



THE
**REMOTE
SENSING**
SOCIETY



GEOLOGICAL REMOTE SENSING GROUP

(Affiliated to the Remote Sensing Society
and the Geological Society)

NEWSLETTER

ISSUE 1

AUGUST 1990

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EDITOR'S WELCOME

Welcome to the first issue of the Geological Remote Sensing Group Newsletter. Being the first issue it will be more of an introduction to the group rather than a "newsletter" as subsequent issues will be. There is no doubt that the format and contents of the newsletter will evolve as the group matures and I stress that these will be flexible and I would like to hear all of your comments, and criticisms.

Although each will contain regular core sections it is envisaged that each issue will contain extra sections for which extra material has been submitted.

Future issues will contain (but not be limited to) the following sections:

- * GRSG News (Including regional and international)
- * Members News
- * Company Profiles
- * Individual Profiles
- * Company News
- * Remote Sensing News
- * Reports of Meetings
- * Meetings / Conference Calendar
- * Advertisements
- * Abstracts of Technical Papers / Completed PhD's
- * Employment Opportunities

Please send me all of your news and comments and lets make this newsletter interesting and fun. There has been a great deal of enthusiasm towards the setting up of the GRSG and I want to be able to reflect this in the newsletter. Above all if there is something that you would like to see in here please tell me, likewise please tell me what you don't like!

Our aim is to produce four issues each year although the actual timing and number will be very dependent upon contributions and to some extent is out of my control. Following this introductory issue I am planning on having the next issue available in January or February 1991. I look forward to editing this and hope that you will make it a demanding task for me.

I would like to thank Pauline Waters for offering her services as Assistant Editor.

Please send any material for publication to:

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Sir Alexander Gibb & Partners Ltd
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427 London Road
Reading RG6 6BL

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****CONTRIBUTION CLOSING DATE FOR NEXT NEWSLETTER IS NOVEMBER 30th****



THE
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SOCIETY



GEOLOGICAL REMOTE SENSING GROUP

What I want for the Geological Remote Sensing Group
Geoff Lawrence: Founding Chairman

Remote Sensing-home for the specialist generalist!

I enjoy talking to university, college and school departments about applications of remote sensing. And the most frequent question asked is "Are there any good jobs in remote sensing?". Like many science and technologies that emerge from an amalgam of disciplines, remote sensing did not seem to offer career prospects in its own name. Remote sensing skills were called for in meteorological analysis, military intelligence, geological mapping, now and again in mineral and oil exploration, in forestry, agricultural and land use monitoring and so on. The base skills needed for these tasks came from the application rather than the remote sensing expertise. So much did I believe this to be a truism that I used to preach that remote sensing studies were the last hope for the generalist scientist. I viewed remote sensing as a common link in most regional study in earth science in the broadest sense.

The students knew better. There are now many remote sensing departments, albeit as subsidiaries of geography or meteorology departments. And there are many jobs advertised in remote sensing. My company employs staff as remote sensors rather than geologists and geophysicists (although it is not quite convinced - the senior guys remain under their old geologist label).

This digression bears on my theme: why a Geological Remote Sensing Group? Is it for geologists or is it for remote sensors? Well, I was always clear on that point. Any method or technology is as good as the use to which it is put and to the benefits gained from using it. So, applications must be the driver! And, being a geologist, my interest is to make remote sensing work for me, and being paid by the World's third largest oil company, that means to help me find oil. But in trying to do just that, I soon realised that I needed the help of the people who really knew about the technology! Physicists and mathematicians, software engineers, system designers, developers of algorithms, these sort of people. I needed the best geologists to interpret satellite images. And most of all I needed that rare breed - top-flight generalists and communicators who could span the technology-application gap.

The Geological Applications Working Group - our immediate ancestor

I'll confide in you that we didn't find many of these guys in the ranks of BP. There weren't many around. So when the National Remote Sensing Centre went looking for the same sort of people in the late 1970s, as a way of advising the Department of Industry of where to concentrate its investment, industry, including BP, were very supportive. One of the advisory groups that emerged was the Geological Applications Working Group. It featured a good working relationship of remote sensing interests from academic researchers, Government departments and policy makers. This mantle of collaborative effort has been adopted by the new Geological Remote Sensing Group.

The need for the Group emerged slowly throughout the eighties. The Department of Industry and the Royal Aircraft (now Aerospace) Establishment installed their in-house experts at

Farnborough, partly under contracts let with value-adding companies. They had less need to call upon the deliberations of the Geological Applications Working Group.

GAWG members had a lot to do however. And the tasks demanded collaboration: between geoscientists on one hand, and remote sensors on the other. And, as these guys are thin on the ground, it remained essential to encourage the collaboration of industry, academia and Government.

The new Group's membership and our affiliation

The first draft membership is 179. When the GAWG committee agreed to re-launch in 1989, we circulated information to about 500 people. A 36% immediate "take-up" rate is pretty good. We reckon the membership should rise to 250 and stabilise around that number. An analysis of the first 100 members shows that we are doing well in attracting interest from an even wider spectrum than GAWG.

44%	from university and polytechnic departments
5%	from Government departments
27%	from service and other remote sensing companies
24%	from end-user companies, of which
	13% are oil companies
	3% are mining companies
	8% are geotechnical companies

There was a good response from overseas but 70% of the membership lives and works in southeast and central England! Your committee will try hard to establish regional strengths and, in particular, Rob Cheeney is working hard to build a Scotland and north of England chapter of the Group, and there is an encouraging nexus of interest in Ireland.

It was a straightforward decision to seek affiliation with both the Remote Sensing Society and the Geological Society. 50% of the members are members of the Geological Society or the Institution of Geologists; 32% are members of the Remote Sensing Society. There was a widely expressed view that the remote sensors, mostly geographers, rather diluted the effort directed to geological applications. Something like "those guys want to GIS everything". The fact that one of our 1991 meetings expects to air the topic of geological applications of GIS proves that this view resulted only from minority inferiority! We believe we are very well served by our host Societies. Both realise that the health of their membership depends on the strength and vitality of the special interest groups like your new Group. And we are grateful for the support and facilities of our hosts. We believe the new Group truly represents the objectives of both host Societies.

What the GRSG sets out to do

The Geological Remote Sensing Group sets out to promote and to study practical geological applications of remote sensing. It will achieve this by holding meetings and providing a forum for the presentation of research results; we can see very clearly how important the research is at this youthful period in the development of remote sensing. Furthermore, we see the clear need to bring research to bear on real problems and paying applications.

As the Group builds its credibility, we hope to become a focus of informed views sought by others - like builders of sensors, planners of space programmes and of ground measurement campaigns

to validate remote sensing systems. We plan to encourage joint activity of industry, government and academic organisations, especially multi-disciplinary studies. If our finances and support fosters, we will carry out or sponsor joint investigations of topics important to the well-being of geological remote sensing. The validation and ground measurement at the time of airborne (and, lets hope, spaceborne!) imaging spectrometry campaigns is an example of the activity we think the Group should initiate and organise.

Meetings are the key

The meetings programme taking shape is exciting. The contribution to tectonic (especially neotectonics) studies from precise global positioning (resulting from signals received on Earth from a constellation of American satellites) and marine gravity data derived from the Seasat and Geosat satellites, are going to feature in a major conference planned for 1991. Anyone out there in the Tectonics Group of the Geological Society like to join in? We are hoping to have also a first hand account of geology from space by one of the American astronauts.

Detailed analysis of space and air photographs to evaluate slope stability and earthquake hazard is a candidate topic for another meeting. A meeting exploring how Geographical Information System technologies can be deployed to solve geological problems and the integration of 3-D geological data is planned for a meeting to be held jointly with the Geological Information Group of the Geological Society of London.

Before all that GRSG will be chairing a session at the Annual Meeting of the Remote Sensing Society, in Swansea, 19th-21st September 1990. We are also co-sponsors of the commercial Conference and Exhibition, "Remote Sensing: an Operational Technology for the Mining and Petroleum Industries", to be held at the Novotel, Hammersmith, London, October 29th-31st 1990. A final circular is included in this Newsletter.

The Group's programme will feature practical demonstration. We believe this is the way to convince sceptics of the value of geological remote sensing and the best way to share common understanding amongst those who are convinced already. Workshops in image processing and spectral analysis, and in the interpretation and use of satellite and airborne images in the field, are planned. Validation of satellite image interpretation is reckoned to be particularly important and the Group hopes to hold a field course in Southern Spain or Greece, where demonstrating the application of Landsat Thematic Mapper and airborne scanner images to mapping rocks and aiding mineral exploration is a lot more straightforward than UK examples.

Meetings, you and having fun

The scope for interesting meetings is wide and we are limited only by the energies of our organisers. The responses from the members indicated there were 25 people willing to help with the running of the Group. We responded by suggesting that all 25 should represent the membership, and help get the meeting programme off the ground, as an Advisory Committee. If you would like to be involved, especially if you have an application or topic for which you can offer an interesting programme, we would like to hear from you.

If you are anything like me, you will be much keener if the hard work and hassle of helping out can be offset by having fun. If the inaugural meeting on 21st March is anything to go by (see elsewhere in the Newsletter) the hallmark of the GRSG is conviviality! A "beer and business" approach to sharing our views and knowledge seems to be eminently suited to geologists, in general, and geological remote sensors in particular. You tell me if that is just my perception and proclivity, or do you share it?

So, we will aim to include evening meetings in the meetings programme, and not just in London (anyone for a Bristol chapter - my wife's job is taking me westward!).

The Committee - lets go for a partnership to avoid a "them and us" situation

In the nature of things there is always a group of people who, for career, interest or whatever reason, will take the lead. And then perhaps regret the effort and energy needed to keep going. In the case of the Geological Remote Sensing Group, there is indeed a core support of half-a-dozen or so people inspired enough about the benefits of remote sensing in geology to give up their time (and the time of their long-suffering employers!) to the new Group. These guys (I use the term in the American way to mean guys and gals!) you can see listed as the Executive Committee. I'm bowled over by the enthusiasm and commitment of these guys (thanks guys!) and from many of the 25 Advisory Committee. I see my role as a mere gatekeeper, supporting and introducing the enthusiasts to each other. The vitality of the Group really does rest with you, the members, to turn up at meetings, read and respond to the Newsletter.

You can see the sort of problems we have. The inaugural meeting on 21st March was a tremendous success. John Moore, of Imperial College, and Peter Beaumont of Sir Alexander Gibb & Partners Ltd, put together an inspiring afternoon meeting. 100 of you enjoyed it and celebrated our inauguration (thanks to BP Exploration and the Remote Sensing Society for funds). And then a deafening silence until now. We were drawing breath. Marshalling our strengths. You didn't see much effect of it but when in 1991, you enjoy another sharing of knowledge and good company, remember the efforts that went on in the warm Spring and Summer days of 1990!

Given that we can expect a new high-resolution earth-observing satellite every two years for the 15 years from 1991, the inauguration of the **Geological Remote Sensing Group** is timely. I, the Committee, the Geological Remote Sensing Group, offer you a hand in partnership in the furthering of remote sensing for the good of geology. Welcome, welcome and welcome! You can find where to contact me and any of the committee in this newsletter. Let's be hearing from you!

Find a buddy or two

The first newsletter for your Group is going to about 400 addresses. But I would be surprised if we have reached all those who may be interested. Find a buddy geological remote sensor and show him your copy. The aim is to be chatty and to reach everyone personally. Go out and find another member and we'll soon have the Group's finances in good shape. So we can organise better things. Pay for world experts to come over to speak with us. So we can have more of those really enjoyable get togethers as on the 21st March!

Even more than your £6's, or equivalent in your money, we want the Newsletter to be truly yours - I bet you have heard that before. Call, write, fax, E-Mail, shout. Put it in the next Newsletter. Let's make it a great forum and fun. If I go on it will sound like a school magazine - send in your poems, anecdotes, stories, images (why not!), algorithm tips, or any tips for that matter, offers of DTP expertise, news, especially news, your red-hot news. Share your geological remote sensing - in the Geological Remote Sensing group's Newsletter. And I offer an additional bottle of wine (sponsored by Mrs. Lawrence!) for anyone who can also come up with a racy title for the Newsletter - something like "The Signal" or "Geological Signatures" or "Making Waves". Now come on, you must be able to do better than that. See you all next time.

Geoff

Contributions for the Newsletter to the Editor, Peter Beaumont, or Assistant Editor, Pauline Waters.

GEOLOGICAL REMOTE SENSING GROUP

CONSTITUTION

1 NAME

1.1 The name of the Group shall be the Geological Remote Sensing Group.

2 AIMS

2.1 The purpose of the group is to promote and to study practical geological applications of earth observation systems/remote sensing, particularly those of benefit to the community.

It will do this by:

- Holding meetings and visits, particularly in conjunction with other specialist groups of the two Societies and those of overseas organisations holding similar aims to the group.
- Encouragement of research and training by providing a forum for the presentation of research results.
- Providing a focus of informed views sought by others.
- Encouraging the joint activity of industry, government and universities and multi-disciplinary research.
- Carrying out or sponsoring joint investigation of topics believed important to the well-being of geological remote sensing.
- Such other means as the committee of the Group may think desirable, subject to the approval of the Council of each Society.

3 MEMBERSHIP

3.1 Membership of the Group is open to Fellows, Honorary Fellows and Junior Associates of the Geological Society, to Fellows, members, Honorary Members of Affiliates of the Remote Sensing Society.

3.2 Membership is open to all those with special interest in geological remote sensing, in its widest sense, who are approved by the Committee of the Group.

4 COMMITTEE

4.1 The affairs of the Group shall be arranged by a committee comprising a Chairman, Secretary, Treasurer, and up to 5 others, elected by ballot of the membership each year. At least one of the officers shall be a member of one or both Societies.

4.2 An officer of the Societies shall be a member of the Committee ex officio.

5 **FINANCE**

- 5.1 The financial year shall be a calendar year, and the Group shall incur no financial obligation chargeable to the Geological or Remote Sensing Societies unless such obligations have been authorised previously by the Council of the respective Society.
- 5.2 An annual summary of the financial position of the Group should be submitted to the Society by 31 December.

6 **ADHERENCE TO THE CHARTER OF THE GEOLOGICAL SOCIETY
AND THE REMOTE SENSING SOCIETY**

- 6.1 The Group shall not take any action which may conflict with the terms of the Charter and by-laws of the respective Societies.

LIST OF OFFICERS AND CONTACTS

Following our very successful meeting entitled Remote Sensing in Environmental and Engineering Geology the election of the Group's officers and committee members took place. Both the election of officers and committee members will take place each year during our Annual General Meeting. The following were elected as officers:-

CHAIRMAN: Geoff Lawrence, BP Exploration.
Nominated: Dave Mitchell
Seconded: John Henry
TEL: 071-920-3883 FAX: 071-920-4033

SECRETARY: Jon Finch, Institute of Hydrology, Wallingford.
Nominated: Kathy Bowden
Seconded: Geoff Lawrence
TEL: 0491-38800 FAX: 0491-32256

TREASURER: Kathie Bowden, NRSC Ltd, Farnborough.
Nominated: Mike Barr
Seconded: David Lynn
TEL: 0252-541464 FAX: 0252-375016

The following were elected as Executive Committee members and were proposed by the existing officers:-

Jon Gutmanis, GeoScience Ltd. Tel: 0326-211070

Robert Cheney, University of Edinburgh. Tel: 031-667-1081 x 3580

John McMahon Moore, Imperial College. Tel: 071-589-5111 x 5561

Peter Beaumont, Sir Alexander Gibb & Partners Ltd. Tel: 0734-61061 x 2788

David Greenbaum, BGS, Keyworth. Tel: 06077-6111 x 3227

The following have been elected by the committee as co-opted members:

Pauline Waters, BP Research. Tel: 071-920-4152

John Berry, Pecten International Ltd. Tel: 010 1 713 556 4813

Pauline Waters has kindly offered to become Assistant Editor of the Newsletter and John Berry will administer a North American Chapter of the Group.

Following the exceptional interest shown by people towards the groups formation it was decided to form an Advisory Committee of people willing to provide specialist advice to the Executive Committee. The following list is not closed and any individual wishing to have his name included should fill in the relevant section on the application form and give a brief summary of the expertise that is offered.

Advisory Committee:

Billy Loughlin, NRSC/Huntings.
Jonathon Earthy, BP-ISS.
Chris Legg, NRSC.
Danny Donoghue, University of Durham.
Johnathon Craig, LASMO.
Geoff Wadge, University of Reading.
Norman Moles, Queens, Belfast.
Owen Vaughan, BPX-Glasgow.
Pauline Waters, BP Research.
Kevin Morris, UCL.
Paul Griffiths, Consultant.
John Henry, Ove Arup.
Anthony Bowden, Ove Arup.
Clive Edmunds, Applied Geology Ltd.
Christopher McBean, GEMS.
CMG Francis, Hatfield Polytechnic.
Prof. David Sanderson, Univ of Southampton.
Eric Barrett, Univ of Bristol.
Andy Billings, BPX, London.
Steve Briggs, RSADU, Monks Wood ES, Huntingdon.
Richard Clarke, BPX, London.
Martin Borengasser, Mullard SSL, UCL.

MEMBERS NEWS

Kathie Bowden

Kathie, the GRSG Treasurer has recently moved to the National Remote Sensing Centre Ltd where she takes up the role of Business Development Manager. Kathie can be contacted at : NRSC Ltd, North Gate Road, Farnborough, Hampshire, GU14 6TW.
Tel: 0252 541464

Jon Gutmanis

Jon, a geologist with GeoScience and a member of the GRSG Executive Committee has moved to their office in Falmouth. Jon assures us that he will actually be working hard and not surfing all day. Jon can be contacted at : GeoScience Ltd, Falmouth Business Park, Bickland Water Road, Falmouth, Cornwall TR11 4SZ. Tel: 0326-211070

Please send all Members News to the Editor.

COMPANY AND INDIVIDUAL PROFILES

Company profiles in publications are a very efficient method of promoting your services and products. We are aiming to include one company profile within each newsletter. We invite interested companies to send in a profile for publication. These may already exist in a form which could be mailed out with the newsletter or you may prefer to have a profile within the newsletter. We welcome the inclusion of photographs where appropriate, but regret that we cannot deal with colour reproduction within the newsletter. However, if your company profile is in colour and you want it reproduced in colour then we would mail out your profile with the newsletter

Profiles will, if required be edited in conjunction with the organisation and will be published on a strict first come first published procedure and they must be related to geological remote sensing applications. We are looking for profile lengths of around four pages including any photographs.

In return for this all we ask for is a £50.00 contribution towards the cost of producing the newsletter containing your profile. In addition your organisation would be named as sponsoring the newsletter. Payment is not required until an issue date for publication has been decided.

We also feel that many of our members would like to find out more about key people working within geological remote sensing. The next couple of issues will contain profiles of the committee members and officers of the group so you can get to know who is working behind the scenes of the group and what they get up to during the day!

If there is any individual about whom you would like to find out more about then please pass on to the editor any suggestions and we will see what we can do.

COMPANY NEWS

Within the newsletter we will have a section for company news and new products, services etc which you would like to publicise. Such information will be of great interest to our members and is a very economic way of passing on such information.

We feel that it would not be unfair to ask for a token payment of £15.00 for the inclusion of up to one side of information.

All news and product information for publication should be sent to the Editor with cheques made payable to the Geological Remote Sensing Group.

GEOLOGICAL REMOTE SENSING GROUP
APPLICATION FOR MEMBERSHIP

TITLE: _____ INITIALS: _____

SURNAME: _____

ORGANISATION: _____

ADDRESS: _____

TEL: _____ POST CODE: _____

TELEX: _____ FAX: _____

PLEASE INDICATE BELOW YOUR ORGANISATION'S AREA OF BUSINESS AND
YOUR PERSONAL INTERESTS:

ORGANISATION TYPE

1. PETROLEUM GEOLOGY

2. MINING GEOLOGY

3. CONSULTANCY -

(a) REMOTE SENSING

(b) GEOLOGY

(c) GIS

(d) OTHER (Please Specify) _____

4. ACADEMIC -

(a) REMOTE SENSING

(b) GEOLOGY

(c) GIS

(d) OTHER (Please Specify) _____

5. GOVERNMENT

6. DATA SUPPLIER

7. RS SUPPORT (SOFTWARE/HARDWARE)

8. INSTITUTION/LEARNED SOCIETY

9. PUBLISHER

10. OTHER (Please Specify) _____

PERSONAL INTERESTS

1. PETROLEUM GEOLOGY
2. STRUCTURAL GEOLOGY
3. MINING GEOLOGY
4. GEOMORPHOLOGY
5. ENGINEERING GEOLOGY
6. GIS
7. IMAGE PROCESSING
8. RADAR
9. VOLCANIC GEOLOGY
10. SEISMOLOGY
11. HYDROGEOLOGY
12. PLANETARY GEOLOGY
13. OTHERS (Please Specify) _____

PLEASE INDICATE WHICH PROFESSIONAL SOCIETIES OR INSTITUTIONS YOU ARE A MEMBER OF:

1. REMOTE SENSING SOCIETY
2. GEOLOGICAL SOCIETY OF LONDON
3. INSTITUTION OF GEOLOGISTS
4. PESGB
5. OTHERS (Please Specify) _____

IF YOU WISH TO BE CONSIDERED FOR THE ADVISORY COMMITTEE PLEASE INDICATE BELOW YOUR SPECIALISATION:

PLEASE SEND YOUR COMPLETED APPLICATION FORM AND A CHEQUE MADE PAYABLE TO THE GEOLOGICAL REMOTE SENSING GROUP FOR £6.00 TO:

DR JON FINCH
GRSG SECRETARY
INSTITUTE OF HYDROLOGY
WALLINGFORD
OX10 8BB

MEMBERSHIP OF THE GRSG

We hope that you will decide to formally join the Group and complete the application form at the centre of this newsletter.

Before you fill it in please copy it and pass it around to your colleagues. If every member can introduce a new member to the group we can easily increase our membership and thus increase the benefits, including the quality and size of the newsletter.

There is a small charge of only £6.00 which is required to cover the costs of producing the newsletter. The rise in cost from the inaugural meeting follows a more accurate appraisal of the costs involved. This first years membership will last until January 1992 giving you 16 months membership for only £6.00.

The information asked for on the application form is required to allow us to build up a detailed database of our members. This will allow us to locate people with particular interests or expertise. This database will be computerised and under the Data Protection Act members are allowed full access to any information relating to them on the database.

We look forward to you joining the group and hope to meet you at some of our planned meetings in the near future.

NEWSLETTER NAME AND LOGO COMPETITION

GRSG Newsletter is only a temporary name until we come up with a more original one. To increase the brain power thinking about it we have decided to have a competition for both the newsletter name and the groups logo. The competition is open to all who return the application form. Both the name and logo need to be original and simple, as they will be used for notepaper, posters, conference programmes etc.

So if you have always wanted your ideas in print then send them to us. We will refund the first years membership and give a bottle of wine to the most original name and logo received.

If you win both then you will get two of Mrs Lawrences bottles of wine and two years free membership, almost as good as a pools win!

Get your thinking caps on and send your entries to the editor by October 30th 1990.

REGIONAL AND INTERNATIONAL GROUP NEWS

In the short time since our inaugural meeting there has been much interest in the formation of regional chapters of the GRSG. We appreciate that it is often difficult for regional members to participate fully in the group and fully support the setting up of both regional and international chapters. This has been encouraged and to date regional groups have been formed in Scotland and North America.

Rob Cheney has formed a Scotland and North of England Group and is already busy organising a meeting early next year. Rob is keen for all members in the north to contact him and to help arrange some regional meetings. Rob can be contacted at:

Dr. Rob Cheney
Grant Institute of Geology
University of Edinburgh
West Mains Road
Edinburgh EH9 3JW
Scotland

Tel: 031 667 1081 X 3580

Further afield John Berry has kindly offered to administer a chapter of the group in North America and says that there are many people working within geological remote sensing in North America who are keen to join us. If you are interested or know someone who would be, John can be contacted at:

John Berry
Pecten International Ltd
PO Box 205
Houston
Texas 77001
USA

Tel: (713) 556 4813

Fax: (713) 556 4776

If anyone is interested in setting up a regional or international chapter then please contact Geoff Lawrence who will help you and pass on the names of members in your particular region.

We have members in Australia, Canada, Japan and other countries where it would be great to establish overseas chapters, or at least have correspondents who will act as a focus in their country.

MEETINGS - A SEARCH FOR ORGANISERS

Our meetings program for the next 12 months promises to be both busy and stimulating, but to keep up the momentum we need people to offer to organise meetings. Many of you gave ideas for meetings and these have been reproduced below. We are not short of ideas or information for meetings but it would be foolish for the committee members to organise all of the meetings, since they would be limited to their own interests and expertise.

If you proposed an idea or have an interest in a particular area and would like to organise a meeting then please contact one of the committee members. We can give you help and advice on setting up a meeting. It doesn't take up much time and if two of you would like to do it then the workload is halved!

We are especially interested in joint meetings with other specialist groups of both the Remote Sensing Society and the Geological Society.

If you are particularly interested in a particular meeting or topic then please think seriously about helping to organise a meeting around your interest. We hope that in the next newsletter we will be able to publicise more meetings around the country.

RSS'90 SWANSEA

This years annual technical meeting of the Remote Sensing Society will be held at University College Swansea, from September 19th to 21st 1990 and is entitled "Remote Sensing and Global Change."

On Thursday 20th September there will be two sessions of interest to our members. Firstly in the morning there will be a presentation of oral papers on Remote Sensing and Geology followed by an introductory meeting of the GRSG in the afternoon.

The RSS'90 Conference organisers have allowed our members a reduced registration fee of £10.00 (plus £10.00 late registration fee) for attendance at the afternoon session and we hope to meet as many of you as possible during the afternoon.

For further information contact Martin Coulson at Swansea. The address is shown within the GRSG Meetings Calendar.

THE FOLLOWING TOPICS WERE PROPOSED BY YOU ON THE RETURNED RECORD SHEETS:

- * Interpretation Systems and the effects of sampling?
- * RS and GIS databases (joint with GIG)
- * Integration of RS data
- * Applications of RS in petroleum exploration (joint with Petroleum Group)
- * Applications of RS in mineral exploration
- * Workshops (at Durham) on new data processing techniques for geology and on thermal IR for lithology
- * Workshop on image interpretation
- * RS for geological and terrain mapping (general and specific for desert or glacial landforms)
- * RS for structural geology (joint with Tectonics Studies Group)
- * RS interpreted for Red Sea and other rift systems (including Magsat and satellite data merging)
- * RS and GPS/VLBI in neotectonics (Professor Sanderson-Southampton)
- * Update on Seasat, satellite geophysics and global potential fields
- * Global geology for RS data
- * AVHRR uses in geology
- * RS interpretation for sedimentary rocks?
- * Radar geology and ERS-1 for geological applications
- * Ideas exchange and research forum for students
- * Use of air photos in geology
- * Applications in hydrogeological and geotechnical studies
- * Field course - RS for geology in upland Britain (Griffiths)
- * Teaching geological RS
- * Applications in pollution studies and hazard evaluation
- * Geology of coastal zones from RS data
- * The realities of mineral mapping by remote sensors
- * Ground truth in geological remote sensing
- * RS techniques for operational geology - where does it pay now?
- * Numerical measurement/statistics in geological RS
- * Standards?
- * Event monitoring and analysis (e.g. volcanoes, algal blooms)
- * An astronaut's view of global geology from space
- * Planetary geology from RS (Professor Lionel Wilson)

REMOTE SENSING IN ENVIRONMENTAL AND ENGINEERING GEOLOGY
Report on Inaugural Meeting

The inaugural meeting of the GRSG took place on 21st March 1990 at Imperial College of Science, Technology and Medicine. The meeting, which proved to be very enjoyable and interesting, was attended by around 80 delegates from industry and academia.

The first of the two sessions of this meeting was chaired by Pauline Waters of BP. Professor Richard Selley of Imperial College opened the meeting and Dr John Moore, also of Imperial College, gave the introduction, outlining principles of spatial, spectral and temporal resolution and reviewing the history of satellite and airborne systems.

Dr Christopher Bird of Silsoe College took the theme of airborne systems, describing their ability to provide spatial resolution down to 1m and with spectral resolution superior to that of spaceborne instruments. Coupled with control over flight lines and timing, these factors provided very flexible systems with considerable potential for routine survey and monitoring, as well as in simulation of prototype spaceborne instruments.

As an example of spaceborne applications, Christopher Legg of the National Remote Sensing Centre described applications for routine mapping of the environmental impact of opencast workings, referring especially to Cornish china-clay pits. Not only could the development of the pit and associated spoil tips be traced, but the recovery of vegetation on reclaimed land could be charted. Together with digital modelling of the terrain, the remote sensing methods could be used to assess the impact of various site development options.

In the thermal part of the spectrum, Elaine Amos of Clyde Surveys Ltd explained the sensitivities of spectral properties to soil moisture and to groundwater conditions, with an array of examples drawn from, for instance, detection of tension gashes in landslips monitoring landfill sites, mapping foundations of former gasworks, etc.

The second session, chaired by Peter Beaumont of Sir Alexander Gibb & Partners Ltd, continued the topic of thermal applications with treatment of the problems of detecting underground cavities by Tom Kennie of Debenham, Chewson, Chinnocks & Co. Tom described the use of both airborne multispectral scanners and thermal video frame scanners to detect cavities within chalk and limestone.

Rounding off the meeting, Dr Geoffrey Wadge of NUTIS, Reading University, discussed that sometimes vexed question of correlating remotely-sensed data to map co-ordinates and other geographically-referenced data sheets. The evolution of GIS was discussed together with the useful application of present-day GIS technology within geology.

The formal inauguration followed the technical meeting. A brief history of the establishment of the group preceded the election of officers and executive committee. The formal session was concluded by a very successful wine and cheese social evening courtesy of the Remote Sensing Society and BP Exploration.

Pauline Waters

GRSG MEETINGS CALENDAR

The meetings programme is gathering momentum and the following meetings are planned for 1990/91. Please contact the conveners of the meetings to offer support or help.

20th September 1990:

GRSG will chair the geology session at the Remote Sensing Society Annual Meeting at the University of Swansea. There will also be a joint meeting with the Imaging Spectrometry Special Interest Group to examine the possibilities of collaboration to study a geological test site in southern Europe during overflights of the NASA AVIRIS, TIMS and multispectral imaging radar in 1991, or for other campaigns.

Contact: M.G. Coulson, Department of Geography, University College of Swansea, Swansea, SA2 8PP; Tel: 0792 295546 and Fax: 0792 205556, or GRSG Committee Members.

29th - 31st October 1990:

Don't forget the IMM/ERIM/PESGB/GRSG Conference in London. The final programme looks great and there is going to be a lot of remote sensors from around the world, including a big contingent from the USSR. It is a commercial meeting with an exhibition and has a commercial registration fee to match (but less than the ERIM conference fees for as much and more!). We hope many of you will feel it is worth it to meet fellow geological remote sensors, especially from industry.

Contact: Louise Crouch, Institution of Mining and Metallurgy, 44 Portland Place, London W1N 4BR; Tel: 071 580 3802 and Fax: 071 436 5388 or Geoff Lawrence.

8th January 1991:

One day "Imaging Spectrometry Spectral-Processing for Geology Workshop"

The plan is to share experiences and inspiration by having a mix of demonstration, presentation and discussion on the topic. It is hoped that several specialists from the UK will be there and that plans for campaigns to support imaging spectrometry for geology will be laid.

Contact: Dr Danny Donoghue, Department of Geography, Science Laboratories, South Road, Durham DH1 3LE. Tel: 091 374 2447 Fax: 091 374 2456 or 3740.

23rd February 1991:

Professor David Sanderson has organised a one day meeting entitled "Satellites and Neotectonics". This meeting will cover the exciting contribution to tectonic studies from the use of global positioning satellites and will be held at Southampton University.

Contact: Professor David Sanderson, Department of Geology, University of Southampton, Highfield, Southampton SO9 5NH. Tel: 0703 593040

May 1991:

GRSG Field Workshop in South East Spain. Further information is included within this newsletter. John Moore is looking for support now

September 1991:

Plans for a joint meeting with the Geological Information Group on the topic of "Geological Applications of GIS" are well under way. The meeting is planned to be held at NUTIS, University of Reading.

Contact: Dr Geoff Wadge, NUTIS, University of Reading, Whiteknights, PO Box 227, Reading RG6 2AB; Tel: 0734 318741 and Fax: 0734 755865.

Autumn 1991 or Spring 1992:

A workshop on the comparison and use of air photographs and satellite imagery is planned to be held in Birmingham or Aston. The convenor is looking for your contribution and support now.

Contact: Dr Clive Edmunds, Applied Geology Ltd., Kenilworth Road, Blackdown, Leamington Spa CV32 6RG; Tel: 0926 452400 and Fax: 0926 452475.

22nd November 1991:

Industrial Case Histories in Geological Remote Sensing. A one day meeting is being organised at the Geological Society, London.

The programme is taking shape but any persons interested in speaking or presenting a paper should contact: Jon Gutmanis, GeoScience Ltd, Falmouth Business Park, Bickland Water Road, Falmouth, Cornwall TR11 4SZ; Tel: 0326 211070 and Fax: 0326 211073.

Other meetings that are mooted are:

- An evening with NASA geologist and astronaut Dr Kathy Sullivan (Kathy Bowden).
- Coastal Geology (Rob Chenev)
- Support to validate airborne sensors for geological purposes (John Moore or Geoff Lawrence or Jon Finch)
- Understanding Landsat TM in the field in the UK - a workshop (possibly in the summer of 1991). This is being discussed at present. (Contact Geoff Lawrence or John Moore.)
- ERS 1 and Magellan (Geoff Wadge and Lionel Wilson)

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We would like to hear from anyone who would like details or can offer ideas and support. When you replied to express your interest in GRSG a lot of you had ideas for meetings. The list of ideas is reproduced here. 1992 and 1993 are not far away and it would be great to get some of the inspiring topics off the ground. Any offers please? Radar geology will, of course, become topical as ERS-1 data becomes available. Who will offer to organise a stimulating radar programme? The use of spaceborne gravity and AVHRR in global tectonic understanding is a favourite of mine. I'd be pleased to get the show together but prefer more of an expert to do it or help to do so? Offers? Or proffered contributions. It's far enough away for us to set up something tremendous!

We would very much welcome overseas meetings but regret that at present we can realistically only support those in the UK. However, we look forward hosting overseas meetings in the near future. We hope that regional organisers overseas will be able to organise local meetings, both social and technical.

Let us hear from you. Including, especially, from outside the UK.

GRSG FIELD COURSE - SOUTH EAST SPAIN - PRELIMINARY NOTICE

John McMahon Moore of Imperial College, London has kindly offered to run a geological remote sensing field excursion to Spain in May 1991. John has both considerable geological knowledge of south-east Spain through taking MSc Remote Sensing students on his geological remote sensing option and a large selection of imagery.

The excursion will be for one week flying to Almeria and visiting sites of interest within the Almeria/Granada area. It will be a review and demonstration of the application of different image types and image processing for a range of geological topics within the semi-arid environment. The following data will be used:

SPOT Panchromatic	SIR-A
Landsat TM	Metric Camera
Landsat MSS	Large Format Camera
Landsat RBV	Aerial Photography
Airborne TM (ATM)	

to demonstrate the use of remote sensing in the following subjects:

- Section through Betic Fold Belt
- Metamorphic Basement Blocks
- Neotectonics
- Tertiary Volcanics and Epicentral Gold Mineralisation
- Gypsum Deposits in Tertiary Molasse Basins
- Engineering Geology
- Quaternary Geology
- Semi-Arid Geomorphology
- Groundwater Resources
- Soil and Bedrock Mapping

The detailed content of the visit will be decided by the interests of the participants.

It is estimated that the maximum cost of the visit will be in the region of £450-500. This includes an Apex return flight to Almeria, hire of cars and accommodation in local hotels.

Any interested individuals or organisations should contact John for further details and information.

John can be contacted at:

John McMahon Moore
Department of Geology
Imperial College of Science, Technology & Medicine
Prince Consort Road
London SW7 2BP

Tel: 071-589-5111 X5561

MEETINGS & CONFERENCES

The following meetings and conferences have been taken from various technical journals and newsletters. If you know of any which are not shown below then please contact the Editor.

20-24 AUGUST 1990

International Symposium on Remote Sensing and Water Resources, Enschede, Netherlands, Secretariat, ITC (053) 320 330

Conference Secretariat Remote Sensing Applications Centre
PO Box 1215
West Perth WA 6005
Fax: 619 321 8576

18-21 SEPTEMBER 1990

Remote Sensing and Global Change. Annual Conference of the Remote Sensing Society) University College of Swansea.

Mr.M.G.Coulson (0792) 295546 or Fax (0792) 205556.

29-31 October 1990

Remote Sensing - An Operational Technology for the Mining and Petroleum Industries. Novotel (Hotel) Hammersmith, London. Ms.P.Gill (081) 580 3802.

2-4 October 1990

Int.Symp.on Thematic Mapping from Satellite Imagery. Paris, France.

CNIG,
Symposium ACI 1990,
136 bis,
Rue de Grenelle,
75700 Paris,
France.

6 November 1990

The UK Earth Observation Data Centre, Rae, Farnborough.
Mr.M.Hammond (0272) 693831 ext 6699.

2-6 October 1990

7th Thematic Mapper Conference on Remote Sensing for Exploration Geology.

Nancy Wallman,
PO Box 8618,
Ann Arbor, Michigan,
USA.
(313) 994 1200 X3234

7-10 November 1990

GIS/LIS '90
Anaheim, California.
USA.
Tel: (301) 493 0200

12-15 November 1990

2nd International Symposium on Advanced Technology in Natural Resource Managemnt.
Washington, USA.
Tel: (303) 226 1688

8-12 October 1990

5th Australian Remote Sensing Conference. "Operational Remote Sensing for Developing and Managing Earth Resources.
Perth, Australia.

15-21 November 1990

11th Asian Conference on Remote Sensing.
Guangzhou, China.
Prof Shunji Murai
Institute of Industrial Science

University of Tokyo
7-22 Roppongi Minatoku
Tokyo, Japan

1-7 December 1990
Int. Conf. on Geological Research and
Remote Sensing in Africa.
Burkino Faso
Contact: Not Known.

17-20 December 1990
Short course on Satellite Remote
Sensing for Land Applications.
Silsoe College, Bedfordshire, UK.
Contact: Ms J.A. Hookway
Tel: 0525-60428

18-19 December 1990
NERC Airborne Remote Sensing
Symposium.
British Geological Survey, Keyworth.
Contact: Ms Pauline Cubbins
NERC Scientific Services, Polaris
House, North Star Avenue, Swindon
SN1 2EU.

14-18 January 1991
5th International Colloquium: Physical
Measurements and Signatures in
Remote Sensing.
Courcheval, France.
Dr Gerard Guyot
INRA Bioclimatologie
Tel: (33) 90316094
Fax: (33) 90316298
Telex: INRAAVI 432870 F

17-21 February 1991
The Australian Society of Exploration
Geophysicists 8th Conference and
Exhibition, and the Geological Society
of Australia Exploration Symposium.
Sydney Convention Centre.
Contact: Conference Secretariat
1991 ASEG-GSA Conference
PO Box 925, Crows Nest, NSW 6185,
Australia.
Tel: (02) 439 6185
Fax: (02) 436 3730

7-10 April 1991
AAPG, Annual Conference and
Exhibition of the American
Association of Petroleum Geologists.
Dallas, Texas, USA.
Ms. Sandra Biggs
PO Box 979
Tulsa, OK 74101
Tel: (918) 584 2555
Telex: 499432

29 April - 2 May 1991
8th Thematic Conference on Remote
Sensing for Exploration Geology.
Denver, Colorado, USA.
R.H. Rogers or N. Wallman
Tel: (313) 994 1200 X 3234
Fax: (313) 994 1575

