

EDITORIAL

In this Newsletter you find the reports of the Council Meeting and the General Assembly of EARSeL which were held in Valladolid from 31 May - 2 June. One of the most interesting results of the Meeting in Valladolid I consider the establishment of a new Special Interest Group (SIG) on the subject of 'Self Organised Criticality in the Environment'. Prof. Vasiliev who is chairing this SIG will start activities on the EARSeL website and prepare for a SIG meeting in Dresden next year. I like this initiative on an intellectual challenging subject which can be one of the new academic subjects in the RS for Environment domain.

In July Remote Sensing has been topic of two UN conferences. First of all there was UNISPACE III which was held in Vienna 19-30 July. Part of the conference was a workshop jointly organised by EARSeL and ISPRS on "RS for the detection, monitoring and mitigation of natural disasters". A short report by Lucien Wald (Secretary General EARSeL) and Ian Dowman (ISPRS TC II President) on this workshop is given in this Newsletter. Some quotes from the UNISPACE III conference can also be found in Wim Bakker's contribution in this Newsletter. One interesting subject with respect to developing countries is UN Principle XII: 'As soon as the primary (Earth Observation) data concerning the territory under its jurisdiction are produced, the sensed State shall have access to them on a non-discriminatory basis and on reasonable cost terms. The sensed State shall also have access to the available analysed information concerning the territory under its jurisdiction in the possession of any State participating in remote sensing activities on the same basis and terms, taking particularly into account the needs and interests of the developing countries'. An interesting topic here is the way in which commercial companies are going to deal with the 'reasonable cost terms'. One way to comply with this resolution is switching off the sensor above the developing countries... Please note that in September 2000 there will be a workshop "RS for Developing Countries" in Gent, Belgium, organised by Rudi Goossens.

Three weeks before UNISPACE there was a conference of the UN Economic Commission for Africa (UN-ECA) which I visited: Conference on Development Information (CODI). Theme of the conference: Harnessing Information for Development. The interesting thing here is that CODI combines three fields of 'knowledge': remote sensing, statistics and information and communication technology (ICT). This is done in a clear application context: providing information for the development process in the African countries. This approach helps to focus on fulfilling user requirements rather than developing technology for its own sake. One of the consequences of this new approach is that when compared to more technology oriented conferences it is not yet clear for some of the relevant parties that they should attend.

Wim Bakker was on holiday and had lots of time to "sit back and look at things from a distance". He shares his reflections and ideals with you in his new section which starts of with kumquats and Dutch mud to introduce the developments in (Earth Observation) Space. At this moment I can add to his contribution the news that was released just before printing: CSA and MacDonald Dettwiler have contacted European partners (ESA, Arianespace and others) to participate in the construction of RADARSAT-2. This because of new export regulations in the USA which hamper delivery of services

and products of American companies to other countries. The total project covers a total of 200 million ECU's.

The Editor.

NEWS FROM THE ASSOCIATION AND ITS MEMBERS

2.1 EARSeL Bureau and Council meetings

The EARSeL Bureau and Council meet regularly on the occasion of the annual meeting and this year was no exception. Apart from the Bureau members, some of whom represent their country of origin, the following countries were represented: Austria, Belgium, Czech Republic, Denmark/Iceland, Finland, Germany, Hungary, Italy, the Netherlands, Poland, Spain, Switzerland and the United Kingdom. The Council also welcomed Prof. Giovanni Lechi, Chairman of the Italian Remote Sensing Society (AIT), who had in fact attended the General Assembly held in Barcelona 20 years previously in 1979.

The Agenda included an overview of the activities of the Special Interest Groups. Several of these are in fact run by Council members who will be organising specialist workshops next year (see list below). Preparations for the annual meeting in Dresden are forging ahead, with the Call for Papers and an attractive poster already distributed. The dates for the meeting in Marne-La-Vallée (close to Paris) in 2001 were approved and preliminary preparations will be made this autumn. Dr. Benes presented his invitation for the annual meeting 2002 to be held in Prague, which seems most attractive.

An important event next year will be the "RISK 2000" meeting, which EARSeL is organising in collaboration with the Ecole des Mines de Paris and the Association Prospective 2100, which has experience in organising large meetings. This will be held at UNESCO Headquarters in Paris, which is close to the European Space Agency, from 5-7 April 2000. The Call for Papers has now been distributed.

Another item concerned strengthening links with national remote sensing societies. An invitation had been extended by the Italian Remote Sensing Society to the chairmen of all European RS societies to meet in Florence in March in order to co-ordinate activities in education and training to further encourage the use of RS techniques by various government authorities at all levels and decision-makers. Ten societies were represented in Florence, where it was decided to set up a Federation of European Remote Sensing Associations under the umbrella of EARSeL. It was decided to draft a

proposal for a Concerted Action under the Framework V Programme aimed at creating a thematic network to identify specific problems and initiate projects at post-doctorate level.

The status of publications was also discussed. The December issue of the Newsletter will be a Special issue on Distance Learning of Remote Sensing and members were requested to send any material they may have (CD-ROM, etc.), or any experience they could report to the editor by mid-October.

Concerning the EARSeL Web pages, practically all the SIGs now have their specific pages, where they can announce their latest news. Concerning the Directory section, please see below.

The financial situation was reviewed. The Treasurer stated that we were just managing to keep within budget but that we needed new members to compensate for those that leave following changes in structure within organisations and general budgetary constraints. It was decided that in future it would be made more advantageous for members to attend EARSeL meetings and for commercial members to participate in the exhibition accompanying the annual symposium.

An up-to-date brochure had just been printed, which is available from the Secretariat for any member wishing to spread the good news.

The last item on the Agenda concerned the election (or re-election) of the Bureau. The present team had just completed a two-year term and according to the Statutes could be re-elected for a further two years. Prof. Gudmandsen, the EARSeL Honorary President, stated that the present team were active and worked well together and proposed their re-election for a further term of two years. This proposal was adopted unanimously.

The Council will meet again on 14th January 2000 in Paris.

2.2 EARSeL General Assembly and Symposium

The annual meeting of the Association was hosted this year by the University of Valladolid and, in particular, by the Remote Sensing Laboratory of the Department of Applied Physics, headed by Prof. José-Luis Casanova. It brought together some 180 participants, of which nearly 60 participated in the Workshop on the Fusion of Sensor Data, organised in collaboration with three working groups of ISPRS, which followed the symposium.

Participants enjoyed a very warm welcome to this historic city, which was once the capital of Spain until king Felipe III moved the court to Madrid in the 17th century. Visitors to Valladolid can still see the house in which Miguel Cervantes spent his later years and there is a museum dedicated to

Cristopher Columbus, who is said to have died here. There are still many fine examples of Gothic architecture to be admired. Today Valladolid is a modern city with nearly 350,000 inhabitants and a large and lively student population.

The Symposium was opened by welcoming speeches from the Rector of the University, the EARSeL Chairman and our host, Prof. Casanova. Presentations were then made by Dr. Jacques Mégier, deputising for Dr. Anver Ghazi, Head of the Global Change, Climate and Biodiversity Unit at EC DG XII in Brussels, who spoke on "Environmental Research and Technological Development - EC Perspectives". He was followed by Dr. J. Wahlen, who presented the work of the Satellite Centre of the Western European Union near Madrid, after which Ms. Cristina Negru, Consultant at the Council of Europe, presented the "EUR-OPA Major Hazards Agreement of the Council of Europe and the STRIM Programme". The opening session concluded with Dr. Hussain Ibrahim, Director-General of the General Organization of Remote Sensing, who presented the Syrian Space Programme.

Speakers at the European Space Agency session which followed included Prof. David Southwood, who spoke on the "ESA Earth Observation Strategy: Living Planet", then Dr. Mike Rast described the four candidate Earth Explorer missions, and Dr. Guy Duchossois brought the assembly up to date on the ESA Earth Observation on-going missions.

The technical programme began in the afternoon, divided into 14 sessions in all, where the papers presented emphasised practical applications of remote sensing techniques for measuring and monitoring environmental indicators of all kinds. As could be expected many of the participants were Spanish, but the other European countries were represented and EARSeL was especially pleased to welcome quite a large number of participants from central and eastern Europe, where environmental problems are often acute. A considerable number of abstracts had been received from South America, and especially Cuba, but since we were unable to obtain funding to help these authors cover their travel costs, they were unable to participate. Some 40 posters were presented, offering a mix of theory and practical applications.

It is hoped to have the Proceedings, to be published by Messrs. Balkema in our regular series, ready for mailing towards the late autumn. All participants will receive a copy, as well as paid-up EARSeL members.

A new feature of the 19th Symposium was the tutorial on "Data Fusion", delivered by Lucien Wald. The tutorial offered an introduction to data fusion. Definitions were given and the conceptual framework of data fusion was discussed. The various architectures of fusion processes were presented together with many examples. Finally the tutorial focused on techniques for the fusion of images of different spatial resolutions and different spectral bands acquired by optical sensors. More than 30 persons attended the tutorial. It was free for the members of the organising associations: the Spanish remote sensing society and EARSeL. A fee of 400 FF (ca. 61 Euros) was requested otherwise. This tutorial was the first of a series launched by the EARSeL Bureau last year. It is part of the services that EARSeL offers to its members.

Invariably what most participants remember most vividly of any meeting are the social events and this year will surely be no exception. On the first evening coaches took participants to a wine cellar restaurant situated about 15 km from Valladolid, where a typically Spanish excellent meal with wine from the Rioja region was accompanied by a group of Castilian musicians playing instruments having their origin in the Celtic tradition. The next evening the traditional Symposium dinner was held in the Felipe IV hotel, this time accompanied by a musical group consisting of science students in their traditional attire, playing and singing most professionally more romantic traditional Spanish folk songs. The warm applause that accompanied the Chairman's speech of thanks to Prof. Casanova proved the appreciation of an excellent evening's entertainment enjoyed by all.

2.3 EARSeL Future Meetings

26-28 January 2000 : 3rd Conference on FUSION OF EARTH DATA. Venue: Ecole des Mines de Paris, Sophia Antipolis, Côte d'Azur, France

21-22 February 2000 : EARSeL Special Interest Group Workshop : ATMOSPHERE AND METEOROLOGY. Venue: University of Basel, Switzerland

5-7 April 2000 : Int. Conference : RISK 2000 - SPACE TECHNIQUES FOR THE MANAGEMENT OF MAJOR RISKS AND THEIR CONSEQUENCES: Initiatives in the Euro-Mediterranean Region and world-wide. Venue: UNESCO Hq. Paris

13-16 June 2000: 20th Symposium: A DECADE OF TRANS-EUROPEAN COLLABORATION IN REMOTE SENSING. Venue: University of Dresden, Germany, and two associated Workshops

16/17 June : REMOTE SENSING OF LAND ICE AND SNOW and LIDAR REMOTE SENSING OF LAND AND SEA

The address of the EARSeL 2000 home page is: <http://www.tu-dresden.de/fghgik/aktuell/earsel.htm>

11-13 July 2000 : Symposium organised jointly by the SIG "IMAGING SPECTROSCOPY" and the SIG "GEOLOGICAL APPLICATIONS", to be held at the ITC, Enschede, The Netherlands, celebrating the 50th anniversary of this Institute and linked to the ISPRS 2000 to be held in Amsterdam.

13-15 September 2000 : 1st EARSeL Workshop on REMOTE SENSING FOR DEVELOPING COUNTRIES. Venue : Gent, Belgium

21-25 May 2001 : 21st EARSeL Symposium : Organised in collaboration with the Société Française de Photogrammetrie et de Télédétection (SFPT). Venue : Marne-la-Vallée (Paris), France

31 May - 2 June 2002 : 22nd EARSeL Symposium : Invitation received from Czech national representative, T. Benes, of the UHUL Forest Management Institute. Venue : Prague, Czech Republic

2.4 The EARSeL Web Server

The major fact is that now the directory is installed on the server as a database and not only as a list. The directory can now be searched by means of a standard HTTP interface. The keywords to be used, which are presented to the user, are those present in the paper version of the directory. This increases dramatically the visibility of EARSeL members both internally and externally. You can now easily query the directory to extract information about members and their fields of research. Go to: http://www.earsel.org/earsel_dir

In a near-future, a tool (Compass) will be installed which allows to search the pages of the servers of the members. By this means, any person accessing the EARSeL Web server benefits from the wealth of information available within the servers of the EARSeL members. Only the servers which have been declared to the Secretariat by the members are searched, and within a server, only the pages that are access-free naturally.

A robot has recently been installed that can search and index more than 80 web servers maintained by EARSeL members. It is not yet complete but to have an idea of what such a repository of knowledge can bring to the remote sensing community, you can check it at clicking "search" in the header of the pages.

Feedback concerning the above improvements is welcomed by the Webmaster, Lionel Menard, who can be contacted by e-mail: lionel.menard@cenerg.cma.fr

2.5 EARSeL Special Interest Groups

2.5.1 SIG - Land Ice and Snow - Call for papers

2nd EARSeL Workshop "Remote Sensing of Land Ice and Snow" 17 June 2000 during the 20th EARSeL Symposium in Dresden.

Topics:

- Snow of mountainous regions
- Remote sensing of snow, land ice as a contribution to global change
- Glacier monitoring (interferometry, textural analysis, etc.)
- New sensors for snow and land ice monitoring

Scientific Committee

Dr. Stefan Wunderle, Dr. Thomas Nagler, Prof. Dr. Eberhard Parlow

Organizing Committee

Dr. Stefan Wunderle, Dr. Thomas Nagler, Prof. Dr. Manfred Buchroithner, Mrs. Madeleine Godefroy

Papers will be presented orally and by poster. The authors should notify the organizers as to the type of presentation they prefer although this will depend of the Scientific Committee and the final program. An abstract of no more than 500 words (one A4 page) should be sent before 1 October 1999 to:

Dr. Stefan Wunderle

University of Bern, Department of Geography

Hallerstr. 12

CH - 3012 Bern

Switzerland

Email: swun@giub.unibe.ch or Stefan.Wunderle@online.de

Abstracts shall begin with a brief account of the state of the art together with the aim of the work. The main part should introduce the methodology used and the results obtained. The conclusions should precisely identify the advancement made scientifically and/or for potential applications.

At the Symposium an Abstract Book will be supplied to all participants. The abstracts should be typed on one side (A4) with single spacing and with all margins being 2.5 cm wide. Title, authors and their particulars should appear at the top of the page. Times New Roman 12 p is required. Submission via e-mail in a WORD for PC compatible format is preferred. Papers accepted and presented will be published in full in the Symposium Proceedings. The deadline for the submission of the final manuscripts is 15 June 2000.

Deadline for abstracts: 1 October 1999

Authors notified: 15 December 1999

Preliminary program: 31 January 2000

Final program: 15 May 2000

Deadline for papers: 15 June 2000

2.5.2 SIG - Imaging Spectroscopy - 2nd Workshop on Imaging Spectroscopy

Where: ITC, Hengelosestraat 99, Enschede, the Netherlands

Venue dates: 11-13 July 2000

Register now at: <http://www.itc.nl/is2/>

Background

The second EARSeL Workshop on Imaging Spectroscopy is a follow-up of the first of its kind held in the fall of 1998 at Remote Sensing Laboratories of the Technical University of Zurich (ETHZ). The first workshop was organized on by the EARSeL special interest group on Imaging Spectroscopy attracting around 150 specialists mainly from Europe and overseas (5 continents). At the meeting 71 papers were presented on the complete spectrum of issues in airborne imaging spectrometry with an outlook to future spaceborne missions.

The follow-up

The second EARSeL workshop on Imaging Spectroscopy will be hosted by the International Institute for Aerospace Surveys and Earth Sciences (ITC) in Enschede. This event will be organized by EARSeL's special interest groups on Imaging Spectroscopy (Chaired by Andreas Mueller from DLR) and Geological Applications (Chaired by Freek van der Meer from ITC). ITC acts as host organization, the meeting is organized in collaboration with the DLR, RSL and ESA. The program is closely linked to the 19th Congress of the International Society for Photogrammetry and Remote Sensing (ISPRS) Geoinformation for All that takes place in Amsterdam from 16-23 July 2000. Preceding the ISPRS 2000 congress, on-site workshops and tutorials are organized on 14 and 15 July 2000.

Theme and justification

The turn of the millennium marks the onset of a new era for imaging spectroscopy as the first measurements from spaceborn instruments become available to the science community. To name a few examples, ESA is preparing the ENVISAT mission carrying MERIS, NASA will have ASTER and MODIS launched in 1999 and is preparing hyperspectral missions under the New Millennium Program, while the Australian' ARIES should be operational at the beginning of the next century. These missions open a new era for space-related remote sensing making high-spectral resolution imagery readily available all over the globe and to all on the globe. Hence the motto of the meeting: From air to space. The synergy between field-based, airborne and spaceborn spectroscopy will form the red line of the meeting. Furthermore we will explore the possibilities of sensor integration which is now feasible with these multi-sensor mission. The meeting is timed such that participants can also attend the ISPRS 2000 Conference and the events related to the 50th anniversary of ITC.

Registration and submission of abstracts

Those interested to participate can register electronically through the workshop-pages <http://www.itc.nl/is2/> where an electronic registration/abstract form can be found. Alternatively, registration/abstracts can be mailed or faxed to the workshop secretariat at ITC or to the EARSeL secretariat in Paris:

ITC

EARSeL IS2 secretariat

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Exhibition

A commercial and professional exhibition will be organized as part of the Workshop. Details can be found on the website or by sending a request for information to the local secretariat. Those that wish to sponsor are also instructed to the web-pages or to the above addresses.

Important dates

31 August 1999 Announcement

5 November 1999 Deadline for abstracts

15 December 1999 Notification of authors

15 January 2000 Preliminary programme

11 July 2000 Deadline for Papers

11-13 July 2000 Workshop

Andrew Skidmore (ITC) - Workshop Chair

Freek van der Meer (ITC, Chairman EARSeL SIG-GEO) - Workshop Co-Chair

Michael Schaepman, who manages the SIG-IS bulletin board, has recently announced the availability of the website: <http://www.apex-esa.org>. The site is operated and maintained by the Remote Sensing Laboratories at the University of Zurich. APEX is an acronym for Airborne PRISM Experiment and is a Swiss-Belgian project to design, build and operate a new-generation imaging spectrometer. Feedback is welcome ...

2.5.2 SIG - Self-Organized Criticality in the Environment (NEW !)

Various informal discussions with interested experts during the 19th EARSeL Symposium in Valladolid, Spain, in May 1999, showed that there evidently exists a need for discussion and practical testing with remote sensing data of concepts and methods deriving from geophysics. For example, specific wavelet and fractal-based methods, the approach of self-establishing criticality have not yet been exploited to an extent that allows to draw conclusions regarding their usefulness for remote sensing.

In order to provide a discussion platform for both theoretical and practical aspects, Prof. Vasiliev of the Institute of Geography of the Russian Academy of Sciences has proposed to establish a new EARSeL Special Interest Group on "Self Organized Criticality in the Environment" or "Concepts for Data Variability", and has agreed to act as SIG Chairman, to establish the initial Terms of Reference and to put these on the Internet for discussion. In general, most of the preliminary activities are envisaged to happen on the WWW. A first meeting of the SIG is planned for the EARSeL Symposium in Dresden in June 2000. Prof. Vasiliev has sent us the following text.

SIG Self-Organized Criticality in the Environment (SOCE)

The self-organized criticality (SOC) characterizes the tendency of complex dynamic systems to develop to some statistically steady state. The behaviour of a system in such a state refers to the tendency to organize itself into a 'poised' state far out of equilibrium with propagating avalanches of all sizes and duration. In recent years a wide variety of simple models have been designed to illustrate and explore the concept of SOC. This idea has focused attention on a broad class of phenomena and models.

The SOC theory has not yet been fully developed and requires further effort to be applied to geophysical processes in order to answer the question whether natural processes show a common feature typical of the SOC-theory.

A challenging objective of SIG-Self-Organized Criticality in the Environment (SOCE) is to develop and validate models capable of simulating the catastrophic events in the environment and improve predicting their variations on a wide range of space and time scales. The most direct examples of SOC phenomena in the environment are rainfall, floods and droughts; forest fires; the seismic system, tectonic ages and a geological time scale. We anticipate many other applications of SOCE. The spatio-temporal distribution of the catastrophic collapse follows a power law. The remotely sensed data will provide the basis for the analysis of the characteristic spatial and temporal scales of extreme events.

We have to recast the problem of why Nature is complex to the question of why Nature is critical. All of this gives those of us who are studying hazard disasters a lot of food for thought. An activity of SIG-SOCE will be addressed to the ESA Earth Explorer Missions (call for ideas and/or mission concepts) and Space techniques for the management of major risks and their consequences.

The preparation for SIG-SOCE activity should be completed prior to the next EARSeL Symposium in Dresden, June, 2000 and members of the group could meet up at that time.

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2.6 New EARSeL Members

In our last issue we published a list of laboratories that had applied for membership at that time. Just before the General Assembly in Valladolid, we received the following applications and we are happy to announce that all these new members were formally admitted to the Association on the occasion of the General Assembly. We welcome these research groups and look forward to close and fruitful cooperation.

2.6.1 Centre de Recherche en Environnement et Aménagement (CRENAM)

Université Jean Monnet

6 rue Basse des Rives

42023 Saint-Etienne Cedex 2, France

Tel: +33 4 77 42 19 25

Fax: +33 4 77 42 19 24

Email: crenam@univ-st-etienne.fr

The EARSeL representative is Dr. Bernard Lacaze, who was formerly the EARSeL representative for many years at the Centre d'Ecologie Fonctionnelle et Evolutive (CEFE) in Montpellier. Dr. Lacaze and his team are currently working on a demonstration of an integrated concept for monitoring desertification in the Mediterranean Basin based on remote sensing methods. Dr. Lacaze is also involved in DAIS 7915 Large Scale Facility.

2.6.2 Institute of Optoelectronics SA

1 Atomistilor Str., P.O. Box: MG 22

R-76900 Magurele-Bucharest, Romania

Tel: +40 1 780 6640

Fax: +40 1 423 2532

Email: valent@ifin.nipne.ro

The EARSeL representative is Alexandra Caramizoiu. Current projects include:

- the monitoring of agricultural resources
- a method of measurements for integrating terrain and airborne radiometry, positioned on satellite recordings, for monitoring natural resources,
- a complex approach of the Black Sea neighbour zones using remote sensing,
- prospecting and management of water resources,

2.6.3 Centro Nacional de Informação Geografica (CNIG)

One of our new members, the Centro Nacional de Informação Geografica (CNIG) of Portugal is proud to announce the official opening of "GEOCID", (the first three letters of the word citizen in Portuguese are spelt c, i, d), the citizen component of SNIG (the National Geographic Information Infrastructure). The official opening has recently taken place during a ceremony chaired by the Portuguese Minister of Science and Technology and the Secretary of State of the Ministry of Public Works, Planning and Territory Administration.

The GEOCID, sponsored by the European Commission through Regional Funds, was opened with the release first ever in the world on the Internet of the complete national coverage of digital aerial

ortho-photos corresponding to the "portrait" of the territory taken in the Summer of 1995 with colour infrared film, at the scale of 1:40 000.

Since the opening the eGEOCID, several thousands of "hits" have been registered. This great success is basically due to the free access that CNIG has made available to the content of the 5000 digital orthophotos covering the full territory of Portugal (excluding the Islands), with one meter resolution, in color infrared film, plus the true color orthos of the Geographic Army Institute for Lisbon and Porto. Everyone is looking at their houses seen from the air. You are invited to visit Geocid at <http://geocid-snig.cnig.pt/>