International Society for Photogrammetry and Remote Sensing
Société Internationale de Photogrammétrie et de Télédétection
Internationale Gésellschaft für Photogrammetrie und Fernerkundung

XVIIIth Congress XVIII° Congrès XVIII. Kongress

ISSN 0256-1840



INTERNATIONAL ARCHIVES OF PHOTOGRAMMETRY AND REMOTE SENSING ARCHIVES INTERNATIONALES DE PHOTOGRAMMETRIE ET DE TELEDETECTION INTERNATIONALES ARCHIV FÜR PHOTOGRAMMETRIE UND FERNERKUNDUNG

PART TOME TEIL B6

COMMISSION COMMISSION KOMMISSION

NATIONAL REPORTS
RAPPORTS NATIONAUX
LANDESBERICHTE

SPECIAL SESSIONS SESSIONS SPECIALES SPEZIELLE SITZUNGEN

S



Edited by: Karl Kraus, Congress Director Peter Waldhäusl, Technical Program Director

Published by the Committee of the XVIII International Congress for Photogrammetry and Remote Sensing Publié par le Comité de XVIII Congrès Internationale de Photogrammétrie et de Télédétection Herausgegeben vom Komitee für den XVIII. Internationalen Kongress für Photogrammetrie und Fernerkundung

ISSN 0256-1840



INTERNATIONAL ARCHIVES OF PHOTOGRAMMETRY AND REMOTE SENSING
ARCHIVES INTERNATIONALES DE PHOTOGRAMMETRIE ET DE TELEDETECTION
INTERNATIONALES ARCHIV FÜR PHOTOGRAMMETRIE UND FERNERKUNDUNG



PART TOME B6





Edited by: Karl Kraus. Congress Director Peter Waldhäusl, Technical Program Director

Published by the Committee of the XVIII International Congress for Photogrammetry and Remote Sensing

Publié par le Comité de XVIII^e Congrès Internationale de Photogrammétrie et de Télédétection

Herausgegeben vom Komitee für den XVIII. Internationalen Kongress für Photogrammetrie und Fernerkundung

ISPRS Council 1992 - 1996

President Shunji Murai Japan Secretary General Lawrence W. Fritz **USA** Congress Director Karl Kraus Austria Treasurer John Trinder Australia First Vice President Kennert Torlegard Sweden Second Vice President Armin Grün Switzerland

International Archives of Photogrammetry and Remote Sensing (IAPRS)

Founded bei Eduard Doležal (Austria) in 1913.

Volume XXXI, Part B6

Invited and Presented Papers of the XVIIIth Congress, Vienna, Austria, July 9 to 19, 1996.

Technical Commission VI Economics, Professional Matters and Education

President Deren Li China Secretary Jianya Gong China

In cooperation with Working Group Chairpersons responsible for the reviewing of extended Abstracts and acceptance of contributions. Authors delivered camera ready manuscripts and selected the keywords.

Editorial Team

Chief Editor	Peter Waldhäusl	Austria
EDP-Software	Heinrich Vesely	Austria
EDP-Processing	Hans Thüminger	Austria
Technical-Assistance	Ulrike Pachowsky	Austria
	Josef Tschannerl	Austria
	Eva Berkes	Austria

Copyright 1996

by Austrian Society of Surveying and Geoinformation (ASG) on behalf of ISPRS, and by each author for his part. Responsible for the content according to Austrian Press Law / Für den Inhalt presserechtlich verantwortlich:

Prof. Dr. P. Waldhäusl
Technische Universität Wien
Institut für Photogrammetrie und Fernerkundung
Gußhausstraße 27 - 29 / 122
A-1040 Wien

Printing: Druckerei Berger, Horn

For Sale after the Congress

Copies of individual parts and complete series may be obtained from:

RICS Books
Surveyor Court
Westwood Way
Coventry CV4 8KE U.K.
Fax: +44 71 334 3800

Economics, Professional Matters and Education

Foreword

The possession and level of qualified professional personnel is of vital importance to the development of disciplines of a high technology nature, such as our discipline: Photogrammetry, Remote Sensing and GIS. Therefore, Technical Commission VI of our society is legitimately a commission of special significance.

However, it is also a commission of considerable difficulty in terms of organization of activities and management. This is because education requires professional insight and substantial investment, and there exhibits a great difference with respect to economics and professional matters in different countries.

It is in this context that our commission, during the 1992 - 1996 period, has covered the following topic areas:

- 1. Collection, analysis and comparison of educational and training programs and changes in photogrammetry, remote sensing and GIS/LIS.
- 2. Investigation of cost and efficiency models in photogrammetric and remote sensing operations.
- 3. Investigation of operational management aspects for remote sensing and GIS technology.
- 4. Collection and synthesis of reports on national and regional activities.
- 5. Promotion and dissemination of information.
- 6. Promotion of computer assisted teaching.
- 7. Identification of the proper channels for international technical cooperation.
- 8. Completion of the history of Photogrammetry.
- 9. Promotion of the inclusion of other languages in the ISPRS Multilingual Dictionary.
- 10. Development of recommendations for standards of competence in photogrammetric and remote sensing practice.

All the activities in the above fields have been conducted and organized by our working groups under their respective chair or co-chairpersons, though the achievements vary in different circumstances, namely,

WG VI/1 "Education, Training and Educational Standards for Photogrammetry, Remote Sensing and GIS/LIS", chaired by Prof. Dr. Jozef J. Jachimski of Poland.

WG VI/2 "Computer Assisted Teaching", chaired by Dr. Kohei Cho of Japan.

WG VI/3 "Terminology and ISPRS Multilingual Dictionary", chaired by Dr. Gerhard Lindig of Germany.

WG VI/4 "International Cooperation and Technology Transfer", chaired by Dr. Stanley A. Morain of USA.

WG VI/5 "Tutorials", chaired by Dr. Th. Bouloucos of the Netherlands.

WG VI/6 "Economics and Business Management", chaired by Dr. Gerard Begni of France.

Special Project "History", chaired by Prof. Dr. Deren Li of China.

For the ISPRS 18th Congress in Vienna, Commission VI has received about technical papers and twenty Member (National) Reports, which have partly reflected the development of the economics, professional matters and education in our area of photogrammetry, remote sensing and GIS in different countries. The presentations and discussions around these topics at the congress will surely promote further advancement in our subject areas.

Faced with rapid changes, great chances and unprecedented challenges, our discipline needs reorganization, reorientation and even renaming, which calls for more and deeper thinking and reviews of the functions of Commission VI and ISPRS at large at the Vienna Congress. We sincerely hope that, in the next four years, Commission VI will receive more attention and support from colleagues worldwide, and that it will make more and better progress.

Prof. Dr. Deren Li

President, ISPRS, Commission VI

Prof. Dr. Jianya Gong (Scientific) A. Prof. Xiaoqin Hu (Administrative) Secretary, ISPRS, Commission VI

The International Archives of Photogrammetry and Remote Sensing Volume XXXI, Part B6 ISPRS Commission VI - Economics, Professional Matters and Education

Table of Contents

Ayeni, Olubodun (NIGERIA) Digital Mapping and GIS Education in Developing Countries	1
Bähr, Hans-Peter (GERMANY) Linguistic Confusion in Semantic Modelling	7
Bähr, Hans-Peter (GERMANY) What is the Future of our Profession ?	13
Chaudhary, Bhagwan Singh (INDIA) Applications of Remote Sensing and Geographic Information Systems in Ground Water (Investigations in Sohna Block, Gurgaon District (India)	18
Cho, Kohei (JAPAN) Toward the Optimization of PC Based Training for Remote Sensing and GIS	24
Dorozhynskiy, Alexander L. (UKRAINE) Eight Language Dictionary of Photogrammertry, Aerospace Surveying and Cartography Terms	28
Dorozhynskiy, Alexander L. (UKRAINE) Training of Specialists on Photogrammetry and GIS in the Universities of Ukraine	30
Dorozhynskiy, Alexander L. (UKRAINE) Ukrainian State Standards in Photogrammetry and Aerospace Surveying (Terms and Definition)	32
Duong, Nguyen Dinh (VIETNAM) ASEAN - An Image Analysis System for Remote Sensing Training and Education	34
Felkner, John (UNITED STATES) An Analysis of the Current State of International Remote Sensing Data Exchange and Transfer	40
Georgopoulos, Andreas (GREECE) 'Photogrammetrist v.1.0':The Greek Introduction to Photogrammetry	45
Ghiassi Far, Majid (IRAN) Capability of Remote Sensing Application in Landuse, Landresources with Using TM Data, GIS Facilities, in Part of Iran	51
Grimaldi, Pietro (ITALY) Territory Defence is not for a Few: The "StereoFot"Programme	56
Hanzl, Vlastimil (CZECH REPUBLIC) CEI IN Photogrammetry - Help to Reform Countries	59
döhle, Joachim (DENMARK) Learning Digital Photogrammetry by Means of Personal Computers	61
Jachimski, Józef (POLAND) Objectives and Guidelines for the ISPRS Member Reports	65
(ainz, Wolfgang (THE NETHERLANDS) PRONET - Multimedia Computer Based On-line Training and Support Service for Professionals	74

Katzars	sky, Ivan (BULGARIA) The Place of Photogrammetry in Land Reform and Cadastre in Bulgaria	79
Kisor, E	Dave (UNITED STATES) On the Necessity of an International Space Agency	84
Lindig,	Gerhard (GERMANY) Revised Concept and Status of ISPRS Multilingual Dictionary	85
McLear	n, Michael (AUSTRALIA) The Vicroads Approach to Outsourcing of Survey and Photogrammetry Services	93
Murray,	Keith (UNITED KINGDOM) Ordnance Survey: Imagery Applications in Support of a National geospatial Data Infrastructure	99
Mwero,	K. (KENYA) KISM - New Educational Institute for Surveying and Mapping in Kenya	106
Nelson,	Jonas (SWEDEN) PC-TAS: PC-Tooled Analytical Stereo-modelling Making Use of Microsoft Excel for Education in Basic Analytical Photogrammetry	111
Peipe, c	Jürgen (GERMANY) PC Based Dictionary of Photogrammetry and Remote Sensing	114
Penna d	de Vasconcellos, José Carlos (BRAZIL) Modernization of the Curricular Structure in Cartographic Engineer Formation	118
Potsiou	, Chryssy (GREECE) Cost of Photogrammetric and Cadastral Surveys for the Compilation of the Hellenic Cadastre	123
Schuhr,	Walter (GERMANY) Review on Public Relations on Photomatics	128
Väätäin	en, Seppo (FINLAND) The Remote Sensing Virtual Library on the World Wide Web	133
Wiggen	hagen, Manfred (GERMANY) Data Fusion and Data Integration of Raster and Vector Data	138
Append	ix. The state of t	
	Authors and Coauthors Index - ISPRS Commission VI	

Keywords Index - Volume XXXI, Part B6 - ISPRS Commission VI

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

XVIIIth Congress
XVIII° Congrès
XVIII. Kongress

ISSN 0256-1840



INTERNATIONAL ARCHIVES OF PHOTOGRAMMETRY AND REMOTE SENSING ARCHIVES INTERNATIONALES DE PHOTOGRAMMETRIE ET DE TELEDETECTION INTERNATIONALES ARCHIV FÜR PHOTOGRAMMETRIE UND FERNERKUNDUNG



PART B6

NATIONAL REPORTS
RAPPORTS NATIONAUX
LANDESBERICHTE

N



Edited by: Karl Kraus, Congress Director Peter Waldhäusl, Technical Program Director

Published by the Committee of the XVIII International Congress for Photogrammetry and Remote Sensing
Publié par le Comité de XVIII° Congrès Internationale de Photogrammétrie et de Télédétection
Herausgegeben vom Komitee für den XVIII. Internationalen Kongress für Photogrammetrie und Fernerkundung

ISPRS Council 1992 - 1996

President	Shunji Murai	Japan
Secretary General	Lawrence W. Fritz	USA
Congress Director	Karl Kraus	Austria
Treasurer	John Trinder	Australia
First Vice President	Kennert Torlegard	Sweden
Second Vice President	Armin Grün	Switzerland

International Archives of Photogrammetry and Remote Sensing (IAPRS)

Founded bei Eduard Doležal (Austria) in 1913.

Volume XXXI, Part B6

Invited and Presented Papers of the XVIIIth Congress, Vienna, Austria, July 9 to 19, 1996.

Member Reports

National Member Reports Regional Member Reports

Editorial Team

Chief Editor	Peter Waldhäusl	Austria
EDP-Software	Heinrich Vesely	Austria
EDP-Processing	Hans Thüminger	Austria
Technical-Assistance	Ulrike Pachowsky	Austria
	Josef Tschannerl	Austria
	Eva Berkes	Austria

Copyright 1996

by Austrian Society of Surveying and Geoinformation (ASG) on behalf of ISPRS, and by each author for his part. Responsible for the content according to Austrian Press Law / Für den Inhalt presserechtlich verantwortlich:

Prof. Dr. P. Waldhäusl Technische Universität Wien Institut für Photogrammetrie und Fernerkundung Gußhausstraße 27 - 29 / 122 A-1040 Wien

Printing: Druckerei Berger, Horn

For Sale after the Congress

Copies of individual parts and complete series may be obtained from:

RICS Books
Surveyor Court
Westwood Way
Coventry CV4 8KE U.K.
Fax: +44 71 334 3800

The International Archives of Photogrammetry and Remote Sensing Volume XXXI, Part B6 Member Reports

Table of Contents

Austria, National Report 1992 - 1996 Brandstätter, Gerhard	
Bulgaria, National Report 1992 - 1996 Katzarsky, Ivan	
Czech Republic, National Report 1992 - 1996 Hanzl, Vlastimil	1
Denmark, National Report 1992 - 1996 Brande-Lavridsen, Ole	1:
Ethiopia, National Report 1992 - 1996 Medhin, Hadgu M.	19
Finland, National Report 1992 - 1996 Mononen, Jyrki	2
France, Rapport National 1992 - 1995 Veillet, Isabelle	20
Hungary, National Report 1992 - 1996 Winkler, Peter	3
Israel, National Report 1992 - 1996 Forrai, Joseph	34
Japan, National Report 1992 - 1996 Tateishi, Ryutaro	40
Lithuania, National Report 1992 - 1996 Vainauskas, Vincas	47
Nepal, National Report 1992 - 1996 Shrestha, Buddhi N	49
P.R. China, National Report 1992 - 1996 Li, Deren	59
Poland, National Report 1992 - 1996 Jachimski, Józef	62
Romania, Rapport National 1992 - 1996 Turdeanu, Lucian	65
Slovenia, National Report 1992 - 1996 Oven, Janez	68
Sweden, National Report 1992 - 1996 Boberg, Anders	71
Switzerland, National Report 1992 - 1996 Grün, Armin	75
Turkey, National Report 1992 - 1996 Önder, Mustafa	82
United Kingdom, National Report 1992 - 1996 Kirby, Roger P.	86
United States, National Report 1992 - 1996 Nyquist, Maurice O.	94

Muchael milbold

dissort same?

perturbation Representation of the August State of the St

Appendix

Authors and Coauthors Index - ISPRS Member Reports Keywords Index - Volume XXXI, Part B6 - ISPRS Member Reports

ISSN 0256-1840



INTERNATIONAL ARCHIVES OF PHOTOGRAMMETRY AND REMOTE SENSING ARCHIVES INTERNATIONALES DE PHOTOGRAMMETRIE ET DE TELEDETECTION INTERNATIONALES ARCHIV FÜR PHOTOGRAMMETRIE UND FERNERKUNDUNG



PART TOME TELL B6





Edited by: Karl Kraus, Congress Director Peter Waldhäusl, Technical Program Director

Published by the Committee of the XVIII International Congress for Photogrammetry and Remote Sensing Publié par le Comité de XVIII° Congrès Internationale de Photogrammétrie et de Télédétection Herausgegeben vom Komitee für den XVIII. Internationalen Kongress für Photogrammetrie und Fernerkundung

ISPRS Council 1992 - 1996

President	Shunji Murai	Japan
Secretary General	Lawrence W. Fritz	USA
Congress Director	Karl Kraus	Austria
Treasurer	John Trinder	Australia
First Vice President	Kennert Torlegard	Sweden
Second Vice President	Armin Grün	Switzerland

International Archives of Photogrammetry and Remote Sensing (IAPRS)

Founded bei Eduard Doležal (Austria) in 1913.

Volume XXXI, Part B6

Invited and Presented Papers of the XVIIIth Congress, Vienna, Austria, July 9 to 19, 1996.

Invited Papers of Special Sessions

concern topics of rather political and strategical nature. Most of the invited speakers will distribute their paper at the Congress. A report will be included in Volume A of IAPRS.

The Presented Papers of the Special Sessions SS07 and SS08 concern the "Best Papers by Young Authors" submitted to the seven Technical Commissions and are published in Parts 1 to 7 respectively.

The Presented Papers of the Special Sessions SS11 and SS12 have been selected by the UN-Office for Outer Space Affairs from papers submitted and reviewed by Commission VII. They are published in Part 7.

Editorial Team

Chief Editor	Peter Waldhäusl	Austria
EDP-Software	Heinrich Vesely	Austria
EDP-Processing	Hans Thüminger	Austria
Technical-Assistance	Ulrike Pachowsky	Austria
	Josef Tschannerl	Austria
	Eva Berkes	Austria

Copyright 1996

by Austrian Society of Surveying and Geoinformation (ASG) on behalf of ISPRS, and by each author for his part. Responsible for the content according to Austrian Press Law / Für den Inhalt presserechtlich verantwortlich:

Prof. Dr. P. Waldhäusl Technische Universität Wien Institut für Photogrammetrie und Fernerkundung Gußhausstraße 27 - 29 / 122 A-1040 Wien

Printing: Druckerei Berger, Horn

For Sale after the Congress

Copies of individual parts and complete series may be obtained from:

RICS Books
Surveyor Court
Westwood Way
Coventry CV4 8KE U.K.
Fax: +44 71 334 3800

The International Archives of Photogrammetry and Remote Sensing Volume XXXI, Part B6 Special Sessions

Table of Contents

Ackermann, Friedrich (GERMANY) Experimental Tests on Fast Ambiguity Solutions for Airborne Kinematic GPS Positioning	1
Ackermann, Friedrich (GERMANY) Georeferencing Requirements for Airborne Photogrammetry and Remote Sensing	7
Allewijn, R. (THE NETHERLANDS) EARSeL Activities in the Field of Coastal Zone Management	10
Bodechtel, Johann (GERMANY) The German MOMS Concept for Geoscientific Applications and Future Development	20
Brand, Michael (UNITED KINGDOM) Towards a European Geographic Information Infrastructure	30
Brand, Michael (UNITED KINGDOM) Updating Complex Databases - The Next Step	33
Buchroithner, Manfred (GERMANY) Potential and Limitations of Satellite Remote Sensing for Geo-Disaster Reduction	39
Chuvieco, Emilio (SPAIN) Forest Fires from Space: Considering Spatial and Temporal Resolution	45
Forster, Bruce (AUSTRALIA) Operational Applications of Remote Sensing in Asia and Pacific	51
Kölbl, Otto (SWITZERLAND) Preliminary Results of the OEEPE Scanner Test	57
Kuhn, Werner (AUSTRIA) Toward Usable Spatial Information	61
Mueller, Ivan I. (UNITED STATES) Establishing Global and Regional Geodetic Reference Frames: The International GPS Service for Geodynamics	63
Schwarz, Klaus-Peter (GERMANY) Aircraft Position and Attitude Determination by GPS and INS	67
Shufelt, Jefferey A. (UNITED STATES) Exploiting Photogrammetric Methods for Building Extraction in Aerial Images	74
Steidler, Franz (SWITZERLAND) Introduction of GIS - A Strategic Decision	80
Winkler, Peter (HUNGARY) The Use of Satellite Remote Sensing for Land Cover Mapping in Europe	84
Appendix	
Authors and Coauthors Index - ISPRS Special Sessions Keywords Index - Volume XXXI, Part B6 - ISPRS Special Sessions	