

ISPRS Report to WGCV21

Introduction

During 2003 ISPRS has continued its activities in all aspects of photogrammetry, remote sensing and the spatial information sciences. The most relevant of these to WGCV are the ISPRS/CEOS Task Force on Radiometric and Geometric Calibration, the assessment of SPOT HRS data, and issues of standards. ISPRS has also been concerned with restructuring its Commission structure and its relationship with other international organisations.

Joint Task Force of Radiometric and Geometric Calibration

This is the subject of a separate report, but note particularly the International Workshop on Radiometric & Geometric Calibration to be held from 2nd – 5th December in Gulfport, Mississippi.

The HRS Scientific Assessment Program (HRS SAP)

The SPOT HRS Assessment Programme is underway. 9 PIs and test sites have been selected and 15 CoIs to work on the test sites. The test sites are:

TS 1 Montmirail (France)

Location: 4°50' - 5°10' E / 44°00' - 44°15' N
PI: Sylvain Airault, Institut Géographique National, France

TS 2 Merowe (Sudan)

Location: 31°49' E - 18°30'N
PI: Rolph Becker, MAPS (UAE)

TS 3 Liège (Belgium)

Location: 5.57°E - 50.61°N
PI: Dr. Yves CORNET, Assistant Professor, Geomatics Unit, Department of Geography University of Liège

TS 4 Melbourne (Australia)

Location: 144.89°-145.00°E / 37.78°-37.86°S
PI: Prof. Clive Fraser, Department of Geomatics University of Melbourne Victoria 3010 Australia

TS 5 Aix-en-provence (France)

Location: 5°24' - 5°45'E / 43°23' – 43°34'
PI : Professor Ian Dowman Department of Geomatic Engineering, University College London

TS 7 Rasht (Iran)

Location: 49°30'-50°30'E / 37°00'-37°30'N
PI: Farhad Kianifar, Photogrammetry Dept., National Cartographic Center of Iran (NCC)

TS 8 - Barcelona (Spain)

Location: 0°00'-3°30'E / 40°30'-43°00'N
HRS data (2 scenes)

HRG data (same area, same acquisition time)
PI: Dr.-Ing. Wolfgang Kornus, Institut Cartogràfic de Catalunya (ICC)

TS 9 Chiemsee (Germany)

Location: 12°03'-12°45' E / 47°42'-48°30' N
PI: Dr. Peter Reinartz, DLR

TS 10 Manosque (France)

Location:
HRS data: 2 scenes
PI : RUDOWSKI Veronique
IGN Espace

Preliminary results were presented at the Joint ISPRS, EARSeL workshop on High Resolution Mapping from Space held in Hannover, 6 - 8 October 2003.

ISPRS work on transfer standards.

ISPRS WG II/4, whose topic is image data standards, has continued its work as a link between the ISPRS and various standardization committees throughout the remote sensing and photogrammetry community. The most important committee among them is the ISO/TC211 "Geographic information – geomatics". Its working group 6 "Imagery" covers the aspects related to ISPRS. The WG II/4 has also established or keeps regular contacts to ISPRS commission I, to CEOS (Committee on Earth Observation Satellites), to EuroSDR (formerly OEEPE), and to the OpenGISConsortium. WG II/4 will be involved in the ISPRS and CEOS Joint Task Force Group on Radiometric and Geometric Calibration/Standards. Although the international standards for imagery are still under discussion and development, WG II/4 has become an expert group of ISPRS on standardization. Questions on standardization have risen with increasing intensity.

Restructuring of ISPRS Technical Commissions

ISPRS has been carrying out a consultation process to determine whether the current definition of the ISPRS Technical Commissions is appropriate to enable the Society to adequately and effectively cover existing and expected developments in the photogrammetry, remote sensing and spatial information sciences. The proposals for the new Terms of Reference have been approved by postal ballot of the ISPRS members.

The new Technical Commissions given below, with the terms of reference relevant to WGCV attached:

Terms of Reference of Technical Commissions

Commission I: Image Data Acquisition - Sensors and Platforms

- a) Design and realization of digital aerial and spaceborne missions for Earth observation;
- b) Design, construction, characterization, and installation of imaging and non-imaging sensors (including Optical, IR, SAR, IFSAR, LIDAR, etc.)
- c) Standardization of definitions and measurements of sensor parameters;
- d) Integration of imaging and non-imaging sensors with other relevant systems;
- e) Geometric and radiometric properties, quality standards, and factors affecting data quality;

- f) Test, calibration and evaluation of sensors (including laboratory, in-flight, inter-calibration and test fields);
- g) Integrated platform guidance, navigation, positioning and orientation;
- h) Data reception and pre-processing;
- i) On-board preprocessing of data and autonomous systems;
- j) Systems and media for recording sensor data, auxiliary data (time, position, attitude, etc.) and film scanners;
- k) Image and non-image data transfer standards.

Commission II: Theory and Concepts of Spatio-temporal Data Handling and Information

Commission III: Photogrammetric Computer Vision and Image Analysis

- a) Algorithms for geometric analysis of image data regardless of scale;
- b) Geometric analyses of IR, SAR, IFSAR and LIDAR;
- e) DEM generation and integration of three-dimensional modelling concepts into image analysis processes;

Commission IV: Geodatabases and Digital Mapping

- c) Data libraries, data clearinghouses, data warehouses, distributed archives and access to remote data sources, including metadata and digital data standards;
- d) Web based access, retrieval and dissemination of spatial data, including web-based location-based services;

Commission V: Close-Range Sensing – Analysis and Applications

Commission VI: Education and Outreach

Commission VII: Thematic Processing, Modeling and Analyses of Remotely Sensed Data

- a) Relationship between spectral, radiometric and temporal properties of objects, their physical and chemical properties and their variations;
- b) Image classification and analysis methodologies;
- c) Analysis of characteristics of multi-spectral, hyperspectral, multi-sensor, microwave and multi-temporal image data for extraction of attribute information;
- d) Methodologies of computer-assisted interpretation and analysis of remotely sensed data;
- e) Validation of data and information using laboratory and in-situ methodologies;
- f) Improving atmospheric modeling for radiometric correction;
- g) Multi-source data fusion and integration techniques;
- h) Modeling of satellite data derived parameters;
- i) Global databases and determination of indicators of change for global modeling, monitoring and sustainable development;
- j) Integration of remote sensing and GIS techniques;
- k) Aerosol and particulate detection and identification.

Commission VIII: Remote Sensing Applications and Policies

Database of sensor and platform information

At the last ISPRS Congress a resolution was passed which recommended that an electronic, searchable, database of sensor and platform information, both retrospective, current and planned, be established. The first step to meet this resolution has been taken and a proposal of how to do this, will be prepared for the Congress in Istanbul in July 2004. Any input from WGCV to this study will be welcome.

Other activities

The WGCV sub group on Terrain Mapping met prior to the meeting on DEMs from Lidar and IfSAR data in Portland, Or, USA.

Future Meetings

2nd – 5th December 2003, International Workshop on Radiometric & Geometric Calibration in Gulfport, Mississippi. <http://www.edudevweb.com/isprs/>.

12-23 July 2004, XXth ISPRS Congress -- Geo-Imagery Bridging Continents, Istanbul, Turkey
www.isprs2004-istanbul.com

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