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Editor: Janice Fuller



Introduction

This issue of the Newsletter contains details of forthcoming events including the upcoming IQUA symposium and annual IQUA-IGA talk, a review of useful web sites for Quaternary anoraks, reports on the recent international symposium to celebrate the birthday of Bill Watts (now an Honorary Member of IQUA) and an INQUA workshop on palaeoclimates, plus the usual fieldtrip reports, theses abstracts, recent publications and other items of interest. Thanks to all those who made contributions.

Reminder! The **email Bulletin Board** is a very useful (quick and cheap!) method for circulating news and announcements among IQUA members. If you have an email account and would like to subscribe please contact Dr Karen Molloy (Karen.Molloy@NUIGalway.ie) to be included on the list. Also keep an eye on the web page: <http://homepage.eircom.net/~iqua/>

Please send contributions for the next Newsletter to me by **March 31st**.

Honorary Membership for Prof. Bill Watts

In 1995 IQUA introduced the category of 'Honorary Member' to be bestowed upon individuals who have worked with particular distinction in Quaternary research. Hitherto only two people have been elected Honorary Members: Sybil Watson and Frank Mitchell. This year IQUA presented Professor Bill Watts with Honorary Membership, in recognition of his huge contribution to the fields of palaeobotany, palaeoecology and biostratigraphy. IQUA's Chairperson, Michael Philcox, made the official announcement at the international palaeoecology symposium held in Dublin on October 26th to celebrate Prof. Watts' 70th birthday and his contribution to scientific research, teaching and conservation, both in Ireland and abroad. IQUA sends Prof. Watts congratulations and best wishes.

Dates for your diary

1. IQUA Annual Symposium 2000
"The Quaternary of the Irish Sea"

Geological Survey, Beggars Bush,
Haddington Road, Dublin
Friday, December 1st 2000

Registration from 9.30 a.m. and talks start at 10 a.m. No pre-booking required. There will be a small charge to cover refreshments and handout. Speakers and topics include the following (not in order of speaking):

Bob Devoy: Holocene and Pleistocene sea level signatures from the southern Irish Sea and the implications for coastal erosion

Colin Breen: Integrating the physical and cultural Holocene landscape of the Irish Sea Region

Jasper Knight: Evidence for glaciomarine environments around the Irish Sea Basin during the late Devensian

Danny McCarroll: A critique of the glaciomarine model for deglaciation of the Irish Sea basin

Andy Wheeler: Offshore Banks in the Western Irish Sea: details and relevance of recent geophysical surveys

Gerry Sutton: Application of GIS in the Assessment and Management of Coastal Resources: A case study for Irish Offshore Marine Aggregates

Peter Woodman: Land bridges and the Irish Sea

Peter Croker: Seismic interpretation of Quaternary sequences in the western Irish Sea, with particular reference to shallow

Fred Norman: Potential use of marine sand in Dublin.

Michael Philcox:

tel/fax 045-865 535; mphilcox@tcd.ie

2. IQUA-IGA Annual Lecture

"Ground subsidence: mechanisms and remedies. Is it ever natural, or do we cause it all?"

November 29th at 8pm

Geology Dept., NUI, Galway and

November 30th at 8pm,

Museum Building, Trinity College Dublin

Dr Tony Waltham

There are many different ways in which ground subsidence can occur, with consequent hazard, damage or destruction of surface structures. Excluding those due to mining subsidence or the collapse of old mines, ground subsidence events are often described as natural phenomena - mainly as features of clays, peat, limestone, soluble rocks or permafrost. Though the subsidence processes are functions of these materials, they are frequently induced by man's activities, either directly or indirectly. An overview of subsidence processes and events worldwide therefore recognises preventive measures that can be significant, while it struggles to find genuinely natural events.

3. Conference & field meeting

"Millennial-scale events in the North Atlantic region during Termination 1"

University of Ulster, Northern Ireland,
13-18 June 2001

Oral and poster contributions are invited for presentation at this international conference that will focus on evaluating the timing, signatures and correlation of high-frequency hemispheric-scale climate and environmental changes during the last deglaciation in the North Atlantic region (Termination 1). Papers presented at the conference are invited for submission to an associated volume, most likely a Geological Society Special Publication, to be edited by Marshall McCabe and Jasper Knight. Deadline for abstracts: 1 January 2001

Oral sessions based at the University of Ulster (days 1-3) will be followed by a field meeting (days 4-6) examining onshore field evidence for Heinrich event 1 in Ireland. A field guide will accompany this component of the meeting.

See web page below for registration forms:
<http://www.ulst.ac.uk/termination1.html>

For more information please contact:

Dr Jasper Knight, Glacial Research Group,
University of Ulster, Coleraine, Co
Londonderry, N Ireland BT52 1SA

Tel 028 7032 3179; Fax 028 7032 4911;
j.knight@ulst.ac.uk

4. QRA, Short field meeting

"Quaternary of south-west Ireland"

Killarney 9th - 14th May 2001

Leaders include: E. Anderson, O. Bloetjes, P. Coxon, R. Devoy, S. Harrison, J. Lagaerd, T. Mighall, W.F. O'Brien, D. Passmore, M. Philcox, A. Richards, M. Waller.

This is a four-day field meeting based in Killarney to examine aspects of Pleistocene and Holocene geomorphology and landscape evolution in the south-west of Ireland. A registration fee of £45.00 is requested (to cover travel in Ireland and guidebook production). Rooms have been provisionally reserved at the Ashville Guest house in Killarney. For those wishing to make their own arrangements, there are plenty of hotels, B&Bs and hostels in Killarney (see www.kerryinsight.com/killarney/kill-ol-accom.html).

Provisional Itinerary:

Day 1 Thursday 10th : Macgillcuddy's Reeks
Gaddagh river valley terraces; Glenavy Stadial advance moraines; Hag's Glen alluvial fan; Bone protalus rock glacier; Discussion on ice sheet trimlines/ nunataks.

Day 2, Friday 11th May: Mizen Peninsula
Mount Gabriel copper mines; Vegetational history of Mount Gabriel lowlands;
Toormore Bay Wedge Tomb; Vegetational history of Cadogan's Bog, Ratooragh.

Day 3, Saturday 12th May: Killarney and Southern Co. Clare

Ross Island copper mines; The gravel pits in the high-level terraces just NE of Killarney, which are in various ice-proximal facies including deltas; Bridges of Ross; County Clare. Others sites will also be visited in the area as time permits.

Day 4, Sunday 13th May: Brandon Mountain and the Dingle Peninsula Connor Pass: introduction to Quaternary history of the area; possible YD moraines; Brandon Corrie alluvial fans; Feohanagh; Smerwick Harbour; Early Christian Gallarus oratory.

For more information and registration forms please contact: Tim Mighall and/or Stephan Harrison, Centre for Quaternary Science, NES, Coventry University, Priory Street, Coventry, CV1 5FB. Tel. 024 76888420; Fax 024 76888447; email t.mighall@cov.ac.uk or s.harrison@cov.ac.uk

Quaternary Web Sites of Interest

A recent trawl of the World Wide Web by Robbie Meehan found the following sites which may be of interest to IQUA Members:

INQUA (<http://www.inqua.nlh.no>)

The INQUA site has detailed information about the organization, the Executive Committee, Secretariat, Commissions and Sub-committees. Much of the rest of the site is quite bureaucratic, with statutes, bye-laws, projects and meetings detailed, but of especial interest is the Links section which has one of the most

comprehensive list of Quaternary Links lists (including congresses, publications, related organizations and related journals) available on the Web. These links are essential for reference if you need to contact any Quaternary Scientists/Organisations abroad.

INQUA Commission on Glaciation (<http://www.inqua.au.dk/index>)

This site has only recently been added to the web (Summer, 2000) and is still in its infancy. However, the site does include information on the structure of the Commission which provides a list of who to contact with respect to its various working groups and Links to summaries of previous meetings and associated references lists. Upcoming meetings are also detailed, and a gallery of beautiful photos of ice and glacial features has recently been added. A site to keep an eye on as it should get better in time.

Quaternary Geology at Uppsala University (<http://www.kv.geo.uu.se/>)

Uppsala University has one of the most active Quaternary Geology Departments anywhere and this site bears testament to that fact. The Links page has few better and there is an impressive Pollen Catalogue available for browsing. Downloadable software includes a programme for displaying and analysing palaeoecological data. A nice feature of the site is the fact that it can be accessed in five different languages, as well as English, through a downloadable convertor.

AMQUA (<http://www.nau.edu/amqua/>)

AMQUA (The American Quaternary Association) hosts an excellent site. As well as chronicling the history and activities of the organization on the home page, the layout immediately strikes as being well thought out and beautifully constructed. A huge amount of data can be accessed through the site ... including current and previous issues of the AMQUA Newsletter, Quaternary Times, as well as, a Directory of American Quaternary Scientists and a huge number of links (including IQUA!!). Special Reports of the Association are regularly updated and Upcoming Meetings and all Events of the related 'Friends of the Pleistocene' Group are also added. One complaint would be the lack of images but the AMQUA Site overall is one of the best Association sites on the Web and well worth a visit.

Theses abstracts

Michael Kimball. 2000. Human Ecology and Neolithic Transition in Eastern County Donegal, Ireland. The Lough Swilly Archaeological Survey. British Archaeological Reports Monograph 300. Accompanied by a CD. ISBN 1 84171 064 4.

In 1995 the author conducted an archaeological survey within a 296 km² region in eastern county Donegal, Ireland, which resulted in an investigation of the transition from Ireland's Mesolithic to the Neolithic from a regional-scale perspective in a part of Ireland with no history of systematic field collections. A hypothesis for

settlement, raw material economy and subsistence during the Later Mesolithic and Neolithic is proposed.

John Madden. 1999. Geophysical Signatures of various archaeological sites / monuments at Mayo. Masters Thesis, National University of Ireland, Galway.

Virtually the entire range of geophysical techniques has been adapted and re-adapted for use in archaeology over the last 45 years. In an Irish context, many of these techniques have only been used on an experimental basis. The objective of this thesis therefore is to test and assess a range of geophysical techniques that are either established as standard techniques in archaeological surveying or are new / experimental techniques in an Irish context. This is done by the surveying of 4 archaeological sites / monuments at Mayo Abbey, Co. Mayo. Based on the survey results from these non-invasive, non-destructive techniques, it was hoped to determine the nature and significance of these sites / monuments.

Prior to the carrying out of the geophysical surveys, a historical and archaeological review was carried out to aid in the archaeological interpretation of certain geophysical anomalies. A geological desktop study was also carried out to determine the bedrock and Quaternary geology of all 4 sites. This information was then used as a guide to determine which techniques could be used at each site. A description of the

basic theory behind the survey methods that were used is given following this, as well as an account of the main stages involved in data acquisition and data processing.

The geophysical surveys were carried out on a monastic enclosure site, a rath and souterrain, a moated site and a 'stone circle' site. Results of data acquisition and processing are presented and interpreted in a manner that is most comprehensible to both the geophysicist and archaeologist. The main objective throughout is to produce geophysical images from the data collected that may relate to the underlying archaeology.

The monastic enclosure site, the first site to be surveyed, was the first site of its type to be surveyed in an Irish context with magnetic susceptibility, magnetic gradiometry, electrical resistivity and electrical tomography surveys being carried out. Numerous anomalies were identified which were in turn interpreted as possible archaeological features.

Ground Probing Radar and electrical tomography surveys were carried out at the rath and souterrain. Both were carried out over the known location of the souterrain chamber in order to determine the type of geophysical responses that could be expected from such a feature. Further surveys were then carried out over the site and using the experience gained from the first surveys, a second souterrain chamber was tentatively identified from the results.

Susceptibility, gradiometry, resistivity and tomography surveys were carried out on the moated site. The results failed to reveal any significant anomalies on the site although important lessons were learned for the carrying out of future geophysical surveys on similar sites.

Gradiometry and resistivity surveys were carried out at the 'stone circle' site in order to try and locate the position of the monument that had been destroyed in 1960. The results were interpreted as showing that the monument had been located at a different location to what most of the local people remembered and that its shape was in fact square rather than circular which lead to a re-classification of the site. Topographical surveys were also carried out at all sites.

Conference Reports

INQUA Palaeoclimate Workshop

In August 2000 the INQUA Commission on Palaeoclimate held a workshop, under the auspices of its INTIMATE working group, on events in the North Atlantic at the end of the last Glaciation. The aim of the workshop was to review interdisciplinary research in that area and to establish if current dating exercises could form a secure, high-precision timeframe against which leads and lags in the proxy datasets could be confirmed. The workshop was held in Greenland and was attended by thirty scientists working on marine, lake and terrestrial sediments in the N. Atlantic area and on the

Greenland Ice cap. As Vice President of the Commission on Tephrochronology and Volcanology, I attended to present a paper on the value of databases and to establish further links with workers using an Event Stratigraphy which included tephrostratigraphical studies.

Results from the GRIP core obtained this summer will provide a high-precision basis for further comparative and interdisciplinary research with the search for micro-tephras considered essential. Sigfus Johnsen and J.P. Steffanson have already obtained a new, lengthy ice core, so watch the literature for the latest findings. It was clear that the input of workers in Ireland is much valued by the international community of scientists working in the N. Atlantic.

Our venue was Kangerlussauq, a former US airforce base on the west Greenland coast. Although this is the most populous part of Greenland, the settlements are not connected by road so plane and boat are vital to national communications. Kangerlussauq boasts the longest strip of tarmac road in Greenland. I've been at both ends of it and it didn't take long to complete the journey.

The participants had the great pleasure of visiting the ice cap and observing the changes which separate Pleistocene from Holocene ice. The Holocene ice is free of contaminants so it's quite the party trick in Greenland to use 2000-year-old ice in the party glass of whisky. I complained that Black Bush doesn't need ice, exotic or otherwise but I was completely

ignored and drank my 'Bush' with ice which had formed during the Irish Iron Age. I noticed that Bill Watts (who presented his research in the States) was equally heroic!

Valerie Hall, Queen's University Belfast

**"From Palaeoecology to Conservation:
An Interdisciplinary Vision"
An international symposium to
celebrate the 70th Birthday of
Professor W.A. Watts**

The venue for this 70th palaeo-birthday party was the Royal Irish Academy in Dublin on the 25th and 26th October 2000. The symposium was officially opened by David Spearman, President of the Royal Irish Academy, on the Wednesday evening and followed by key note address from Brian Huntley of the University of Durham. He spoke of the properties and characteristics of the Quaternary palaeovegetation record and the reasons for attempting to reconstruct palaeoenvironments. Prof. Huntley discussed the assumptions upon which such reconstructions are based and the methods used, and he provided examples of the applications of these reconstruction methods, including the high resolution palynological study at Lago Grande di Monticchio in Southern Italy with which Bill Watts has been involved.

Thursday morning began with a presentation on the vegetation response to drought in the Northern Great Plains of the United States by

Eric Grimm from Illinois State Museum. Dr Grimm discussed how the interactions among vegetation, precipitation and fire differ between forest and prairie in mid-continental North America and focused particularly on their responses to decadal-scale drought. This was followed by a presentation by Cathy Whitlock from the University of Oregon on variations in Holocene fire regimes and the implications of these on palaeoecology and conservation. She demonstrated the existence of strong linkages between variations in fire frequency and climate since the last glaciation from a compilation of charcoal records from small lakes in the Northwestern US.

After coffee Vera Markgraf from the University of Colorado described the temperate ecosystems of the Americas and how by analysing palaeoenvironmental records along latitudinal transects in both North and South America, the past history of the westerlies, specifically the westerly stormtracks can be reconstructed. This was followed by a presentation on the limnological history of Lago de Patzcuaro, Michoacan in Mexico by Platt Bradbury from the US Geological Survey which focused on the impacts of climate and man in this region over the last 48,000 years reconstructed from diatom analysis.

The first talk after lunch was given by Henry Lamb from the University of Wales on Holocene palaeoclimate from Ethiopian crater lakes. Crater lakes are favourable sites for sedimentary records of Holocene variability due to their rapid patterns of sediment accumulation

and relatively simple hydrological conditions. He described results from several proxies including pollen, diatoms, stable isotopes and laminations carried out on cores from Lake Tilo and Lake Hora. The second presentation in this session was given by Gina Hannon from the Swedish University of Agricultural Sciences on the subject of human impact and its role on Holocene vegetation dynamics of the Faroe Islands. She presented results from both the plant macrofossil and pollen records and found that there is very clear evidence for permanent human settlement older than that suggested by previous archaeological or historical research, on these islands. The final talk in this session was on the subject of climatic behaviour in the North Atlantic and Europe during the last glacial-interglacial transition and the last glacial cycle and was presented by John Lowe from the University of London. He stressed the necessity of precision with respect to dating cores by using radiocarbon wigglematching and marker horizons.

The final session commenced with a presentation by Pete Coxon from Trinity College Dublin. He showed results from pollen assemblages from Neogene and Pleistocene palaeosurfaces in Western Ireland with a view to understanding the Irish landscape evolution. This was followed by a presentation by Michael O'Connell from the National University of Ireland, Galway which addressed palaeoecological evidence for the Neolithic in Ireland from detailed pollen analytical data from the west of Ireland. Prof. O'Connell showed that a prediction for the date of the start of the

Neolithic in Ireland made by Bill watts 40 years earlier was supported by radiocarbon dating. Alan Craig from Dúchas then described progress made in Ireland in protecting natural areas since the 1970's, highlighting the increase in numbers of National Parks, NHAs, SPAs and SACs. The final presentation of the symposium followed on from this theme and was given by David Jeffrey from An Taisce who spoke on the role that NGOs can have in environmental management. He explained how NGOs are different to government organisations and what they can actually do in the management of the environment.

Throughout this symposium both the speakers and chairmen all spoke highly of Professor Watts and recalled fond memories of various field trips and foreign visits they had shared with him. This palaeo-birthday party would not have been the success it was without the work of Dr. Fraser Mitchell and Ms. Mary Foody from the Botany Department in Trinity College who put a lot of effort into the organisation of this momentous event.

Edwina Cole, Trinity College Dublin

Fieldtrip Reports

1. Report on IQUA Field Trip to Mayo, 8th October 2000

With the unfortunate cancellation this year of the IQUA Annual Field Meeting, it was decided to run a short, half-day field trip in conjunction with the 'Mayo through the Millennia'

Conference organized by The Archaeological and Historical Societies of Mayo. The IQUA Trip was held on the afternoon of the 8th October, from 2 to 6 p.m. and lead by Robbie Meehan.

The trip took in the drumlins around Westport and then traveled south into Murrisk. More than twenty geology enthusiasts attended, and a fine, sunny day meant viewing the often spectacular Pleistocene landscape in south Mayo proved more than agreeable.

The trip began with an introduction to the Pleistocene Geology of the west Mayo area, and introduced the five main landscape types in that area (the north Mayo blanket peatlands, the Nephin-Achill mountains, the Clew Bay drumlins, the Murrisk Uplands, and the Lough Mask karstlands), most of which were very familiar to the predominantly local participants. The trip itself traveled through two of these landscapes: the drumlins and Murrisk.

The first stop was at Thornhill Strand, where the varying orientations of the drumlins in the Clew Bay area was discussed, following which participants examined the internal sedimentology of the exposed drumlin along that strand. A few niggling showers blowing in from the Atlantic did little to deter the participants and discussions continued all the way to the second stop. A brief stops at Carrowkennedy offered a chance to inspect tectonised bedrock and periglacial involutions in overlying gravels, and deliberations were had on the nearby drumlins protruding from the blanket

peat which by now was dominating the landscape. The third stop at Srahlea Bridge offered an opportunity to view the spectacular delta-kame terrace on the northern flanks of Maumtrasna Mountain, and participants also viewed higher up the spectacular corries and Holocene waterfalls.

It was borne in mind that the sediments in the area reflected processes much larger than those operating in Ireland today, and much larger than our own 'human' scale, something that is often forgotten when trying to envisage the ice of the Pleistocene and its effects.

The convoy then moved towards Leenane along the northern flank of Maumtrasna, into the heartland of Murrisk where Upland Glacial features can be seen in all their glory. Steep sided U-Shaped valleys, the fjord at Killary, and the ice-dressed roche moutonnees which litter the area were eerily highlighted in the ever-lowering October sunlight. Anyone who has visited this area will know the wealth of glacially sculpted features.

Following a brief viewing of the distinct delta surfaces around Leenane Village from the northern side of Killary Harbour, the fourth geological stop allowed all to again examine tectonised bedrock, this time in a 3m road cutting at Tully. The continuum from shunted bedrock to tectonite to stony till to 'purer' till was investigated in the now waning light. Nearby corries on Mweelrea, as well as the scree-covered slopes of Bengorm and surroundings, were all well decorated in the

sunlight.

The final stop at Teevnabinnia, on the southern shores of Doo Lough, looked at the mysterious sight of bedded gravels 'emerging' from the rock side of the valley. From this, the difficulties of mapping Quaternary geology were discussed and the now-disappearing daylight meant that all moved on the Sheefry Wood for one final, pre-sundown view of Maumtrasna and the (now tiny) kame terrace at its foot. The issue of scale when mapping in a Pleistocene landscape was best imagined while viewing from this site, high above the actual features. The ever increasing cloud meant that photography enthusiasts got the chance to capture the sunbeams highlighting specks of Maumtrasna, through the west-lying Mweelrea Mountains. It served a pleasant end to an enjoyable afternoon's fieldwork.

2. International Association of Sedimentologists' Fieldtrip to Blessington, Co. Wicklow

A one-day fieldtrip to the Blessington area on September 16th followed the recent IAS conference in Trinity College, Dublin. The party of about a dozen geologists from various parts of the world was led by Michael Philcox and Pete Coxon.

The morning was spent examining aspects of the ice-contact delta complex that formed on the western side of Glacial Lake Blessington, including evidence for early sub-aquatic fan deposits that preceded the development of the

delta itself. Outwash deposits, quite different from the delta foresets and bottomsets, occur on the ice-proximal side of the complex, and represent a later retreat phase of the icesheet. Lively discussion of the depositional environment of this facies centred on the relative proximity of the ice front.

The party then drove to the Hollywood Inn for soup and sandwiches (recommended). In the afternoon the party entered rock-cut gorges at Hollywood, which are probably sub-glacial marginal channels, formed when the ice abutted the Wicklow Mountains and dammed Glacial Lake Blessington. The journey continued south through Hollywood Glen, the largest of these gorges. This drainage system leads south to extensive gravel terraces in the Whitestown area, where the party examined a gravel pit cut into one of them. Very coarse boulder beds resting on a visible bedrock surface reflect large-scale flood deposits; they include granite boulders <2 m across. The gravels include also a high proportion of Lower Palaeozoic rock types, and could have been derived from the mountain front during the cutting of the channels around Hollywood. Higher beds in this pit reflect lacustrine deposits and the subsequent development of an extensive subaerial drainage system, which produced the terraces.

A final stop was made back in Blessington at a pit showing large-scale proglacial thrusting and associated deformation in underlying sands. The deformation and some of the deposits in this area probably pre-date the main delta complex, which is at a higher elevation, while others are

distal equivalents of the delta. The so-called "guidebook" for this fieldtrip has been published by the IAS in a special fieldtrip volume (see elsewhere in this newsletter). It is a general account of the delta complex rather than a field guide, as pit faces are ephemeral. If anyone has difficulty getting hold of the publication, contact the author at mphilcox@tcd.ie

Michael Philcox

NOTICE:

Earth Science 2000 - raising Earth Science issues in the north of Ireland

Partly because of the closure of the Geology Department at Queen's University Belfast, there is concern at the declining educational provision in Earth Sciences in Northern Ireland. Earlier this year a forum on the Public Awareness of Earth Sciences in Northern Ireland was held in Belfast, following which a co-ordinating and lobbying body was established to represent Earth Sciences in the north of Ireland. This voluntary association, named Earth Science 2000 (abbreviated to ES2k), was launched on 20th September 2000. Approximately 30 people attended the launch and a similar number who could not attend expressed their support for the new organisation. A constitution was agreed and a six-member committee was elected, chaired by Mr William Lynn, Head of Geology at Foyle and Londonderry College. We hope to increase public awareness of, and interest in, Earth Science. We will NOT replace existing organisations and societies; instead we hope to promote their activities to a wider audience.

Our web site (www.ulst.ac.uk/es2k.html) and newsletter will provide information about forthcoming Earth Science events of interest to the general public and to amateur and professional geologists. In addition, the newsletter will contain commentary on current issues in Earth Science, such as educational provision in Northern Ireland and urban or coastal planning proposals, together with non-technical articles about geological topics. Initially, the ES2k Group will operate in Northern Ireland, but might later expand to the north of Ireland and possibly to the whole of Ireland. The Committee is considering an action plan and a number of suggestions made at the launch meeting, which include lobbying ministers of the Northern Ireland Assembly to highlight issues of Earth Science education, encouraging geological education at all levels including primary schools and life-long learning, co-ordination and effective advertising of public-oriented Earth Science events, and raising funds for newsletter production perhaps through corporate sponsorship.

For further information and requests to join the ES2k Group, please contact the ES2k Secretary, Dr Norman Moles, tel 028 9027 3404, email n.moles@qub.ac.uk.

Recent Publications on Quaternary Research in Ireland

- Huang, C.C. and O'Connell, M. 2000. Recent land-use and soil-erosion history within a small catchment in Connemara, western Ireland: evidence from lake sediments and documentary sources. *Catena*, **41**, 293-335.
- Knight, J. 2000. Geology, glaciation and the development of landscape character in Ireland. *Geology Today* 16: 138-142.
- O'Connell, M., Molloy, K., Holmes, J.A., Jones, R., Saarinen, T., Roberts, M., McDermott, F., Hawkesworth, C.J., Barton, K., Leuenberger, M., Eicher, U., Chambers, F.M., Hunt, J.B., van der Plicht, J., van Geel, B., Schettler, G., Dalton, C., Battarbee, R.W., Dörfler, W., Usinger, H. and Haas, J.N. 2000. Timing and mechanisms of Holocene climate change in NW Europe (TIMECHS): multidisciplinary investigations of calcareous, lake sediments from Inis Oírr, Aran Islands, W. Ireland. In: *Proceedings of European Climate Science Conference, Vienna (19-23, October 1998)*. CD-ROM, EU Commission, Brussels
- Philcox, M.E. 2000. The glacio-lacustrine delta complex at Blessington, Co. Wicklow, and related outflow features. In (J.R. Graham and A. Ryan eds) *IAS Dublin 2000 Field Trip Guidebook*, Trinity College, Dublin pp. 129-152.

New Members

IQUA welcomes the following new members:

Gregory Hughes, James Baldini, Vikram Unnithan, Peter Haughton, Frank McDermott, Simon Carr, Trevor Bell, Alaric Rae, Ingelise Stuijts, Scott Timpany, Christy Lawless, Phil Barrett.

IQUA wishes to acknowledge the support of our Corporate and Institutional members:

John A. Wood Ltd., Roadstone Dublin Ltd.,
Geological Survey of Ireland,
Environmental Protection Agency,
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Bergakademie, Freiberg, Germany,
EX LIBRIS, Frankfurt, Germany,
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