

Registration

6:30 am to 5:00 pm
Level Four — Westin Ottawa Hotel

Presenters Room

8:00 am to 5:00 pm
Room: New Brunswick

Exhibit Hall

9:30 am to 5:00 pm
Confederation Ballroom

General Session

8:30 am to 9:30 am
Room: Provinces

Group on Earth Observations (GEO)/Global Earth Observation System of Systems (GEOSS)

GEO Progress and Prospects – Realizing the Goal of a Coordinated, Comprehensive, and Sustained Earth Observation System of Systems

Helen M. Wood, U.S. Group on Earth Observations Co-Chair and GEOSS Integration Manager & Senior Advisor, *National Oceanic and Atmospheric Administration, USA*

Earth observation technologies can be used to improve the quality of life in communities at all levels – towns, states, regions and countries. The need for improved Earth observations is an international priority. Wood will describe the current state of GEOSS and the upcoming GEO Ministerial Meeting, where participants will discuss the sharing and applied usage of global, regional and local data from satellites, ocean buoys, weather stations and other surface and airborne Earth observing instruments. She will also describe the efforts of the U.S. Group on Earth Observations (USGEO) to develop the Integrated Earth Observation System (IEOS). Near-term opportunities for U.S. investment have been identified in the areas of drought, early warnings for disaster reduction, air quality, ocean observations and land observations. As progress is made in GEOSS implementation, there will be implications and opportunities for space and ground operations supporting Earth observing systems in both the public and private sectors.



Helen M. Wood

Helen M. Wood is Global Earth Observation System of Systems (GEOSS) Integration Manager for the U.S. National Oceanic and Atmospheric Administration (NOAA). She co-chairs and represents NOAA on the U.S. Subcommittee on Global Earth Observation (USGEO) under the U.S. National Science and Technology Council (NSTC), and is charged with providing strong leadership in the area of integrated Earth observations to support high priority societal benefits. Wood was Secretariat Director for the ad hoc intergovernmental Group on Earth Observations (GEO) for two years, where she managed activities leading to the development of the GEOSS 10-year Implementation Plan. Wood is a recognized leader in activities aimed at reducing disaster losses and improving economic vitality through the improved use of science and technology. She holds a BS in Mathematics and an MS in Computer Science.

Canadian GEO Progress and Prospects

David Grimes, *GEO Principal for Canada, Canada*

Canada's vast oceans, inland waters, land surfaces, and atmosphere require a wide array of measurements and surveillance in order to monitor and understand their current condition, and to predict their future states. The Canadian Group on Earth Observations (CGEO) was established to provide the federal governance framework for the coordination of Canada's Earth observation initiatives. Grimes will describe the coordinating role of CGEO, principal activities and initiatives, and recent accomplishments from both a domestic and international perspective. The CGEO initiative to develop a Federal Earth Observation Strategy will be highlighted as an integrating process to realize the vision of a healthy, safe and prosperous Canada through sustained and coordinated Earth observation. Grimes will also discuss Canada's role and expected outcomes for the international GEO Ministerial Summit in Cape Town, South Africa on November 30th, 2007.



David Grimes

David Grimes is the Assistant Deputy Minister, Meteorological Service of Canada, Environment Canada, and is the Group on Earth Observations (GEO) Principal for Canada. He has over 30 years of scientific, research and management experience in Environment Canada. He has held a significant number of challenging positions and assignments over the years ranging from operations to science to policy and has been a Director General in MSC for 15 years for a number of posts – Canadian Climate Center, Policy, Services, Predictions and Partnerships. Grimes has extensive educational experience in the domains of science and management (MBA level), a BSC – Physics, Mathematics and Meteorology, and is a Certified Professional Meteorologist.

Poster Session

9:30 am to 5:00 pm
Confederation Ballroom

Beverage Break in Exhibit Hall

9:30 am to 10:00 am
Confederation Ballroom

Technical Sessions

10:00 am to 11:30 am

Session 11

Overview and Status of GEO/GEOSS

Moderator: David Grimes, *GEO Principal for Canada, Canada*
Room: Quebec

The Road to the 2007 GEO Earth Observation Summit IV and Ministerial Summit — Progress in Building GEOSS

Douglas Muchoney, *Group on Earth Observations Secretariat, USA*

GEOSS Architecture — Building the Framework for GEOSS

Ivan DeLoatch, *U.S. Geological Survey, USA*
Douglas Nebert

Understanding User Needs for Earth Observation Information — The Role of the GEO User Community

Stuart Salter, *Canada Centre for Remote Sensing, Natural Resources Canada, Canada*

Development Solutions for GEOSS and IOOS Implementation

Carroll Hood, *Raytheon IIS, USA*

Session 12

Homeland Security & Public Safety III — Operations and Evaluation

Moderator: Todd Macuda, *Institute for Aerospace Research, National Research Council, Canada*

Room: Ontario

Detection and Recognition: Using Sensors in Border Enforcement Operations

Chris McBryan, *Royal Canadian Mounted Police, Integrated Border Enforcement Teams, Canada*

The Role of Sensors and Support Technologies in Airborne Law Enforcement Operations

Scott Healey, *Royal Canadian Mounted Police, Canada*

US National Grid Standard and the Military Grid Reference System, Coordinating US and Canadian Practitioners

Tom Terry, *US Marine Corps, USA*

The Importance of Flight Test and Evaluation in the Development of Airborne Technologies for Border Enforcement

Greg Craig, *National Research Council, Canada*

Robert Allison

Session 13

Trans-Border Cooperation — Spatial Data Infrastructure Collaboration

Moderator: Douglas Nebert, *Federal Geographic Data Committee, USA*

Room: British Columbia

Organized by Alan R. Stevens, *Global Spatial Data Infrastructure Secretariat, USA*

FGDC/Geoconnections Promoting Cross Border Collaboration

Milo Robinson, *Federal Geographic Data Committee, USA*

Federal Geographic Data Committee, Global Spatial Data Infrastructure Association Promoting International Collaboration

Alan R. Stevens, *Global Spatial Data Infrastructure Secretariat, USA*

Sharing Location-based Information in the Public Safety and Security Community Using the CGDI

Ken Marshall, *Natural Resources Canada, Canada*

Philip Dawe

Session 14

Technology — Laser Scanning

Moderator: Brad Ysseldyk, *Optech Incorporated, Canada*

Room: Alberta

Methods of Angular Displacement Transformation of a Laser Beam in Circular Scanning

Polkanov Jury Alekseevich, *Belarus*

Sounding of the Environment using a Low Power Continuous Source

Polkanov Jury Alekseevich, *Belarus*

Crucial Factors in Surveying with 3D Laser Scanners

Ehab Mina, *Survey Research Institute, Egypt*

Mobile Scanning

Brad Ysseldyk, *Optech Incorporated, Canada*

Session 15

Wetlands

Moderators: Robert Helie, *Environment Canada*

Brian Huberty, *U.S. Fish and Wildlife Service, USA*

Room: Les Saisons

A Cross-border Mapping Program to Support Regional and Continental Wetland and Waterfowl Conservation Planning in the Boreal Forest: An Example Project from the Northwest Territories

Chad Delany, *Ducks Unlimited, Inc., USA*

Dan Fehringer, Frederic Reid, Aaron Smith, Kevin Smith, Ruth Spell, Al Richard, and Eric Butterworth

Mapping and Restoration of Wetland Communities within the Missouri River Floodplain

Clayton Blodgett, *Missouri Resource Assessment Partnership, USA*

Ronald Lea

Monitoring Wetland Area along the St. Lawrence River: Current State and Recent Evolution

Guy Letourneau, *Environment Canada, Canada*

Martin Jean

SOLRIS: Case Study of an Adaptive Approach to Wetland Mapping in Southern Ontario

Adam Hogg, *Ontario Ministry of Natural Resources, Canada*

Joel Mostoway

ASPRS Business Meetings

Sustaining Members Council

10:30 am to 11:30 am

Room: Manitoba

Student Advisory Council

11:30 am to 12:30 pm

Room: Manitoba

Technical Sessions

12:30 pm to 1:45 pm

Session 16

Examples of Successful GEO/GEOSS Accomplishments

Moderator: Bruce K. Quirk, *U.S. Geological Survey, USA*

Room: Quebec

GEONETCast — An Operational Service Delivering Data and Products Based on the use of Communication Satellites

Richard Fulton, *National Oceanic and Atmospheric Administration, USA*

GEOSS Pilot: Web Portal, Clearinghouse, Services

George Percivall, *Open GIS Consortium, USA*

GEOSS in the Americas: A Framework for Collaboration

Mike Manore, *Canadian GEO Secretariat, Canada*

Landsat Data Continuity Mission

Bruce K. Quirk, *U.S. Geological Survey, USA*

CRSS Planned Symposia

International Circumpolar Remote Sensing Conference

Whitehorse, Yukon
June 2-5, 2008

International SPOT Image Users Group Conference

Lethbridge, Alberta
July 14-17, 2009

Canadian Association of Geographers Annual Meeting

Regina, Saskatchewan
Late May 2010

Association Québécoise de Télédétection (AQT) Congress

Sherbrooke, Québec
2011

Session 17

Homeland Security & Public Safety IV — Technology

Moderator: Ed Freeborn, *L-3 Communications, GSI, USA*

Room: Ontario

Fusing Mobile Land, Sea and Air Lidar Information

Paul Mrstik, *Terrapoint, USA*

High Precision Cross-border 3-D Mapping

Hugh MacKay, *Intermap Technologies Corporation, USA*

Employing Automatic Target Recognition (ATR) to Validate Space-Based-Radar (SBR) Signatures of Maritime Targets Paired with Automatic Identification System (AIS) Data

Ryan A. English, *Defence R&D Canada, Canada*

Paris W. Vachon and John Wolfe

The National Center for GEOINT Standards Geospatial Working Group's Work on Developing a Common Sensor Model

Mark Demulder, *National Center for GEOINT Standards, National Geospatial-Intelligence Agency, USA*

Session 18

Trans-border Cooperation on North American Metadata Profile

Moderator: Alan R. Stevens, *Global Spatial Data Infrastructure Secretariat, USA*

Room: British Columbia

Organized by Alan R. Stevens, Global Spatial Data Infrastructure Secretariat, USA

FGDC and North American Metadata Profile Implementation Activities

Douglas Nebert, *Federal Geographic Data Committee, USA*

North American Profile Metadata: Content, Structure, and Register

Raphael Sussman, *Land Information Ontario, Canada*

David Danko and Jean Brodeur

Harmonizing Canadian/USA Spatial Data via the North American Profile — Spatial Metadata

Harold Moellering, *The Ohio State University, USA*

Raphael Sussmann, Mohamed Habbane, Jean Brodeur, David Danko, and Sharon Shin

Session 19

Ecology

Moderators: Brian Brisco, *Canada Centre for Remote Sensing, Natural Resources Canada, Canada*

Norman Bliss, *U.S. Geological Survey, USA*

Room: Alberta

Invasive Species Spread Modeling using Multi-resolution Remote Sensing Data

Le Wang, *University at Buffalo, The State University of New York, USA*

Jose Sylvan

Mapping the Near-surface Temperature, Freezing and Thawing Indices of Continuous Permafrost Area with Moderate Resolution Imaging Spectroradiometer (MODIS)

Sonia Hachem, *Laval University, Canada*

Michel Allard and Claude Duguay

Modelling Ecosystem Performance in the Yukon River Basin — A Borderless Approach

Norman B. Bliss, *SAIC — U.S. Geological Survey, USA*

B. Brisco, B. Wylie, J. Murnaghan, J. Rover, L. Short, L. Tieszen, and L. Zhang

A Remote Sensing Based Park Ecological Integrity Observing System (Park-EIOS)

Robert Fraser, *Canada Centre for Remote Sensing, Natural Resources Canada, Canada*

Ian Olthof, Darren Pouliot, Donald McLennan, Jean Poitevin, Paul Zom, Jeremy Kerr, Shusen Wang, Eric Young, Justin Quirouette, and Mike Sawada

Session 20

Panel Discussion — Trends in Digital Aerial Imaging Technology

Moderator: Gregory Stensaas, *U.S. Geological Survey, USA*

Room: Les Saisons

Sponsored by the ASPRS Primary Data Acquisition Division (PDAD). Organized by Greg Stensaas, U.S. Geological Survey, USA

Aerial Imaging is in a period of rapid growth and change with new technologies, new customers, and new missions. This session will report on the status of quality assurance and standardization efforts within the US and Canada, current and future trends in aerial data acquisition and application, and the calibration of sensors available in today's market.

Panelists:

George Lee, *U.S. Geological Survey, USA*

Paul Quackenbush, *British Columbia Base Mapping and Geomatic Services, Canada*

Eric Liberty, *Applanix Corporation, Canada*

Ayman Habib, *University of Calgary, Canada*

Technical Sessions

2:00 pm to 3:15 pm

Session 21

North American Earth Observation Activities

Moderator: Mike Manore, *Canadian GEO Secretariat, Canada*

Room: Quebec

GEO and North American Activities of the United Nations Environment Programme (UNEP)

Ashbindu Singh, *UNEP Division of Early Warning and Assessment — North America, USA*

The North American Environmental Atlas

Peter Paul, *Partnerships, Natural Resources Canada, Canada*

The North American Land Change Monitoring System

Collin Homer, *U.S. Geological Survey, USA*

The North American Drought Monitor and the Path to a Global Drought Early Warning System

Jay Lawrimore, *National Oceanic and Atmospheric Administration, USA*

Session 22

Data Development – 1

Moderator: Mohamed Mostafa, *Applanix Corporation, Canada*

Room: Ontario

SmartBase™ — An Efficient New Tool for Aircraft Positioning using Continuously Operated Reference Stations for Mapping Applications

Mohamed Mostafa, *Applanix Corporation, Canada*

Edith Roy and Xue-Fen Zhang

A Comparison of Drainage Basin Attributes Derived from Three Independent DEM Sources

Chris Hopkinson, *Applied Geomatics Research Group, Canada*

Masaki Hayashi, Karen Miler, and Derek Peddle

Spatial Modeling of Urban Areas — A Transferable Approach Based on Remote Sensing Image Data

Matthias S. Moeller, *Austrian Academy of Science, Austria*

Elisabeth Schoepfer

GPS Orbital Prediction using Artificial Neural Networks

Hamad Yousif, *Ryerson Canada, Canada*

Ahmed El-Rabbany

Session 23 Spatial Data Infrastructure

Moderator: David Goodenough, *Canadian Forestry Service, Natural Resources Canada, Canada*

Room: Alberta

Utah GIS Coordination with Federal, State, and Local Organizations

Cindy Clark, *Utah's Automated Geographic Reference Center, USA*

Canadian Forest Geospatial Data Infrastructure

David G. Goodenough, *Natural Resources Canada, Canada*

Hao Chen, Liping Di, Andrew Dyk, Aimin Guan, and Randall Sobie

Merging Enterprise Data with Public Data in Desktop Applications

Kenyon Waugh, *Valtus Imagery Services, USA*

Canadian and U.S. Cooperation for the Development of Standards and Specifications for Emerging Mapping Technologies

Ayman Habib, *University of Calgary, Canada*

Anna Jarvis, Mohannad Al-Durgham, Paul Quackenbush, and Gregory Stensaas

Session 24 Land Cover Mapping — Forestry

Moderator: Joost van der Sanden, *Canada Centre for Remote Sensing, Natural Resources Canada, Canada*

Room: British Columbia

Monitoring Forest Health Conditions with High-spatial Resolution Remotely Sensed Imagery

Sam Coggins, *University of British Columbia, Canada*

Nicholas Coops and Michael Wulder

Rapid Response to Mapping Wind Throw using Segmentation and High Resolution Data for Forest Inventory Updating

Ian Sinclair, *Ontario Ministry of Natural Resources, Canada*

Ulf Runesson

Monitoring of Insect-induced Aspen Defoliation with MERIS

Joos van der Sanden, *Canada Centre for Remote Sensing, Natural Resources Canada, Canada*

Alice Deschamps, Sylvia Thomas, Robert Landry, and Ron Hall

Satellite Land Cover Mapping of Canada's Forests: Completion of EOSD Land Cover

Michael Wulder, *Canadian Forestry Service, Natural Resources Canada, Canada*

Jeff Dechka, Morgan Cranny, André Beaudoin, Joan Luther, Ron Hall, David Goodenough, and Don Leckie

Session 25 Panel Discussion — Airborne Lidar Mapping Technology

Moderator: Robert Eadie, *Intermap Technologies, Inc., USA*

Room: Les Saisons

Sponsored by the ASPRS Primary Data Acquisition Division (PDAD). Organized by Robert Eadie, *Intermap Technologies, Inc.*

Industry experts will present the latest information on lidar sensor technology and Digital Elevation Model (DEM) data production work flow. State-of-the-art elevation mapping technology will be discussed for a better understanding of the critical factors in digital elevation data acquisition and production for various mapping applications.

Panelists:

Don Carswell, *Optech, Inc., Canada*
Roman Kathofer, *TopoSys GmbH, USA*
Ron Roth, *Leica GeoSystems GIS & Mapping, USA*

Mike Watry, *QCoherent Software, USA*
Stuart Blundell, *Visual Learning Systems, Inc., USA*

Beverage Break in Exhibit Hall

3:15 pm to 4:00 pm
Confederation Ballroom

International Society for Photogrammetry and Remote Sensing
Internationale Gesellschaft für Photogrammetrie und Fernerkundung
Société Internationale de Photogrammétrie et de Télé-détection

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WHAT IS ISPRS?

"ISPRS is an international NGO devoted to the development of international cooperation for the advancement of knowledge, research, development and education in the Photogrammetry, Remote Sensing and Spatial Information Sciences (P&RS&SIS), their integration and applications, to contribute to the well being of humanity and sustainability of the environment."

The ISPRS membership comprises national organizations and professional Societies representing over 100 nations and regions covering all continents.

Principal Activities are:

- 1- Facilitating excellence in R&D and the use of proper and appropriate technologies in P&RS&SIS.
- 2- Initiating and coordinating research through eight Technical Commissions.
- 3- Holding International Symposia and Congresses at regular intervals.
- 4- Ensuring worldwide circulation of news, records of discussion and the results of research by publication of the ISPRS Journal, the International Archives of the Photogrammetry, Remote Sensing, Spatial Information, Sciences, ISPRS Book Series and ISPRS Highlights.
- 5- Stimulating the formation of national or regional Societies and promoting exchanges between them.
- 6- Encouraging publication and exchange of scientific papers and journals dealing with Photogrammetry, Remote Sensing, SIS and Computer Vision.
- 7- Promoting and facilitating education, training and technology transfer.
- 8- The ISPRS Foundation has been founded to raise, administer and grant funds to meet the objectives of the Society to improve its ability and to satisfy its aims and objectives.

for more information visit www.isprs.org

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