technical networks for the distribution of the data and the dissemination of the information in field and capacity building for nations endangered by natural	

disasters. In the recent years, many international, regional and national programmes have been initiated to especially focus on all these aspects. These programmes range from the orbiting of satellites dedicated for disaster response to harmonizing training and capacity networks. Some of these programmes address regional needs, whilst others tentatively support the use of data on a global scale. Though not addressing the entire range of programs, this session gives an informative overview. The keynote will address the European GMES program, focusing on "S": Security and Emergency Support.	
TS-54-1 (inv KN)	Perspectives on Disaster Mapping from Space Mark Doherty (ESA)
TS-54-2 (ref 195)	Mobilizing EO technology to monitor, understand and manage Canadian disasters: focusing on priorities and encouraging partnerships Guy Aubé (Earth Observation Applications and Utilizations, Canadian Space Agency, Canada)
TS-54-3 (ref 362)	Sentinel Asia - the overview and prospect. Kazuya Kaku, Kazuhiko Fukami, Toshihisa Honma, Masami Fukudakaku (Japanese Space Agency, Japan)
TS-54-4 (ref 584)	Capacity building activities of DLR in the framework of GMES and GITEWS. Jan-Peter Mund, Olaf Kranz, Günter Strunz Strunz, Harald Mehl, Ulrich Raape, Stefan Voigt (DLR, Germany)
TS-54-5 (ref 629)	Multi-mission Earth Observation in support of emergency response and damage assessment. Marc Mueller (Infoterra, Germany)
TS-54-6 (ref 638)	The next generation of remote sensing for natural hazard and environmental monitoring: National Polar-orbiting Operational Environmental Satellite System (NPOESS). Mark Bowman, Guido Cervone (George Mason University, USA)

Thursday 7 May 2009	
16:00 – 17:30	
Technical Session 55	**5.4 Water, Desertification and Land degradation**
Co-chair:	*Charles F. Hutchinson, University of Arizona, USA*
Co-chair:	*Juergen Vogt, EC Joint Research Centre, Italy*
The critical question of water availability and use will be reviewed in a series of paper covering a range of African ecosystems from wetland to dryland environment.	
TS-55-1 (ref 881)	TIGER: a contribution to the GEO Work Plan for water resources and capacity building Diego Fernandez (ESA, Italy), Francesco Palazzo (SERCO, Italy)
TS-55-2 (ref 137)	Using Remote Sensing to Determine the Long Term State of Major Wetlands in Southern Africa as Indicator of Impact of Climate Variability on Sensitive Ecosystems Christopher Munyati (Council for Scientific and Industrial Research, South Africa)
TS-55-3 (ref 367)	Using NDVI as auxiliary data for rapid quality assessment of rainfall estimates in Africa Oscar Rojas, Felix Rembold, Jacques Delincé, Olivier Leo (EC Joint Research Centre, Italy)
TS-55-4 (ref 142)	Exploring erosion phenomena and soil protection techniques by means of an integrated remote sensing approach. A case study for Nyando River – Kenya Onyango Ogembo (University of Nairobi, Kenya), Fabio Vescovi (Italy)

TS-55-5 (ref 548)	Land degradation addressed by satellite based long term vegetation phenological trends over Africa Eva Ivits, Michael Cherlet, Stefan Sommer (EC Joint Research Centre, Italy)
TS-55-6 (ref 770)	Applications of Remote Sensing Technologies for Monitoring Drylands Environments, Case study Arid Regions, Sudan M. A. Khiry (University of Khartoum, Sudan), R. A. Osman (University of Dresden, Germany), E.Csaplovics (University of Dresden, Germany)
TS-55-7 (ref 606)	Soil salinity detection using SAR image classification Riadh Abdelfattah (Ecole Supérieure des Communications de Tunis, Tunisia), Mehrez ZRIBI (IRD-CESBIO, France)

Thursday 7 May 2009

16:00 – 17:30

Technical Session 56	**6 Energy Management: The contributions of Earth Observations to the Energy Sector**
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-56-1 (ref 203)	Earth Observation for the energy sector. Pierre-Philippe Mathieu (ESA, Italy)
TS-56-2 (ref 193)	Modelling biomass potentials of energy crops in Germany and Austria using remote sensing data. Markus Tum, Kurt P. Guenther, Marion Schroedter-Homscheid (German Aerospace Center - DLR, Germany)
TS-56-3 (ref 351)	Nowcasting and forecasting of solar irradiance for solar energy electricity grid integration. MarionSchroedter-Homscheidt, Carsten Hoyer-Klick (DLR, Germany), Evangelos Rikos, Stathis Tselepis (Center for Renewable Energy Sources, Greece)
TS-56-4 (ref 773)	New method for estimate solar energy resource Armel Oumbe, Philippe Blanc, Lucien Walk Wald, Thierry Ranchin (Mines Paris Tech, France)
TS-56-5 (ref 789)	Sitting of a solar power plant: development of Web service based on GEOSS data and guidance. Lionel Menard, Lucien Wald, Phillipe Blanc, Thierry Ranchin (Mines ParisTech, France)
TS-56-6 (ref 790)	Satellite data for high resolution offshore wind resource mapping: a data fusion approach. Thierry Ranchin (Mines ParisTech, France), Mohammed Bassam Ben Ticha (IFREMER, France)
TS-56-7 (ref 290)	Valuing Climate Change Uncertainty Reductions for Robust Energy Portfolios Michael Obersteiner, Sabine Fuss, Nikolay Khabarov, Jana Szolgayova, (IIASA, Austria)

Thursday 7 May	
10:30 – 17:30	
Poster Session D1	**3 Forests and Ecosystems: reversing current degradation trends**
PS-D1-1 (ref 69)	Is grazing good or bad for pasture ecosystem in the Himalayas of India? Testing the efficiency of conservation model using Landsat and IRS images. Sunil Nautiyal (India)
PS-D1-2 (ref 480)	Habitat monitoring for mega-herbivores in the Bardia National Park, Nepal. Tej Bahadur Thapa (Tribhuvan University, Nepal)
PS-D1-3 (ref 712)	Land suitability identification for the establishment of fauna reserve through GIS techniques (case study: protected areas of southern region of Benin). Agbo Bernardin Fulbert, Yadjemi Hubert (RECTAS, Nigeria), Zinsou Jean-Eudes (IGN, Benin)
PS-D1-4 (ref 259)	Using Remote Sensing and GIS to monitor and manage Invasive Alien Species in Pico da Vara Protected Area (S. Miguel - Azores Archipelago) Artur Gil, Carlos Silva (University of the Azores, Portugal)
PS-D1-5 (ref 420)	Remote sensing monitoring of land cover change on sites of high conservation importance: delivering benefits now Graeme M Buchanan, Paul F Donald (RSPB, UK), George W Eshiamwata (BirdLife African Partnership Secretariat, Kenya), Philippe Mayaux, Dario Simonetti (EC Joint Research Centre, Italy)
PS-D1-6 (ref 490)	Use of sequential aerial photography and LiDAR for mapping Scots Pine (Pinus sylvestris) encroachment and change detection in bird habitats from 1950 to 2008 in Nigula mire (Estonia). Meelis Leivits (University of Tartu, Estonia), Agu Leivits (State Nature Conservation Centre, Estonia)
PS-D1-7 (ref 527)	Web-based GIS development as a policy making support system for conserving biodiversity: Case study in Fuji-Tanzawa region, Japan Tomoko Doko (Keio University, Japan)
PS-D1-8 (ref 704)	Forest Biodiversity mapping based on high resolution satellite data Christina Eisfelder (DLR, Germany)
PS-D1-9 (ref 143)	Estimate of peatland distribution in Estonia using an integrated GIS/RS approach. Ciro Gardi, Stefan Sommer, Luca Montanarella (EC Joint Research Centre, Italy)
PS-D1-10 (ref 869)	The integration of spaceborne and ground remotely sensed data in exploring the environmental stresses and deterioration in Ras-Gharib area, Gulf of Suez, Egypt. Mohamed Nagib Hegazy (Egypt)
PS-D1-11 (ref 715)	The HYPerspectral for ADriatic COastal Monitoring (HYPAD.COM) project. Cristiana Bassani, Chiara Cattaneo, Rosa Maria Cavalli, Lorenzo Fusilli, Simone Pascucci, Stefano Pignatti (CNR, Italy)
PS-D1-12 (ref 906)	Carbon capture wetlands farming as a means to reverse subsidence, offset greenhouse gas emissions, and reduce flood risk in California's San Francisco Bay-Delta. Lisamarie Windham-Myers (USGS, USA)
PS-D1-13 (ref 444)	A semi-automated, object-based algorithm for burned area mapping in the Mediterranean region using multi-sensoral remote sensing data Marcus Bindel. Christiane Schmullius (Friedrich-Schiller-University, Germany), Monika Gähler, Tobias, (DLR, Germany),
PS-D1-14 (ref 557)	Forest fire scar mapping: an algorithm comparison. Fernando Sedano, Jesus san Miguel (EC Joint Research Centre, Italy)

Thursday 7 May	
10:30 – 17:30	
Poster Session D1	**3 Forests and Ecosystems: reversing current degradation trends**
PS-D1-15 (ref 215)	18 years of land cover change in an urban basin in northeast of Brazil Enner Herenio Alcantara (Brazilian Institue for Space Research, Brazil)
PS-D1-16 (ref 201)	An object-oriented classification methodology on IKONOS multispectral data Eufemia Tarantino (Polytechnic University of Bari, Italy), Nicola Crocetto (Second University of Naples, Italy)
PS-D1-17 (ref 805)	Transformations of the Sierra Madre Oriental Forest Cover in the San Luis Potosí State portion, Mexico, and Possible change Scenarios for the Next 25 Years Humberto Reyes (University of San Luis Potosi, Mexico)
PS-D1-18 (ref 50)	Semi Automatic change detection from IRS_P5 images for updating 1:25000 scale maps Maryam Mary Nikfar, Mohammad Javad Valadan Zouj (K.N. Toosi University Of Technology, Iran)
PS-D1-19 (ref 230)	Application of Remote Sensing and GIS in Land Use Change Assessment on Laos-Chinese Border from 1992 - 2002: A case study of Phongsaly Province, Laos Chanhda Yoshida
PS-D1-20 (ref 463)	Monitoring vegetation recovering after the 2003 wildfires in Portugal Célia Gouveia, Carlos DaCamara, Ricardo Machado Trigo (Centro Geofísica Universidade Lisboa, Portugal)
PS-D1-21 (ref 509)	From Space to People: a multi-scale and multi-source analysis of land use dynamics in the São Francisco basin, Brazil Marco Follador (Joint Research Centre, Italy)
PS-D1-22 (ref 129)	Comparative analysis of geostatistical approaches to evaluate J. Germán Flores Garnica (INIFAP, Mexico)
PS-D1-23 (ref 371)	A coarse-scale analysis of land cover dynamics along the European Green Belt from 1990-2000 Michael Voltersen, Jacqueline Sambale, Martin Herold, Christiane Schmullius (Friedrich-Schiller-Universität Jena, Germany), Melanie Kreutz, Liana Geidezis (Project Office Central European Green Belt, Germany)
PS-D1-24 (ref 459)	Correction of thematic natural maps (on example of the North Caucasus). Mike Puzachenko (Russian Federation)
PS-D1-25 (ref 750)	Multiscale Comparison of satellite-based Land cover datasets over Thuringia Stefan Pöcking, Martin Herold, Christiane Schmullius (Friedrich-Schiller-Universität Jena, Germany)
PS-D1-26 (ref 92)	Developing of a land cover map on the basis of remote sensing information Alexander Nicolaevich Krenke (Russian Federation)
PS-D1-27 (ref 100)	High resolution imagery retrieval for terrestrial vegetation and land use study. Nelley Mikhailovna Kovalevskaya, Konstantin Alexandrovich Boenko (IWEP SB RAS, Russian Federation)
PS-D1-28 (ref 199)	Spectral indices out-perform thermal signals for early detection of oil pollution in maize (*Zea mays*, L.). Ebele Josephine Emengini, George Alan Blackburn, Julian Charles Theobald (Lancaster University, UK)
PS-D1-29 (ref 226)	A comparative analysis of broadband and narrowband derived vegetation indices in predicting sparse vegetation cover in arid regions. Xiaosong Li, Zengyuan Li, Zhihai Gao (IRSA, China)

Thursday 7 May 2009	
10:30 – 17:30	
Poster Session D2	**4 Disaster Reduction and Response (2/2)**
PS-D2-1 (ref 273)	A new approach to forest fires detection and monitoring: the EU-FIRE project. Claudio Calisti Tassini (D'Appolonia, Italy), Domingos Xavier Viegas (University of Coimbra, Portugal), Karim Haddad (Bruel & Kjaer Sound and Vibration, Denmark), Quaranta Vincenzo (Italian Aerospace Research Centre, Italy)
PS-D2-2 (ref 384)	Ground-based and Compass 2 satellite experiments. Uri Mikhailovich Mikhailov, Vladimir Dmitrievich Kuznetzov, Yuri Yakovlevich Ruzhin, Galina Anatolievna Mikhailova, Lidia Petrovna Korsunova, Vladimir Sergeevich Dokukin, Valery Vladimirovich Khegay, Olga Vasilievna Kapustina(IZMIRAN, Russia), Szaba Ferencz, Janosh Lichtenberger, Laszlo Bodnar, Orsolya E Ferencz, Daniel Hamar, Peter Steinbach (Hungary), Valery Evgenievich Korepanov (Ukraine)
PS-D2-3 (ref 513)	Monitoring variations in crater lake temperatures as an indicator of volcanic activity in New Zealand: temporal vs. spatial resolution. Karen Joyce (GNS Science, New Zealand)
PS-D2-4 (ref 282)	An Object-Oriented Classification Method For The Quantification Of Terrestrial Oil Spill Contamination In West Siberia Using High-Resolution Satellite Data Johannes Reiche, Soeren Hese, Christiane Schmullius (Friedrich-Schiller-University Jena, Germany)
PS-D2-5 (ref 688)	Preliminary proposal for an operational seismic hazard monitoring system. Angelo Amodio, Andrea Francia, Massimiliano Chersich (Galileian Plus, Italy)
PS-D2-6 (ref 734)	Satellite monitoring of Mt.Etna eruption of May 2008 using Msg-Seviri data. Carolina Filizzola, Rosita Corrado, Francesco Marchese, Giuseppe Mazzeo, Rossana Paciello, Nicola Pergola, Filomena Sannazzaro, Valerio Tramutoli (IMAA-CNR, Italy)
PS-D2-7 (ref 755)	Toward a global integrated flood forecasting, detection, and monitoring system. Frederick Scott Policelli (NASA, USA), Robert Adler (University of Maryland, USA), Robert Brakenridge (Dartmouth Flood Observatory, USA)
PS-D2-8 (ref 756)	Evaluation of a satellite-based near real-time global flood prediction system. Koray Yilmaz, Robert F. Adler (ESSIC-Univ. of Maryland, USA)
PS-D2-9 (ref 827)	Global real-time detection of major floods using passive microwave remote sensing Tom de Groeve (EC Joint Research Centre, Italy)
PS-D2-10 (ref 848)	Web-based map services and applications for hazard assessment and disaster early warning. Chris Chiesa (Pacific Disaster Center, USA)
PS-D2-11 (ref 859)	Assimilating remotely sensed and other measured data types to improve predictive capabilities of distributed hydrological models. Peter Salamon (DG Joint Research Centre, Italy)
PS-D2-12 (ref 160)	Co-registration of night time images to rapidly assess damaged areas after disasters. Giovanni Laneve, Giancarlo Santilli (CRPSM - Sapienza Universite di Roma, Italy)
PS-D2-13 (ref 216)	Using simple airborne video to provide forest firefighters with high resolution geo-referenced images in real-time via web services. Nicolas Lewyckyj (VITO-TAP, Belgium)
PS-D2-14 (ref 346)	Flood damage assessment in Haiti using satellite remote sensing after the 2008 hurricanes season. Francois Kayitakire, Daniele Ehrlich, Thomas Kemper, Christophe Louvrier, Ivano

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10:30 – 17:30	
Poster Session D2	**4 Disaster Reduction and Response (2/2)**
	Caravaggi, Martino Pesaresi, Fernand Haag (EC Joint Research Centre, Italy)
PS-D2-15 (ref 386)	Automatic extraction of road elevation map for flood rescue operations. Jyrki Tuominen (Tampere University of Technology, Finland)
PS-D2-16 (ref 478)	Impact and recovery analysis of cyclone destructed forest using moderate resolution remote sensing image: case study of Bangladesh. Mir Mustafizur Rahman, Asif Iqbal, Rezwana Kaiser (Asian Institute of Technology, Thailand)
PS-D2-17 (ref 567)	On the potential of multi-temporal MODIS analysis for near real time. Mariapia Faruolo, Irina Coviello, Teodosio Lacava, Nicola Pergola, Valerio Tramutoli (CNR, University of Basilicata, Italy)
PS-D2-18 (ref 714)	Assessment of a robust satellite technique for forest fire detection and monitoring by using a total validation approach. Giuseppe Mazzeo, Giuseppe Baldassarre, Rosita Corrado, Carolina Filizzola, Nicola Genzano, Francesco Marchese, Rossana Paciello, Nicola Pergola, Valerio Tramutoli (CNR, University of Basilicata, Italy)
PS-D2-19 (ref 718)	GMES services supporting EU peace-keeping missions. Olaf Kranz, Denis Bruckert, Dr. Stefan Lang, Dirk Tiede, Carlos Uribe, Stephen Clandillon (DLR, Germany)
PS-D2-20 (ref 797)	Adaptable region growing tool for fast mapping of natural disasters. Jan Kucera (EC - Joint Research Centre, Italy)
PS-D2-21 (ref 450)	Disaster monitoring by satellites in Asia. Yukio Haruyama (Remote Sensing Technology Centre of Japan, Japan)
PS-D2-22 (ref 161)	Prompt estimation of the forest fires potential dangerousness from geostationary satellite data by using the SFIDE system. Giovanni Laneve, Enrico Giuseppe Cadau (CRPSM - Sapienza Universite di Roma, Italy)
PS-D2-23 (ref 668)	Development of an integrated methodology for early fire alarm and real time monitoring. Giovanni Perona, Lorenzo Corgnati (Politecnico di Torino, Italy), Luigi Cortelli, Stefano Falzini, Franco Palutan, Agostino Fiorani (Spacematix Europa, Italy), Andrea Losso (Politecnico di Torino, Italy)
PS-D2-24 (ref 687)	Flood and earthquake damage analysis for paddy rice fields using ALOS/PALSAR and its result information sharing system on the Internet. Yasuharu Yamada (National Agriculture and Food Research Organization, Japan)
PS-D2-25 (ref 855)	A seamless high precision Digital Elevation Model of Europe from airborne IFSAR. Hugh MacKay (Intermap Technologies, Germany)

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10:30 – 17:30	
Poster Session D3	**8 Water: Precious but degraded resource**
PS-D3-1 (ref 764)	Water resources management in the Gambia Jallow Haruna (Gambia)
PS-D3-2 (ref 150)	Water for the World, IEEE ICEO Action for Water Resources John Grimson Lyon (IEEE, USA)

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10:30 – 17:30	
Poster Session D3	**8 Water: Precious but degraded resource**
PS-D3-3 (ref 476)	Water Consumption Estimation in Haihe River Basin Yan Na Na, Wu Bing Fang, Xiong Jun, Li Fa Peng (Institute of Remote Sensing Applications, Chinese Academy of Sciences , China)
PS-D3-4 (ref 500)	Detection of anomalies in vegetation development over the Qinghai – Tibetan Plateau and its surrounding region by time series analysis of multi-spectral radiometric data Li Jia and Jing Li (Alterra, Wageningen University and Research Centre, Netherlands) Massimo Menenti (Delft University of Technology, Netherlands)
PS-D3-5 (ref 588)	Object-based Analysis of Remote Sensing Data for Integrated Water and Landscape Management Markus Reinhold and Evelin Matejka (Friedrich Schiller University of Jena, Germany)
PS-D3-6 (ref 777)	Automated Change Detection of Wetlands John Grimson Lyon (IEEE, USA) and Ross S Lunetta (USEPA, USA)
PS-D3-7 (ref 266)	Quantification of the vegetation temperature condition index for operational drought monitoring Pengxin Wang and Wei Sun (China Agricultural University, China)
PS-D3-8 (ref 205)	Modeling surface energy fluxes in cotton production systems of Uzbekistan using SEBAL based on multi-temporal MODIS data Christopher Conrad (University of Wuerzburg), Ulrike Falk (Center for Development Research, Bonn, Germany), Jan Hendrickx (Dept of Earth & Environmental Science, New Mexico Tech) and Stefan Dech (German Remote Sensing Data Center (DFD), German Aerospace Center (DLR), Germany)
PS-D3-9 (ref 424)	The Irrigation Advisory Program of Campania Region: from research to operational support for the Water Directive in Agriculture Francesco Vuolo, Luigi Marotta (Ariespace s.r.l., Spin-off University of Naples Federico II, Italy), Guido D'Urso, Katja Richter (DIAAT, Facoltà di Agraria, Università degli studi di Napoli "Federico II", Italy)
PS-D3-10 (ref 624)	Comparative analysis between actual and potential evapotranspiration in a Sicilian semi-arid catchment Carmelo Cammalleri, Giuseppe Ciraolo, La Loggia Goffredo, Antonino Maltese (Department of Hydraulic Engineering and Environmental Applications, University of Palermo, Italy)
PS-D3-11 (ref 211)	Field scale spatial and temporal characteristics of soil moisture in an arid region of Northwest China Wang Chunmei (IRSA, China)
PS-D3-12 (ref 38)	The effect of the wind stress on the thermal stratification of a hydroelectric reservoir Jose L. Stech, Arcilan T. Assireu, Enner H. Alcantara, João A. Lorenzzetti (National Institute for Space Research, Brazil)
PS-D3-13 (ref 41)	Temporal Landsat TM series analysis to evaluate desertification process and its causes and effects, Piauí- state, northeast of Brazil Carolina Monteiro de Carvalho (Geoambiente Sensoriamento Remoto, Brazil), Raimundo Almeida-Filho (Instituto Nacional de Pesquisas Espaciais – INPE, Brazil)
PS-D3-14 (ref 44)	Vulnerability- and Degradation Analysis of semiarid Island ecosystem in the marginal tropics on the example of Fogo (Cape Verde Islands) - a study based on Remote Sensing and GIS Claas Olehowski, Alexander Siegmund (University of Education, Heidelberg, Germany)

Thursday 7 May 2009	
10:30 – 17:30	
Poster Session D3	**8 Water: Precious but degraded resource**
PS-D3-15 (ref 183)	Important topics critical to remote sensing in arid regions Alavipanah Seyed Kazem, Mohammed Hamzeh (University of Tehran, Iran)
PS-D3-16 (ref 249)	Dynamics of landscapes and desertization in Algeria. Cases of the region of Nâama. Idriss Haddouche (University Abou-Bekr-Belkaid, Algeria), Slim Saidi, Bernard Toutain (CIRAD, France), Khaladi Mederbal (University Center of Mascara, Algeria)
PS-D3-17 (ref 263)	Monitoring of changes in debris cover extent on the debris covered Miage glacier, Italian Alps 1975-2006 using optical and thermal satellite imagery Lesley Foster, Mark Cutler, Ben Brock (University of Dundee, UK)
PS-D3-18 (ref 303)	Production of CEOP satellite dataset by JAXA Kazuo Umezawa (JAXA, Japan)
PS-D3-19 (ref 356)	Mapping extent and spatial evolution of the land degradation in the region of Gilbués, Northeastern Brazil Raimundo Almeida-Filho (National Institute for Space Research-INPE, Brazil)
PS-D3-20 (ref 358)	Satellite remote sensing supports the implementation of management plans in Lake Trasimeno basin Mariano Bresciani, Claudia Giardino, Paolo Villa (CNR-IREA, Italy), Angiolo Martinelli (ARPA Umbria, Italy)
PS-D3-21 (ref 359)	Calibration and validation of MERIS imagery of Lake Maggiore Claudia Giardino, Mariano Bresciani, Alessandro Oggioni (CNR-IREA, Italy), Vittorio Ernesto Brando, Arnold Dekker (CSIRO Land and Water, Australia),
PS-D3-22 (ref)	An introduction on Cold region hydrology experiment of WATER in Heihe Basin China Jian Wang (China)
PS-D3-23 (ref 529)	DubaiSat-1 mission and its potential to advance research on semi-arid and arid environments. Hosni Ghedira (American University in Dubai, UAE), Adnan Mohamed Al Rais, Ali Rashid Al Suwaidi (Emirates Institution for Advanced Science and Technology, UAE)
PS-D3-24 (ref 574)	Soil moisture estimation through the AMSU-based soil wetness variation index (SWVI) for hydrological applications. Luca Brocca, Giovanni Calice, Teodosio Lacava, Florisa Melone, Tommaso Moramarco, Nicola Pergola (National Research Council, Italy), Valerio Tramutoli (University of Basilicata, Italy)
PS-D3-25 (ref 616)	Physical characterisation of river corridors from archived orthophotos: Challenging issues and first application to the Drôme River course (France) Elise Wiederkehr (University of Lyon, France), Simon Dufour (CEREGE, France), Hervé Piégay (University of Lyon, France)
PS-D3-26 (ref 631)	Quantification of Lake Change in Western and Northern Siberia using Landsat Data and Climatic Time Series Analysis Thomas Steudel, Sören Hese, Christiane Schmullius (Friedrich-Schiller-University, Germany)
PS-D3-27 (ref 639)	Integrated water policy in Flanders: how can remote sensing contribute? Sindy Sterckx, Els Knaeps, Luc Bertels, Dries Raymeekers (VITO, Belgium)
PS-D3-28 (ref 727)	Airborne thermal data for detecting karst water in the Kotor Bay (Montenegro) Rosa Maria Cavalli, Lorenzo Fusilli, Angelo Palombo, Stefano Pignatti (CNR-IIA-LARA, Italy), Zoran Kljajić, Vesna Macic (Institute of Marine Biology in Kotor, Montenegro),

Thursday 7 May 2009 (09:30-16:30)

Hotel La Palma – Stresa

Side Event: GMES Global Land Workshop

Day 5

Friday 8 May 2009	
09:00 – 10:30	
Technical Session 57	**8.5 Water Quality**
Co-chair:	*Steven R. Greb, Wisconsin Department Natural Resources, USA*
Co-chair:	*Felipe de Lucia Lobo, National Institute for Space Research (INPE), Brazil*
Monitoring of fresh water quality in lakes and large rivers is important as they are major resources for local water users. Measurement of water quality is critical to establish standards, to assess possible degradation by industrial waste and linkage with human and ecosystem health. Large in situ monitoring programmes have been maintained for several decades but are currently decreasing for budgetary constraints. Remote sensing provides a powerful support to these traditional monitoring techniques and can provide large spatial coverage for a limited number of quality parameters. The session presents a number of practical applications making use of space and in situ observations and advanced semi-analytical modeling techniques.	
TS-57-1 (ref 180)	Processing of multiple sensor images of aquatic systems Thomas Heege and Viacheslav Kiselev (EOMAP GmbH & Co.KG, Germany), Steffen Gebhard and Juliane Huth (DLR, Germany), Trinh Thi Long and Vo Khac Tri (Southern Institute for Water Resources, Vietnam)
TS-57-2 (ref 328)	Water Clarity Monitoring of Lakes in Wisconsin, USA using Landsat Steven R. Greb and Albert A. Martin (Wisconsin Dept Natural Resources, USA) and Jonathan W. Chipman (Dartmouth College, USA)
TS-57-3 (ref 357)	Application of semi-analytical modelling to imaging spectrometry of productive turbid lake waters Claudia Giardino and Mariano Bresciani (CNR-IREA), Daniele Longhi and Marco Bartoli, (University of Parma, Italy)
TS-57-4 (ref 524)	Cyanobacteria mapping using Hyperion EO-1 data in Patos Lagoon, Brazil Felipe de Lucia Lobo (INPE - National Institute for Space Research, Brazil)
TS-57-5 (ref 732)	Remote sensing of the water properties of the Amazon floodplain lakes: effects of the time delay between in-situ and satellite data acquisition on model calibration Claudio Clemente Faria Barbosa and Evlyn Marcia Leao de Moraes Novo (INPE-National Institute for space research- Earth observation department, Brazil), Jean-Michel Martinez (IDR - French Institute for the Development, France)

Friday 8 May 2009	
09:00-10:30	
Technical Session 58	**11.2 Societal Benefits of Earth Observation: Applications**
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.	
TS-58-1 (ref 735)	Uncertainties in global land cover data and its implications for climate change mitigation policies assessment. Steffen Fritz, Petr Havlik (International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria), Uwe Schneider (Research Unit Sustainability and Global Change, University of Hamburg, Germany), Erwin Schmid (Institute of Sustainable Economic Development, BOKU University, Vienna, Austria)
TS-58-2 (ref 126)	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
TS-58-3 (ref 225)	GIS Based Shoreline Change Detection along the Cameroon Coast Buh Wung Gaston (Laboratory of Geotechnology, Environmental Assessment And Disaster Risk Reduction, Cameroon), Ajayi O. (Department of Geology, Obafemi Awolowo University, Ile-Ife, Nigeriea)
TS-58-4 (ref 274)	Complex approaches for the study of landslide areas in mountainous pilot areas of Uzbekistan using remote sensing data and GIS techniques. Pulat Mavlyanov (?,Uzbekistan)
TS-58-5 (ref 91)	Supporting Civil Security with Earth Observation in GMES/Kopernikus. Gunter Schreier, Peter Reinartz (DLR, Germany)
TS-58-6 (ref 394)	Global validation of EOS land products, lessons learned and future challenges: A MODIS case study. Joanne Michelle Nightingale, Jaime Nickeson, Robert Wolfe , Ed Masuoka (Innovim / NASA GSFC / WGCV LPV, USA), Chris Justice (University of Maryland, USA), Frederic Baret (INRA / WGCV LPV, France), Sebastien Garrigues (CNES / WGCV LPV, France)

Friday 8 May 2009	
09:00 – 10:30	
Technical Session 59	**3.10 New techniques for ecosystem assessment**
Co-chair:	*Tuomas Häme, VTT, Finland*
Co-chair:	*Martin Herold, University of Jena, Germany*
This session examines new approaches and techniques of earth observation imagery for ecosystem monitoring from sub-national to local scale.	
TS-59-1 (ref475)	Detection of pioneer vegetation in post mining areas by means of hyper spectral field measurements András Jung, Christian Goetze, Cornelia Glaesser (Martin Luther University, Germany)
TS-59-2 (ref 511)	Semantic network applied to IKONOS images for the identification of Araucaria angustifolia (Brazilian pine) crowns in a mixed ombrophilous forest. Attilio Antonio Disperati, Gerson dos Santos Lisboa (UNICENTRO, Brazil), João Roberto dos Santos, Emerson Servello (INPE, Brazil), Flávio Fortes Camargo Juliana Disperati (DeAgostini, Italy),
TS-59-3 (ref 751)	A three step process for large scale mapping of vegetation with high-medium resolution optical satellites. Leif Kastdalen (Hedmark University College, Norway), Einar Lieng (Geodatasenteret AS,

	Norway)
TS-59-4 (ref 374)	Forest monitoring using an inverted geometric-optical model and up-scaling. Yuan Zeng, Bingfang Wu (Chinese Acadamy of Sciences, China), Michael Schaepman, Jan Clevers (Wageningen University, The Netherlands),
TS-59-5 (ref 296)	Modelling tree species distribution for different types of forests by fusion of medium point density LiDAR data with ADS40 images. Lars Torsten Waser, Christian Ginzler (WSL, Switzerland), Emmanuel Baltsavias (ETH-Zurich, Switzerland)
TS-59-6 (ref 885)	Analysis of ecosystem in costal areas using Hyperspectral MIVIS and MERIS data Agata Lo Tauro (Minister of Public Instruction, Italy)

Friday 8 May 2009	
09:00 – 10:30	
Technical Session 60	**13.6 UNESCO World Heritage**
Co-chair:	*Mario Hernandez, UNESCO, France*
Co-chair:	*Arlene Kerber, NASA Goddard Space Center*
This session focuses on the exploitation of Space Technologies for education and research, especially within the context of UNESCO's World Heritage sites.	
TS-60-1 (ref 843)	Space Technologies as an educational tool to create awareness for conservation and sustainable development Francesco Sarti (European Space Agency), Jean-Charles Bigot (ESA)
TS-60-2 (ref 245)	The French Space Agency (CNES) supporting World Heritage sites with space technologies Aurélie Sand (CNES, France), Frédéric Huynh (IRD), Mario Hernandez (UNESCO, France)
TS-60-3 (ref 246)	The German Aerospace Center (DLR) supporting World Heritage sites with space technologies Gunter Schreier, Achim Roth, Annette Froelich (DLR, Germany) Mario Hernandez (UNESCO, France)
TS-60-4 (ref 247)	Spot Image supporting the decision making process for addressing climate change issues Louis-Francois Guerre (SpotImage, France) and Mario Hernandez (UNESCO, France)
TS-60-5 (ref 354)	Deforestation analysis around protected areas: a case study for the UNESCO World Heritage Site 'Tikal National Park', Guatemala Anica Huck, Martin Herold, Jacqueline Sambale, Christiane Schmullius (Friedrich-Schiller- University Jena, Germany), Mario Hernandez (UNESCO)

Friday 8 May 2009	
09:00-10:30	
Technical Session 61	**12.5 Airborne Science Programs**
Co-chair:	*Guo Hudong, CDE, China*
Co-chair:	*Andrew Roberts, NASA, USA*

This session describes national airborne programs from around the world.	
TS-61-1 (ref 162)	Technology advancements enhance aircraft support of experiment campaigns. Jacques J. Vachon (NASA - Dryden Flight Research Center, USA)
TS-61-2	HALO (advanced G 550). Volkert Harbers (DLR, Germany)
TS-61-3	China's airborne facilities. Guo Hudong (Center for Digital Earth and Remote Sensing, China)
TS-61-4 (ref 503)	Near remote sensing for tactical Earth protection. Esther Salamí, Enric Pastor, Cristina Barrado (Universitat Politecnica de Catalunya - UPC, Spain)
TS-61-5 (ref 896)	Airborne research flight facilities at the National Research Council of Canada. Dave Marcotte (NRC, Canada)
TS-61-6 (ref 806)	The Department of Energy Airborne Facility and Programs Office Overview with an Emphasis on the G-1 Aircraft Jason Tomlinson, John Hubbe, Beat Schmid, Connor Flynn (Pacific Northwest National Laboratory, USA), John Ogren, Elisabeth Andrews (NOAA, USA), Richard Ferrare, Chris Hostetler (NASA, USA)

Friday 8 May 2009	
09:00-10:30	
Technical Session 62	**1.3 Climate Change / Atmosphere: Remote sensing of droughts, aerosols, pollutants and black carbon**
Co-chair:	*Michel Verstraete, EC Joint Research Centre, Italy*
Co-chair:	
Our understanding of climate change requires an accurate understanding of the role of aerosols, pollutants and carbon black. This session presents new and innovative remote sensing techniques for obtaining the critical data to input into global change models.	
TS-62-1 (ref 338)	Drought forecasting with standardized precipitation index using ECMWF monthly precipitation forecasts. Blaz Kurnik (EC Joint Research Centre, Italy)
TS-62-2 (ref 57)	Satellite observations of mineral dust interactions with West-African monsoon clouds. Lars Klüser, Thomas Holzer-Popp (DLR, Germany)
TS-62-3 (ref 701)	Current and projected sensitivity of tropical forests to fires under increasing deforestation pressure. Yannick Le Page, Miguel Cardoso Pereira (Instituto Superior de Agronomia, Portugal), Guido van der Werf (Vrije Universiteit Amsterdam, Netherlands), Douglas Morton (University of Maryland, USA), José
TS-62-4 (ref 813)	Remote sensing of black carbon in the Arctic. Rune Solberg (Norwegian Computing Center, Norway), Carl Egede Bøggild, Andy Hodson, Hans Koren, Siri Øyen Larsen

Friday 8 May 2009	
11:00 – 12:30	
Plenary Session 6	**Addressing the Societal Benefits from Space** **Summary and Closing**
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, Switzerland	
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)	
Announcement of Next ISRSE-34 Symposium	
S-6	Closing Statement Jean-Paul Malingreau, European Commission, Belgium

12:30 Adjourn