August

Date	Institut.	Details	Venue	Time
Sun 31 Aug - Wed 3 Sept	NAMS	North Atlantic Minerals Symposium NAMS 2003 General enquiries: Nicola Meenan, Conference Partners Ltd., 96 Haddington Road, Dublin 4. e-mail:nmeehan@conference.ie	University College Dublin	

September

Starting Mon 23	Ulster Museum	"Minerals Tamed" Six easy lessons - delivered in plain language by Ian Meighan, QUB. Free of charge but booking essential. Further information from Sciences Division, Ulster Museum, Botanic Gardens, Belfast BT9 5AB, Ph.028-9038-3131	Ulster Museum	7.30-8.45pm

MEMBERSHIP

The IGI welcomes new members. For further information, please contact the secretary, IGI, Dept. of Geology, UCD, Belfield, Dublin 4; email:info@igi.ie

VISIT OUR WEBSITE

www.igi.ie

ARTICLES WELCOME

The IGI welcomes articles and photographs relevant to geology in Ireland. We also welcome your letters, comments and suggestions. Please write to the editor.

IGI NEWSLETTER

The IGI newsletter is published by the Institute of Geologists of Ireland (IGI).

Editor – EurGeol Stephen Daly PGeo
Dept. of Geology, UCD, email: stephen.daly@ucd.ie

Layout – Ken Farrar, White Young Green (Ireland) Ltd.

IGI BOARD MEMBERS

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Website:www.igi.ie

SPRING 2003 ISSUE NO. 2

Newsletter

A Publication for the IGI www.igi.ie

A Message from the President

GEOLOGICAL COMMUNICATION

The majority of geologists that I know came to study the subject for reasons unrelated to the practice of the profession. Most were attracted to the science because of an interest in nature or natural history. The course content in our university programmes reflects this and emphasises the science rather the practice of geology – correctly so in my view.

Traditionally the practice of geology was learned "on the job" through mentoring or in specialist post-graduate study courses. The concept of the "qualified person" recognises this by generally requiring at least five years of relevant professional experience before being recognised as such.

A basic element in professional practice is the ability to communicate the essential facts to non-geologists. As a profession we have failed to effectively communicate that geology is of fundamental importance to the efficient exploitation of mineral deposits, to proper spatial planning and infrastructural design, to groundwater protection and development, and to a wide variety of environmental issues. We are failing for a range of reasons. Very often we fail because we do not fully appreciate the needs.

A good example of failure in communication is the recent flooding in Dublin and its hinterland. At least part of the reason for these floods was the inadequate communication of the importance of flood plains. This inadequacy is exacerbated by the fact that in many cases we are communicating with engineers and accountants who use numbers to convey certainty and precision. Geological verbiage does not do this and therefore tends to be ignored or at least underestimated. This is particularly so when the terminology that we use is geological jargon which very often is not understood.

In addition, professional geologists must recognise that geoscientific practice is not science, even though science and scientific research are the basic tools. The distinction between geoscience and geological practice is probably best defined by Muessig in the statement in relation to mineral exploration, "Science strives for understanding, exploration strives for discovery" (Muessig, 1979, Economic Geology, 74, 3).

The IGI is taking steps to improve communication between geologists, engineers, planners and all those involved in national development. The recent publication of guidelines for the geological content of environmental impact statements is a first step. The forthcoming conference on Land Use and Spatial Planning in Ireland will offer another opportunity.

As a profession our salary scales and charge-out rates compare unfavourably with other professionals with whom we deal on a regular basis. This situation will continue to persist until we can effectively communicate the importance of our profession to society.

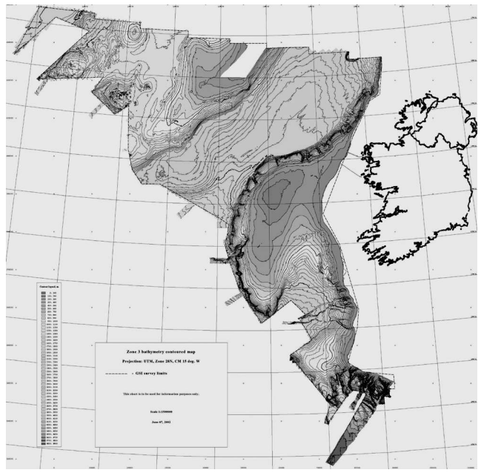
EurGeol John A Clifford PGeo
IGI President

IN THIS ISSUE

GSI - NATIONAL SEABED SURVEY

If there is one aspect of the national maritime scene that is producing a healthy cocktail of success and future confidence it is the survey of the Irish seabed currently being managed by the GSI.

The ¤32 million “National Seabed Survey” will enter its fourth year of data acquisition this spring. In June 2002 the deep-water section of this, the largest marine survey ever undertaken anywhere in the world, was concluded. The Survey is already providing maps and information which will be of major importance for Ireland, both commercially and scientifically now and in the future. When finished the survey’s coverage will encompass most of Ireland’s offshore seabed area – an area that is 10 times that of our land area.

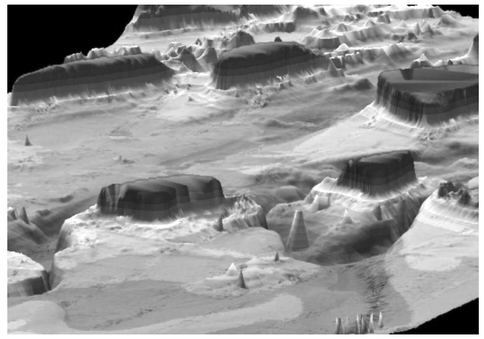


Bathymetry map showing the final coverage in zone 3 (200-450m interval).

Since July 2000 when the first survey vessels took to the deeper waters (Zone 3, 200-4,500m water depth) the vast seabed off the west coast has been thoroughly investigated as never before to reveal massive valleys, canyons and substantial rocky outcrops on an impressive scale. The information being gathered includes the composition of the rock and sediments forming the seabed as well as underlying structures. In addition to acoustically measuring the seabed with side scan sonar, multibeam echo sounders and pinger arrays the vessels have collected unprecedented magnetic and gravity data over the entire continental shelf. Detailed studies of around 450,000 square kilometres of the seabed have now been completed, and data is available both digitally and in paper form from the GSI.

By the end of the 2002 surveying season six ships and one aeroplane had been employed in carrying out the Survey. Reviewing the 2002 season is no easy task such was the variety of data acquisition techniques being employed. Overall, substantial progress was made last year towards the achievement of the overall objectives of the National Seabed Survey.

The year saw the conclusion of the Zone 3 deepwater area in June. Also in June a pilot study utilising an airborne laser was carried out over Clew Bay by the Australian Tenix LADS company to bring another dimension to the survey in Zone 1 (0-50m depth). 2002 was also the year that surveying commenced in Zone 2 (50-200m depth) with the deployment of the Marine Institute’s Celtic Voyager in Donegal Bay.



A 3D image, from the laser airborne survey, of part of Clew Bay close to Westport Harbour showing drumlins and channels scoured by tidal streams.

Between May and July GSI oversaw the implementation of a seabed sampling programme (concentrating on sediments rather than rock cores). It is deemed necessary to carry out “ground-truthing” as part of the National Seabed Survey since it is felt that the various features being imaged using the multibeam technique cannot be fully understood and interpreted without ground truth data.

The principal objective of the programme was to obtain a broad distribution of box core sediment samples for use in seabed classification of multibeam data, and to form a baseline geological, geochemical, geotechnical, and biological database of the Irish seabed. Using three separate contractors seabed samples were gathered from 100 locations, photographed, described, and then sub-sampled for post-survey biological, chemical, geotechnical, and sediment distribution laboratory analysis. Video profiles were also taken and an example of one taken of a slump feature on the East Rockall bank slope identified a diverse range of marine flora, fauna and seabed features.

By way of specific example, more than 30 box core and 9 video stations were occupied in areas around the Rockall Trough with the overall aim of studying geological processes here. The video tows concentrated primarily on newly discovered mound features. Some excellent sites in depths of 1,000-3,000 metres were sampled. It is likely that the mound features will prove to be seamounts as opposed to carbonate mounds but analysis will confirm whatever they might be. We are also interested in seeing if they may be populated by coral. The samples were analysed for geology, geochemistry and biology on board and were stored for shipment ashore where they are now undergoing further analysis.

Ground-truthing is also invaluable for the interpretation of

March

Date	Institut.	Details	Venue	Time
Wed 19	BGS	Lecture on The Cretaceous kites of Brazil: a diverse array of pterosaurs by Dr. Dave Martill	Ulster Museum	7.30pm
Wed 26	CGA	Lecture on The geology of the Aegean by Dr. Alan Timms	Jury's Hotel, Cork	8.00pm

April

Wed 16	BGS	AGM	Ulster Museum	7.30pm

May

Sat 10 - Sun 11	IAEG	Weekend Course “Rare Metals & Platinum Group Metals”	Castle Oakes Hotel Castleconnell, Co. Limerick	
Wed 28	CGA	AGM and 11th Members' Night	Nevill Lab, G8, Geology Dept., NUI Cork	8.00pm

June

Sat 7 - Sun 8	NAMHO	Annual Meeting, details to be finalized.	Avondale House, Co. Wicklow	

July - no events

August

Fri 29 Aug - Wed 3 Sept	IGES	International Geochemical Exploration Symposium *IGES 2003* General enquiries: Eibhlin Doyle (GSI) e-mail: eibhlindoyle@gsi.ie	University College Dublin	

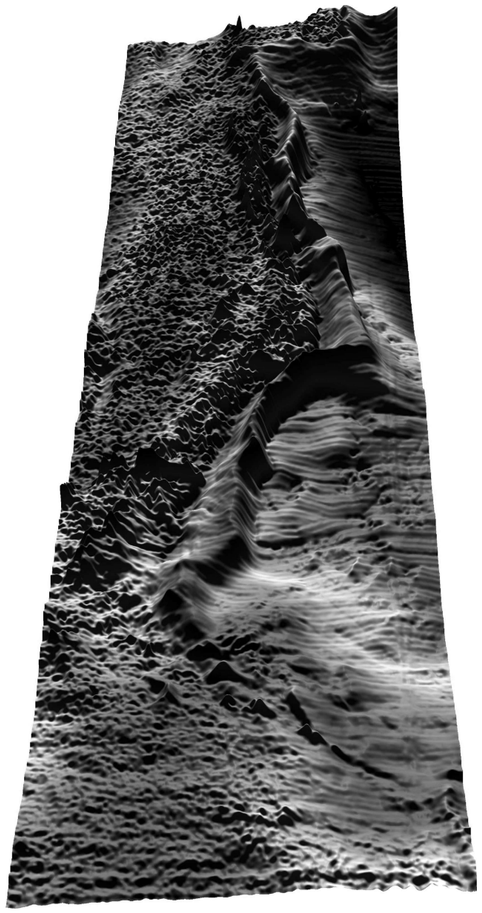
EVENT GUIDE - February

Date	Institut.	Details	Venue	Time
Thu 13 - Sun 17	IAEG/GAI	Student weekend course Techniques and practices in mineral exploration in Ireland - applied geophysics Contacts: Michael Lewis (IAEG) Tel. (087) 293 6849 e-mail:lewises@indigo.ie Peter O'Connor (GAI) Tel. (087) 936 5000 e-mail: oconfam@indigo.ie	Petersburg Outdoor Education Centre, Clonbur, Co. Galway	
Sat 15	BGS	Practical Geology Workshop - Dr. John Arthurs	TBA	TBA
Wed 19	BGS	Lecture on Graves, moats, dunes and landfill sites: ground-penetrating radar research in Ireland by Dr. Alastair Ruffell	Ulster Museum	7.30pm
W/E 21-23	IGRM	46th Annual Irish Geological Research Meeting (IGRM) Guest speakers will be Andrew Smith and John Gamble. Further information at www.habitas.org or Mike Simms (Ulster Mus) at michael.simms.um@nics.gov.uk or Alastair Ruffell (QUB)	Ulster Museum	
Wed 26	IGI	Conference: Land use and spatial planning in Ireland	Dublin Castle	
Wed 26	CGA	Lecture on Development of the Irish Landscape during the Ice Age by Dr. Robbie Meehan	Jury's Hotel, Cork	8.00pm

March

Tue 4	IAH	Younger hydrogeologists forum	Further details from Donal Daly 01-678 2811 or Kevin Culllen 01-294 1717	

acoustic data which allows different fishery habitats to be defined. Fishery habitat maps assist the fishing community through efficient trawling itineraries for premium stocks and in identifying areas where net damage and gear loss can be avoided. To date a number of paper maps covering 2° by 1° at a scale of 1:250,000 have been purchased by deep water fishing vessels. The maps depict the seabed contours as coloured bands and are complimented by shaded relief charts that provide a 3D 'picture' of the seabed, highlighting areas of interest. Multibeam 'backscatter' maps are also available to provide a measure of the seabed hardness. The digital data is currently being modelled for inclusion in modern electronic charting systems that can visualise the fishing nets (fitted with acoustic positioning) in relation to the seafloor in 3D, all in real time.



A 3D image of Donegal Bay, taken from the Celtic Voyager, illustrates dramatic topography in Zone 3 (50 - 200m depth).

A further programme - the deep seismic programme (HADES - HAtton Deep Exploration Seismic) - providing vital information related to deep crustal geological structures was completed north of the Rockall Trough in the Hatton Basin area. Three survey lines were acquired with a total of 1,018 km of seismic data shot. The survey utilised Ocean Bottom Seismographs deployed on the seabed in depths exceeding 3,000 metres, and low frequency airgun (cylinders of compressed air) arrays providing anticipated penetration in the region of 35 km within the continental crust. The results of this work will provide fundamental data of great importance to the exploration for hydrocarbons in this remote frontier area.

Deep water Atlantic coral (Lophelia) seen from the S/V Logachev.

All in all then 2002 was a year of great achievement for the National Seabed Survey. It's full steam ahead now for the 2003 surveying season which we hope will emulate 2002's achievements. A book detailing the origins, achievements and benefits of the National Seabed Survey will be published in autumn 2003.

For further information, please view the website http:/www.gsiseabed.ie or contact Enda Gallagher, GSI at (01) 6782834 or e-mail: endagallagher@gsi.ie

Enda Gallagher
GSI

Views and Opinions Welcome

The IGI welcomes comments on articles and views on issues relevant to geological practice. Please write to the editor.

European Federation of Geologists

THE IRISH PRESIDENCY

When I was asked to stand for the Presidency of the European Federation of Geologists in early 1999, issues to be addressed included Personnel, Work Load, Personal Finances and Working Time Commitments. In a rapidly expanding Federation, the Secretary-Treasurer's work-load and responsibilities had increased to become too great for one individual, whilst the role of the EU Delegate had also developed. Consequently Council accepted proposals to increase the Board from three to five members.

Preceding Presidents Manuel Regueiro, Gunnar Hultquist and Richard Fox supported by large wealthy organisations agreed that the Work Load was serious and involved significant travel time and expenses. I budgeted one day a week management time and ten days a year travel plus associated expenses, which would all need financial backing. I was fortunate to secure initial funding from Enterprise Oil which was followed by a number of Irish companies. They made the Irish Presidency possible and I am most grateful to them. I was also fortunate to receive strong support from the other Irish delegate John Clifford and the rest of the IGI Board.

Sponsors of the Irish Presidency:

1999	Enterprise Oil
2000	Enterprise Energy Ireland
2001	CRH Group Castlemore Quarries CSA Group K T Cullen & Co.
2002	Conroy Diamonds & Gold Tullow Oil White Young Green

One to three days a week were spent on EFG business, whilst Council, Board and other meetings, involved eight or nine foreign meetings a year. The development of electronic Board meetings kept things under control and allowed the work to proceed. The first and most difficult task of the new Board was to sort out the Federation finances. We were fortunate that Treasurer Carlo Enrico Bravi made sense of these, paid off our debts and established transparent procedures.

The next thing was to transfer our base from Paris to Brussels for easy access to the European Commission. In Paris we had been hosted by the Union Française des Géologues. After much fruitless searching, with the permission of the Director Peter Laga, the EFG was able to use the UBLG's office in the Belgian Geological Survey in exchange for their membership dues. So now we have a good office, in the heart of the geological community and within walking distance of the European Commission. We are particularly grateful to all our Belgian colleagues. This is a resource for all European Geologists to use.

On the national membership front Austria and Denmark left, whilst Greece faded away because we were not making the professional case strongly enough. However the Czech Republic and Iceland were elected to full membership and Norway will apply for membership in the near future. Internationally, we strengthened our ties with the American Institute of Professional Geologists, and signed a Co-operation Agreement with the Canadian Council of Professional Geoscientists. Together with these bodies, the EFG co-organised the first International Professional Geology Conference in July 2000, hosted by the Ilustre Colegio Ofiçial de Geólogos de España in Alicante, Spain. This major step forward will be followed by the second IPGC to be hosted by the Geological Society of London in 2004.

Following a detailed review of our professional title of European Geologist (EurGeol) Council decided to adopt mandatory Continuing Professional Development (CPD) for all EurGeols. This allows the title to keep pace with professional development around the world and enables the mutual recognition of professional titles. The title was relaunched through the new Registration Authority and national member associations can apply to become Licensed Bodies to award the title themselves. Thus Ireland, Spain and the UK have already been licensed and there has been a 155% increase in the number of titles issued, rising from 167 to 412 in the three year period. As always Ireland continues to lead the way.

The value of the title is increasing: Ireland's Exploration and Mining Division and the Environmental Protection Agency both accept a EurGeol title holder and a PGeo as a Competent Person. In Spain the title is now enshrined in law and EurGeols will have the same rights and privileges to register with ICOG as Spanish-qualified geologists. In Canada the Canadian Securities Administrators will accept a holder of the EurGeol title as a Competent Person for the purpose of signing reports submitted to the Canadian stock exchanges. The Federation also lends strong support to EurGeols that experience problems working in other countries.

The first ten issues of our flagship European Geologist magazine were edited by Manuel Regueiro, Spain. Then Steen Laursen, Denmark edited no. 11, assisted by Queen's graduate Maureen McCorry. When Steen joined the army, Maureen took over and she has produced nos. 12-14. The Magazine is now established on the European scene with over 8,000 copies published per issue. Articles are always welcome! On the electronic front the Federation's website (www.eurogeologists.de) has continued to develop under the management of Detlev Doherr of Germany and the

Woodcock, N.H. and Strachan, R.A. 2000. Geological History of Britain and Ireland. Blackwell. ISBN 0632036567.

Zhang, X. and Sanderson, D.J. 2002. Numerical modelling and analysis of fluid flow and deformation of fractured rock masses. Pergamon. ISBN 0080439314

NEW ACADEMIC APPOINTMENTS

Professor Alan Jones has recently been appointed Senior Professor and Head of Geophysics at the Dublin Institute of Advanced Studies. Professor Jones is an expert on magnetotellurics, particularly applied to problems in continental dynamics, continental tectonics, continental mantle lithosphere and mantle anisotropy. He is currently working at the Geological Survey of Canada and also holds Adjunct Professor appointments at Syracuse, Carleton and Queen's (Ontario) Universities.

Professor John Gamble has recently taken up his position as Chair and Professor of Geology at University College Cork. Professor Gamble is a volcanologist and geochemist with a particular interest in andesitic eruptions. Currently active research projects include: Geochemical studies of andesites as building blocks for continental crust; Combined field, $^{40}Ar/^{39}Ar$ dating and geochemical studies of active andesite volcanoes in New Zealand; Magma fluxes at active andesite volcanoes and time-scales of magma evolution through U - Th - Ra isotopes and high precision trace element geochemistry of the lithospheric mantle.

Professor Nicky White will shortly arrive at Trinity to take up the Chair of Geology and Mineralogy. He will take over as Head of Department from John Graham. Professor White has been active in a number of research areas including tectonics, basin development, crustal evolution and sedimentology.

Dr Paddy Orr has been appointed lecturer in Geology at University College Dublin. He is currently lecturing at NUI, Galway. Dr Orr is a palaeontologist who specializes in exceptionally-preserved faunas, evolutionary palaeoecology of early Phanerozoic deep marine environments and the evolution of early terrestrial ecosystems.

GEOLOGY AND THE EIS PROCESS

The requirement to carry out an Environmental Impact Assessment (EIA) is set out in EU Directive 85/337/EC and has been adopted in national legislation under S.I. 349 of 1989, S.I. 84 of 1994 and S.I. 93 of 1999. This directive lists 10 topics that an Environmental Impact Statement (EIS) should consider in assessing both the direct and indirect environmental effects of a proposed project. These topics are: human beings, fauna and flora, soil, water, air, climate, landscape, material assets, cultural heritage and interactions between the factors listed. Geology is not included in the list and hence must be covered under one or more of the other topics. It is likely that this contributes to geology being neglected or in some cases ignored.

As a consequence, Environmental Impact Statements (EIS) do not deal satisfactorily with geological aspects of developments, and commonly do not involve a professional geologist. As a result of this concern the IGI set up a Working Group to review the geological content of EISs and has developed guidelines to assist developers, practitioners and regulators in appreciating how geological issues should be addressed in the context of a proposed development.

The IGI EIS Working Group was first convened in December 2000, and having established the need for a set of guidelines specifically for geology, set out to produce an IGI Guide, which is intended to complement the Environmental Protection Agency's Guidance Documents on the preparation of Environmental Impact Statements. The IGI believes that the development of specific geological guidelines will serve to clarify and improve the content and quality of EISs as well as enhancing public confidence in them. Following consultation with members, the IGI guide, "Geology and the EIS Process, A Guide" was published in September 2002. The document elaborates on the geological issues for each of the EU directive topics (Human Beings, Soils etc) under the headings: "Existing environment", "Likely significant impacts" and "Mitigation measures". This part of the document is laid out in tabular format to facilitate the user and highlights the issues relevant to geology.

The geological issues listed under each of these headings are by no means exhaustive. In particular, examples for mitigation will have to be addressed on a site-specific basis and best practice should apply. In addition it should be said that many of the issues outlined might not be relevant to particular developments. The table should be used as a guide for identifying areas where geological input might be necessary. The document then looks at geology in the context of "Project Types" as identified by the Environmental Protection Agency. For each project type, this table describes the relevance of geology and lists the main topics under which geology should be addressed.

The EIS Working Group considered that there should be an emphasis on the quality of the investigation, interpretation and assessment of the geological data submitted as part of an EIS. To achieve high standards in geological reporting (as well as in other specialised areas), the Working Group considered that a "Competent Person" should take responsibility and 'sign off' each specialised report.

The IGI EIS guide has been circulated to all interested parties and is now available on the IGI website for consultation. It is hoped that the guidelines will improve the quality of EISs, create an awareness of the importance of geology in all developments and demonstrate the importance of involving a "Competent Person" to achieve high standards in the EIA process.

Eurgeol Dr Eibhlín Doyle PGeo

Registration forms are available from

Ms. Susan Pyne
Institute of Geologists of Ireland,
c/o Department of Geology,
University College Dublin,
Belfield, Dublin 4.

See the events listing for other meetings of interest to IGI members.

NEW BOOKS

Adam, A., Bowie, D., Freeth, D., Booth, P. and England, P. 2002. Investment Mathematics 2nd Edition. Wiley. ISBN 0471998826.

Armstrong, M., Bettini, C., Champigny, N., Galli, A. and Remacre, A. 2002. Geostatistics Rio 2000. Kluwer. ISBN 1402004702.

Aspinall, R. 2003. Environmental GIS and Data Analysis. Wiley. ISBN 0471985651.

Blundell, D.J., Neubauer, F. and von Quadt, A. (eds) 2002. The Timing and Location of Ore Deposits in an Evolving Orogen. Geological Society, London. ISBN 186239122X.

Davis, J. 2002. Statistics and Data Analysis in Geology, 3rd Edition. Wiley. ISBN 0471172758.

Edmunds, W.M. and Milne, C.J. (eds) 2002. Palaeowaters in Coastal Europe: Evolution of Groundwater since the Late Pleistocene. Geological Society, London. ISBN 186239086X.

Gibbons, W. and Moreno, T. (eds.) 2002. The Geology of Spain. Geological Society, London. ISBN 1862391106 (Hbk), 1862391270 (Pbk).

Griffiths, J.S. (Compiler) 2002. Key Issues in Earth Sciences: Vol 1: Mapping in Engineering Geology. Geological Society, London. ISBN 1862391017.

Hiscock, K.M., Rivett, M.O. and Davison, R.M. (eds) 2002. Sustainable Groundwater Development. Geological Society, London. ISBN 1862390975.

Holdsworth, R.E. and Turner, J.P. (Compilers) 2002. Key Issues in Earth Sciences: Vol 2: Extensional Tectonics: Faulting and Fault-related Processes (Part 2). Geological Society, London. ISBN 1862391157.

Hounslow, A. 2002. Forensic Geochemistry: a practical guide to fingerprinting groundwater and groundwater contamination. CRC Press. ISBN 1566705029.

Kearey, P., Brooks, M. and Hill, I. 2002. An Introduction to Geophysical Exploration. 3rd Edition. Blackwell. ISBN 0632049294.

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McCleneghan, M.B., Bobrowsky, P.T., Hall, G.E.M., and Cook, S.J. (eds) 2001. Drift Exploration in Glaciated Terrain. Geological Society, London. ISBN 1862390827.

O'Donoghue, M. and Joyner, L. 2002. Identification of Gemstones. Butterworth Heinemann. ISBN 0750655127.

Rawson, P.F. et al. 2002. Stratigraphical Procedure (Geological Society Professional Handbook Series). Geological Society Publishing House. ISBN 9058093581.

Robins, N.S. and Misstear, B.D.R. (eds) 2001. Groundwater in the Celtic Regions: Studies in Hard-rock and Quaternary Hydrology. Geological Society, London. ISBN 1862390770.

Schwarty, F.W. 2002. Introduction to Groundwater Hydrology. John Wiley & Sons. ISBN 0471137855.

Siegel, F.R. 2002. Environmental Geochemistry of Potentially Toxic Metals. Springer-Verlag. ISBN 3540420304.

Siegesmund, S., Vollbrecht, A. and Weiss, T. (eds) 2002. Natural Stone, Weathering Phenomena, Conservation Strategies and Case Studies. Geological Society, London. ISBN 1862391238.

Shannon, P.M., Haughton, P.D.W. and Corocoran, D.V. (eds) 2001. Petroleum Exploration of Ireland's Offshore Basins. Geological Society, London. ISBN 1862390878.

Stow, D. 2002. A Colour Atlas of Sedimentary Rocks in the Field. Blackwell Publishing. ISBN 1874545685.

Thomas, L. 2002. Coal Geology. John Wiley & Sons. ISBN 0471485314.

Trewin, N.H. (ed.) 2002. The Geology of Scotland. 4th Edition. Geological Society, London. ISBN 186239105X (Hbk), 1862391262 (Pbk).

Tweedale, G. 2002. Magic Mineral to Killer Dust: Turner & Newall and the Asbestos Hazard. Oxford University Press. ISBN 019829690.

Van der Meer, F. and de Jong, S.M. (eds) 2002. Imaging Spectrometry: Basic Principles and Prospective Applications. Kluwer. ISBN 1402001940.

Younger, P.L. and Robins, N.S. (eds) 2002. Mine Water Hydrogeology and Geochemistry. Geological Society, London. ISBN 1862391130.

maintenance of Peer Anderson, Denmark.

The Federation is one of a number of European geological bodies, so with EuroGeoSurveys we support each other when we have mutual goals and interests. We are co-operating with the International Association for Engineering Geologists to produce a new dossier on Geotechnical matters and with ProGeo on geological heritage. The EFG has recently adopted the new Code for Reporting Mineral Exploration Results, Mineral Resources and Ore Reserves, built on the previous international JORC code.

We appointed Isabel Fernandez to be our lobbyist in Brussels. Working through European Commission Directorates, we are involved in the preparation of EC Directives on Water, Sludge Disposal, Mine Waste, etc. Irish MEPs Niall Andrews and Gerard Collins have asked questions in the European Parliament for us, whilst the European Commission has confirmed that it supports the EFG's work to facilitate the free movement of geologists within the Community.

Now I wish the new Board: President Christer Åkerman (Sweden), Vice-President Uros Herlec (Slovenia), Secretary-General David Norbury (UK), Treasurer Carlo Enrico Bravi (Italy) and especially my hard-working, fellow PGeo, EU Delegate John Clifford (Ireland) all success for the next term.

EurGeol. Gareth Ll. Jones BSc, MSc, PGeo

EFG NEWS

The new EFG Board elected at the June Council Meeting in Bern is: President Christer Åkerman, Sweden; Vice-President Uros Herlec, Slovenia; Secretary-General David Norbury, UK; Treasurer Carlo Enrico Bravi, Italy; EU Delegate John Clifford, Ireland. The Irish presence on the Board is continued by John Clifford who is in charge of dealings with the European Commission. At the Informal Working Council Meeting in Brussels this December, it was pleasing to see that the new Board has hit the deck running and is active on all fronts.

Informal Meeting in the Natural History Museum, Brussels

The style of this meeting was successfully streamlined to reduce routine matters to brief discussions on presented documents. Early in the meeting two guests from the International Association for Engineering Geology made presentations on the production of a new paper on Engineering geology using the EFG dossier as one of the start documents. EFG and IAEG looked forward to future collaboration.

The new International Licensed Body (ILB)reported that their Regulations had been approved by the Registration Authority and that they were legally formed and operating. Elections by the ILB and by the UK and Ireland Licensed Bodies brought the number of EurGeol titles up to 454.

Progress with the European Geologist magazine was reported by the Editor Maureen McCorry. She has sorted out many matters and is moving forward to produce EG15 in Denmark or where convenient. She is still looking for more articles, adverts and photographs.

Presentation of the Gold Medal of Merit to Eric Groessens

The main effort of the meeting was addressed to a new 5 Year Plan. This looked at all aspects of EFG activity and dealt with what was possible and when it could be delivered. Deliverables for 2003 were agreed and responsibilities assigned.

Relaxing after a successful informal Council Meeting

The key elements of the discussion included:

- The need to focus and deliver on a few objectives

- Provide feedback from Council, Board and Office activities to the National Associations (NA) to help them improve the image of EFG

- Sharing member benefits, with enhanced benefit levels for EurGeols

Much material will be lodged on the website and you are encouraged to look at your particular concerns there: www.eurogeologists.de.

At a reception in the Belgian Geological Survey the newly minted EFG Medal of Merit was presented to its first recipient Prof. Eric Groessens, Belgium for his years of services to the EFG. A second medal will shortly be presented to the first EFG President John Shanklin, UK.

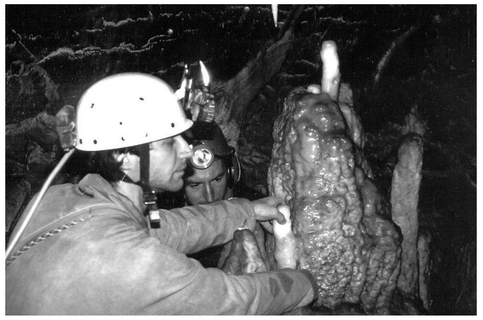
Irish delegates to the EFG :

John Clifford EU Delegate, Gareth Ll. Jones Past President

EurGeol. Gareth Ll. Jones BSc, MSc, PGeo

CLIMATE CHANGE RESEARCH PROVIDES GEOLOGICAL PERSPECTIVES ON RECENT CLIMATE CHANGE

It is widely accepted that global mean annual air temperatures have increased by approximately 1 ^{O}C during the past century, and that the effects of climate change are now detectable in Ireland. It is also well known that the concentrations of radiatively active, or so-called 'greenhouse gases' have increased significantly during this time. Best known perhaps is the increase in atmospheric CO_2 (from 280 ppm in the pre-industrial era to 360 ppm in 2002), linked to fossil fuel burning. The linkage between enhanced greenhouse gas concentrations and global climate change is not so well established however, because this is a complex system with multiple feedbacks. Nonetheless, the causes of climate change are of considerable economic interest to Ireland, not least because it is increasingly clear that our obligations to reduce greenhouse gas emissions under the Kyoto Protocol will be difficult to achieve. Researchers in Irish universities are contributing to the debate about the attribution of recent climate variability by providing perspectives within which the current warming trend can be assessed. Irish scientists working on the climate record preserved in late glacial lake sediments for example have pointed out that climate change can be extremely rapid (several ^{O}C per decade) at glacial / interglacial transitions.



Andrea Borsato (Museo Tridentino di Scienze Naturali, Trento) and the author speleothem sampling in Grotta di Ernesto, northern Italy as part of an EU-funded project on Holocene climate change

Less widely appreciated perhaps is that even during so-called stable periods such as the Holocene there has been natural climate variability of a magnitude similar to that of the current global warming trend. In the Greenland ice cores for example there is evidence for natural variability on decadal to centennial timescales in the early Holocene (9,000 to 5,000 years B.P.), but it had been difficult to assess whether these fluctuations reflected regional events or local variability restricted to high latitudes. A high-resolution oxygen isotope record in a speleothem from Crag cave in S.W. Ireland has provided new evidence for centennial scale oxygen-isotope variations that are in phase with changes in the Greenland ice cores, indicating regionally coherent variability in the early Holocene. The implication is that even in the absence of anthropogenic forcing such as increased greenhouse gases, the regional climates fluctuate on relatively short (century) timescales, and the challenge is to elucidate the causes of these variations (e.g. changes in solar output, volcanic eruptions, oceanic circulation patterns, atmospheric dynamics). This in turn requires better General Circulation Models (GCMs) that incorporate more realistic feedbacks and provide the spatial resolution necessary to differentiate between regional and global effects.

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CPD – RESULTS FROM 'YEAR 1'

In common with other professional organisations, the IGI has instituted and is now operating its Continuing Professional Development (CPD) scheme. Annual reporting of CPD activities undertaken since January 1st 2001 has been compulsory for the maintenance of the PGeo title. All of us were obliged to report on our professional activities under various headings and to prepare a Personal Development Plan for the next three years. Members were required to submit completed CPD forms in early 2002 together with their membership fee. Though progress was naturally slow, by year's end 97% of members had complied with the CPD requirements. In accordance with the IGI regulations, the small number who did not comply will not now be invited to renew their IGI membership. Given that the EurGeol title is now linked with the PGeo title, a default in reporting CPD activities will also result in termination of EurGeol memberships.

Those who completed the forms will agree that 2-3 hours was adequate for this annual task. In line with a formal review of 20% of the returns by the CPD Audit sub-committee, as well as members comments, improved versions of the forms and guide have been posted on the IGI website (www.igi.ie) for use in 2003. We look forward to early returns this year and to the continued smooth operation of the scheme in years to come.

Members and non-members alike may wish to be reminded of the logic behind CPD and indeed behind the IGI. The IGI was set up to promote professional practice within the Geosciences. This has been an essential development given that our working environment is increasingly being monitored and controlled by regulatory bodies. Society has become ever more litigious and we can expect that professional errors will be detected and identified as such and will be punished under contractual interpretations of responsibility and duty of care. Many professional bodies including the IGI have examined the role they play in protecting and supporting their members and it is in this context that the concept of CPD was introduced.

CPD is the systematic maintenance, improvement and broadening of knowledge and skill and the development of personal qualities necessary for the execution of professional and technical duties throughout a practitioner's working life. The aim of the IGI CPD scheme, established in 2000, is to help members improve their skills and provide structures and support for a programme of lifelong learning. The idea is to encourage and help members to develop an individual professional development programme and to record their professional activities and evidence of self-improvement.

The IGI considers that its members have a responsibility to the profession to maintain and develop their abilities as practitioners by a commitment to continuing professional development. CPD helps to ensure the quality of professional products and services and is a valuable investment for both individuals and their employers.

IGI members work in most fields of the geosciences and in organisations that operate in the different sectors of the economy. The Institute's CPD programme is designed to be flexible and accommodate the variety in members' activities. It is each professional member's responsibility to decide what to learn and which methods best suit his or her specific needs. Members design their individual programmes within the overall framework provided by the IGI and tailor them specifically to their needs.

The IGI provides members with the materials needed to organise their CPD returns, which can be downloaded from the Institute's web-site (www.igi.ie). This consists of a comprehensive guide (in Microsoft Word) and a spreadsheet workbook (in Microsoft Excel) in which to record CPD activities and Personal Development Plan. The idea of the spreadsheet system is to make the process user-friendly, while attempting to impose a certain discipline on the process of recording activities claimed for CPD.

Meetings

IRISH GEOLOGICAL RESEARCH MEETING (IGRM 2003)

The 46th Annual Irish Geological Research Meeting will be held in the Ulster Museum, Belfast from 21st to 23rd February 2003. The meeting is being organised by Mike Simms (Ulster Museum, michael.simms.um@nics.gov.uk) and Alastair Ruffell (QUB). The evening guest speakers will be Dr. Andrew Smith (Natural History Museum), recently made an FRS, and Prof. John Gamble (University College Cork), recently appointed to the Chair of Geology at UCC. The event is free and all are welcome. However all participants must register by Friday 14th February 2003. Abstracts will be published in the Irish Journal of Earth Sciences (IJES). In addition to talks by postgraduate students, postdocs. etc., there will be one or more dedicated poster sessions. Further details of the meeting location and accommodation have been posted on the ES2k website. This can be accessed via www.habitas.org

LAND USE AND SPATIAL PLANNING IN IRELAND

The IGI, jointly with the Geological Survey of Ireland and the Geological Survey of Northern Ireland is organising a one-day conference on 'Land Use and Spatial Planning in Ireland'. The conference will take place at Dublin Castle on Wednesday 26th February 2003.

This meeting will focus on the interaction between land use and spatial planning and will be of interest to planners, geoscientists, regulators and Local Government representatives (both technical and administration staff), leaders of the natural resource industry, developers, the farming community, consultants and representatives of Government Departments and Agencies.

Sessions have been arranged on 'National Spatial Planning', 'Spatial Planning and Natural Resources', 'Spatial planning and Infrastructural Developments' and 'Spatial Planning and Urban Developments'.