InterMARGINS

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Marginal Notes .... from the Chair

Welcome to the first InterMARGINS Newsletter. As you may know, InterMARGINS was set up at a meeting in Washington DC in 1999 with the objective of encouraging scientific and logistical co-ordination of research on margins, with particular focus on problems that cannot be addressed as efficiently by nations or national institutions acting alone or in limited partnerships. The lofty ideals of the original meeting have proved somewhat harder to implement that those present would have wished but now substantial progress is beginning to be made.

InterMARGINS is an international body with an office based at the Southampton Oceanography Centre in the United Kingdom (see back page). Since taking over the job of InterMARGINS Chairman in December 2001 I have tried to build up contacts in different countries, to increase the membership and to begin to act as a focus of information exchange by setting up a new web site. Currently Japan, UK and USA are fully paid up members and at least four other countries are seriously considering whether to join.

In the last year InterMARGINS has been active in a number of ways. A series of biannual meetings of the Steering Committee have been established which take place at the April meeting of the newly formed European Geosciences Union (EGU), formerly EGS and EUG, in Nice, France and at the Fall (December) meeting of the American Geophysical Union in San Francisco, USA. In effect this should allow the representatives of member countries, and other interested parties, to attend at least one meeting a year without travelling halfway round the world. InterMARGINS sponsored a Town Meeting of the Nankai Trough community at the 2001 Fall AGU meeting and a student talk or poster prize will be given at a margins session of the 2003 EGU meeting. InterMARGINS is also keen to sponsor other events such as Workshop meetings. In August I travelled to Ghent, Belgium to tell the interim Planning Committee (iPC) of the Integrated Ocean Drilling Program (IODP) about InterMARGINS' plans and objectives.

I am often asked what InterMARGINS can offer, in return for the annual subscription, to scientists in countries considering joining InterMARGINS. It is not easy to reply because what can be got out of InterMARGINS is largely a function of what people are prepared to put into InterMARGINS. I am reminded of John F. Kennedy's famous speech, 'Ask not what your country can do for you - ask what you can do for your country'. Therefore, please let the InterMARGINS Office have your ideas and constructive criticisms for better ways of communicating with, and co-ordinating between, the growing and active international community of researchers interested in margins research. For example, if the global maps of margins cruises, that appear on our web site, are to be useful then the Office needs to know about cruises that have taken place or are about to take place. Such information may be submitted through one of the national contacts listed towards the end of this Newsletter.

I foresee some exciting developments in margins research in the coming years. Already cruises are being planned and carried out to study conjugate pairs of rifted margins, an essential step by which to study a complete rift system but one that often requires international collaboration. For example, Leg 210, the last leg of the Ocean Drilling Program, will drill deep into the sediments and basement of the Newfoundland margin in a conjugate position to the 10 drill sites already occupied on the west Iberia margin. From 2005 onwards we can anticipate that the *Chikyu,* Japan's new riser drill ship with a 10 km drill string, will make a substantial impact on studies of subduction zones and the seismogenic zone, within the framework of the IODP, but much remains to be done to survey and chose the drill sites.

Bob Whitmarsh

Activities around the world

China

The East China Sea and the South China Sea, which are important oil and gas producing areas offshore China, are parts of the western Pacific margin. The corresponding onshore areas, the eastern and southern parts of China, have become the most prosperous and thickly populated areas. Therefore, Chinese scientists, industries and government have paid much attention to research into the formation and evolution of adjacent seas, and their effect on resources and environment, in which the formation and evolution of the seas offshore China and of the western Pacific margin has become an important topic.

Since the 1980s, a series of national programs and international co-operative projects have been carried out, which were funded by the Ministry of Science and Technology (MOST), the National Natural Science Foundation (NSFC), the State Oceanic Administration (SOA), the Chinese Academy of Science (CAS),

and the China Geological Survey (CGS). International co-operative projects include; with USA, "South China Sea Survey", "Co-operative Research on Modern Sedimentation Processes on the Continental Shelf of the East China Sea"; with Germany, "Co-operative Research on Marine Geology and Geophysics of the South China Sea", "Co-operative Research on Modern Sedimentation Processes of the South China Sea"; and with France, "Co-operative Research on Late Quaternary Sedimentary Sequences and Relative Sea Level Change in the East China Sea"; ODP Leg 184 in the South China Sea etc. Through these national programs and international co-operative projects, a lot of geological and geophysical data have been obtained from the East China Sea and the South China Sea, and a series of new advances have been made in research on geological and structural evolution and sedimentary processes. Especially, ODP Leg 184 in the South China in 1999, which was suggested and co-led by Chinese scientists, acquired a total of over 5 km of core from 6 sites, being the longest sedimentary record in the South China Sea until now, and providing invaluable material for research into the sedimentary processes and tectonic history of the continental margin of the South China Sea and the palaeoclimate of south-eastern Asia.

The principal research project is "Critical Issues for the Evolution of Chinese Marginal Seas and the Formation of Major Natural Resources (2000-2005)". This is one of the National Major Fundamental Research and Development (NMFRD) projects funded by MOST. It focuses on the formation and evolution of Chinese marginal seas and their effect on resources, and is co-led by the Second Institute of Oceanography of SOA and the Institute of Oceanology of CAS. Nearly one hundred scientists from SOA, CAS, CGS, China University of Geosciences, Tongji University and Zhejiang University participate in the project. Besides the above project aimed at marginal areas, there are many other projects which involve margins research, including the NMFRD project "Interaction Between the Earth Spheres: Deep Sea Processes and Records" funded by MOST, and projects funded by NSFC and other departments.

The geographical areas of margins research in China cover the South China Sea, the East China Sea and the adjacent western Pacific marginal region. We attempt to understand the sedimentary processes, structural evolution and deep dynamic processes of the western Pacific margin, based on marine surveys and systematic research. The main scientific objectives are: 1) The formation, structural evolution and deep dynamic mechanism of marginal seas, 2) Cenozoic sedimentary processes in marginal seas and its reflection of the variation of palaeoclimate and environment, 3) Fluid activities and effects on sedimentary processes and structural evolution, 4) The effects of the formation and evolution of marginal seas on resources and environment.

The major advances in research have been, 1) new evidence for the mode of spreading in the eastern basin of the South China Sea have been obtained, 2) the thermal regime and rheology of lithosphere in the northern margin of the South China Sea have been calculated based on geothermal and gravity methods, 3) the effects of lithosphere temperature structure on mantle convection in the South China Sea have been modelled, 4) a Moho isobath map of Okinawa Trough has been made based on gravity data, 5) the gravity field and deep stress field of mantle flow in the East China Sea and adjacent western Pacific margin have been inferred from satellite altimetry, 6) the geophysical evidence for gas hydrates in the slope sediments of the South China Sea and the East China Sea have been identified, 7) the longest complete sedimentary profile in the continental margin of the South China Sea has been obtained.

In the near future, based on the implementation of ongoing projects, more scientists will be attracted to participate in margins-related research. The research will focus on deep dynamic processes, the seismogenic zone, sedimentary processes and flow activity under the western Pacific margin. Meanwhile, international technical exchanges and co-operative research, especially on the western Pacific margin, will be strengthened. It is planned to hold a workshop on the western Pacific margin co-convened with countries interested in the research.

European Science Foundation

EUROMARGINS is a new activity of the European Science Foundation (ESF) that has as its principle focus the imaging, monitoring and modelling of the physical, chemical, and biological processes that occur at rifted continental margins. Formed following an "Exploratory Workshop" in Kiel, Germany in September 1998 and a Workshop in Sitges, Spain in February 2000, EUROMARGINS is one of ESF's first EUROCORES programmes (see www.esf.org for more details).

The EUROMARGINS programme, as defined at the first Science Steering Committee (SSC) meeting, has four main research themes: Volcanic rifted margins, Extension in a convergent plate setting, Sediment dynamics, and Fluid flow.

The first call for outline proposals was published in March 2001. The call gave priority to integrated multinational studies of the Northwest European Margin and the margins in the Mediterranean Sea, and their conjugates. However, studies where particular margin processes could be optimally addressed, as well as studies of ancient margin systems, were also encouraged. Sixty-one outline proposals were received by ESF by the December 2001 deadline and the SSC considered which of these proposals should be submitted as full proposals. The full proposals, which ranged in topics from the crustal architecture of conjugate volcanic margins, through studies of slope stability, to studies of cold seeps and gas emission on the seafloor, were subsequently peer-reviewed and a Review Panel was convened in Strasbourg in September 2002 to consider the relative merits of

Margins research cruises in 2002

Ocean/region	Research Ship	Principal Investigator(s)	Country	Objective	Dates in 2002
SE Alantic	Charles Darwin	MC Sinha	UK	Electromagnetism of crust and sediments on rifted margin	4 Jan – 15 Feb
W Pacific/ Marianas Trench	Maurice Ewing	Moore/ B Taylor	USA	Collection of MCS and OBS profiles	24 Feb – 25 Apr
NE Atlantic/ Faeroe-Shetland Trough, Rockall	Charles Darwin	RS White/ N Kusznir	UK	Seismic structure and the development of rifted continental margins	early Jun – late July
Offshore Costa Rica	Meteor	V Spiess, K Wallmann, E Suess, E Flueh	Germany	Volatiles and fluids in subduction zones: Leg 1 high resolution seismic profiles, Leg 2 coring, dredging and heat flow, Leg 3 sites influenced by venting of methane-rich fluids	6 July – 11 Oct
Offshore Oregon, USA	Sonne	O Pfannkuche, A Eisenhauer	Germany	Marine gas hydrates: long-term observatories to monitor formation and dissociation of gas hydrate, near-surface gas hydrates, chemical turnover and microorganisms	9 July – 20 Aug
W Pacific/ Izu-Bonin Arc/Suiyo seamount	Shinkai 2000, Dolphin-3K	M Kinoshita	Japan	Investigation of hydrothermalism within caldera. Mapping microbial activities. Detailed heat flow survey	20 Aug – 3 Sept
W Pacific/ Izu-Bonin Arc/Suiyo seamount	Shinkai 2000	M Utsumi	Japan	Measurements of chemical and physiological factors, sampling of hydrothermal fluids, bivalves and sediments for microbiological and chemical analysis	3 Sept – 10 Oct
E Pacific/ Costa Rica	JOIDES Resolution	J Morris/ H Villinger	ODP Leg 205	Igneous and alteration history of the basement on the incoming plate and investigation of three hydrological systems	16 Sept – 5 Nov
E Pacific/ Gulf of California	Maurice Ewing	D Lizarralde	USA	Collection of MCS and OBS profiles	17 Sept – 4 Nov
W Pacific/ Izu-Bonin Arc/ Sagami Bay	Shinkai 2000, Dolphin-3K	Y Tamura	Japan	Petrological and geophysical study of the submarine parts of individual volcanoes to complement magma genesis models obtained from subaereal volcanoes	20 Sept – 19 Oct
Indian Ocean/ Java-Sunda Trench	Shinkai 6500	W Azuma	Japan	Sampling and heat flow/gamma-ray measurements plus single-channel seismic survey. Examine mud volcano and unnamed tectonic bank at junction of Sunda and Java Arcs	7 Oct – 31 Oct
W Pacific/ Mariana Arc	Kairei	N Seama	Japan	imaging the deep conductivity structure across the subduction system; electrical conductivity structure of a shallow part of the oceanic crust	20 Oct – 12 Nov
W Pacific/ Izu-Bonin Arc	Kairei	Y Tamura	Japan	Using submersible Shinkai 2000 to study two bimodal volcanoes to elucidate the origin of rhyolite in oceanic arcs	10 Dec – 27 Dec

Please email any additions to the above table to intermargins@soc.soton.ac.uk

each proposal.

EUROMARGINS is a research programme that was defined by the participating ESF Member Organisations (MOs). The MOs currently comprise Belgium, France, Germany, Italy, Norway, Spain, Sweden, The Netherlands, and the UK. Representatives of the MOs have been involved in all aspects of the review and grading of individual proposals. Funding decisions, however, reside with participating national bodies and the outcome of the first EUROMARGINS call for proposals is expected later this year.

Germany

Since the Autumn of 2001 the German Science Foundation (DFG) has been supporting the Co-operative Research Centre SFB 574 based at GEOMAR, Kiel and the University of Kiel. This Centre is dedicated to research on the continental margin of Central America. Under the overarching theme "Volatiles and Fluids in Subduction Zones: Climate Feedback and Trigger Mechanisms for Natural Disasters" the SFB 574 programme addresses the long-term and short-term development of the Earth's climate, the geochemical evolution of the hydrosphere and atmosphere and the causes of natural disasters at convergent margins. These aims are all connected with the return flow and impact of volatiles and fluids from subduction zones. The major inputs of volatiles into subduction zones come from the sediments, the alteration products of the oceanic crust and the trench-fill from down-slope mass wasting. The outputs of volatiles involve fluid venting at the deformation front, mud diapirism and gas hydrate dynamics at the margin and magmatic devolatilisation at the volcanic arc.

Inside the subduction zone the subducted material is transformed, mobilised or fractionated into different volatile reservoirs and phases. These phases are either ejected into the exosphere through the upper plate, accreted to the leading edge of the continental plate or transported into the lower mantle. The tectonic style of subduction, the structure of the margin wedge and the properties and configuration of the downgoing plate all exert a first-order control on the volatile budget, its transformation and the return pathway. Moreover, there is strong evidence of feedback between volatile behaviour and tectonic activity. Accordingly, the research programme focuses on three major themes:

A. Material input and tectonic behaviour during plate subduction
B. Transformation and partitioning of volatiles into different reservoirs
C. Devolatilisation by magmas and metamorphic processes in the forearc

The SFB 574 programme currently has ~50 members and is employing 28 scientists and technicians during its first 3-year phase. Ideally, within the expected (up to 12 years) lifetime of the programme, several end-member type subduction zones - erosive, accretionary or ocean-ocean plate convergence - will be investigated in order to fully address the ambitious overall objective. However, during its first 3-year phase the efforts of all sub-projects and teams will be concentrated into one area: The subduction zone off Central America.

In Spring and Summer 2002, SFB 574 carried out several land-based investigations and marine geophysical research cruises to the Costa Rica and Nicaragua continental margins. First results and additional information can be found by contacting Warner Brückmann (wbrueckmann@geomar.de) or at: www.geomar.de/projekte/sfb_574/index.html.

The GEOTECHNOLOGIEN research programme deals with the extremely sensitive transition zone between the continents and the oceans in its research theme "Continental Margins: Hot Spots for the Earth's Potential Uses and Risks". Following a general call for project applications, a number of full proposals are now being evaluated. Funding of the initial research projects is expected to begin in 2003. Future research projects will be implemented in close co-operation with comparable European and U.S. initiatives in this field (such as EUROMARGINS and the US MARGINS programme).

The new R&D Programme GEOTECHNOLOGIEN (www.geotechnologien.de) is creating an interdisciplinary and integrated scientific network to understand the complex on-going processes of the Earth system. It comprises 13 priority thematic areas of major scientific, societal and economic significance and contributes to the development of prevention strategies and negotiation options for sustainable management of Planet Earth. The GEOTECHNOLOGIEN programme is designed to run over a 10-year period. It is funded by the Federal Ministry for Education and Research (BMBF) and the DFG. Further information can be obtained from the GEOTECHNOLOGIEN Co-ordinator, Dr. Ludwig Stroink, e-mail: stroink@gfz-potsdam.de.

Our web site

The InterMARGINS web site (www.intermargins.org) exists largely to share and exchange information. Two sections in particular display details of margins-related meetings and of recent or upcoming margins cruises. Both sections could be made more complete and useful if relevant information was submitted by email to the InterMARGINS Office.

Tell us about your conferences, workshops and cruises.

intermargins@soc.soton.ac.uk

New Zealand

In recent years New Zealand scientists have been involved in a number of major international programmes related to margins research. Other work is still on-going.

1996-98 saw the execution of the South Island Geophysical Transect (SIGHT). SIGHT involved an offshore-onshore active-source seismic experiment focused on the convergent, continental plate-boundary through South Island, New Zealand. This was a joint project between the Institute of Geological and Nuclear Sciences (IGNS) and Victoria University of Wellington, from New Zealand, and a group of seven US universities led by the University of Southern California and the Woods Hole Oceanographic Institution. Passive seismology (SAPSE) and magnetotelluric (MT) experiments were also associated with the study. The project comprised two major transects across the South Island which extended out to about 200 km offshore. The extremities of the transects provide information on the margins of the New Zealand sub-continent and continental rift basins to the east of South Island.

SIGHT was followed in 2000-01 by the North Island Geophysical Transect (NIGHT). Here an offshore-onshore, active-source, seismic experiment focused on the convergent oceanic-continental plate margin along the east coast of North Island, New Zealand. This was a joint project between IGNS and Victoria University of Wellington, from New Zealand, and the University of Cambridge, UK. Passive seismology (CNIPSE) and MT experiments were also associated with the study. SIGHT comprised one major transect across the east coast of North Island out to about 200 km offshore to the east, with a north-south sub-transect along the Central Volcanic Region of North Island (the continental back-arc basin).

Since 1995 work has also been conducted on the rifted margin of the Transantarctic Mountains in Antarctica. Several projects are involved which are aimed at understanding the evolution of the major rifted margin forming the Transantarctic Mountains in the Ross Sea region. Work has been focused on the McMurdo Sound area, mainly started in 1984 with the *SP Lee* geophysical survey (USGS and NZDSIR). It includes aspects of the Cape Roberts Project (1997 – 2000; a stratigraphic drilling programme in north-western McMurdo Sound aimed at paleoclimate and tectonic objectives involving the IGNS and Victoria University of Wellington with scientists from Australia, Germany, Italy, The Netherlands, UK and USA), a passive broadband seismology array study of the Dry Valley areas (IGNS and ANU, Australia) and onshore field geology studies (IGNS).

Another, ongoing, marine geology and geophysics project is to study the Structure and evolution of the South Fiji basin - Norfolk basin - northern New Zealand region, the south-eastern New Caledonia basin, Reigna basin and western New Zealand, and the Hikurangi plateau, Chatham Rise and northern Bounty Trough. In addition there are ongoing investigations by IGNS scientists of the major sedimentary basins of the New Zealand sub-continent (e.g. the Great South Basin off south-west South Island).

Sponsorship

InterMARGINS is keen to promote margins research by assisting speakers and actively participating students to attend international conferences. It also wishes to sponsor suitable Workshops. Please submit applications and enquiries by email to the InterMARGINS Office intermargins@soc.soton.ac.uk

UK

The UK runs a 5-year thematic programme called Ocean Margins which is focused on better understanding the rifting, sedimentary and fluid flow processes that occur in present-day rifted margins and their analogues in the rock record. The programme is funded as a 50:50 partnership between the Natural Environment Research Council (NERC) and the Department of Trade Industry's (DTI's) LINK programme to a level of ~£9m. The programme was developed following a Town Meeting attended by 80-90 UK-based scientists from a wide range of sub-disciplines in the Earth Sciences in June 1996 and the first meeting of the Programme Management Committee (PMC) took place in September 1999. Reflecting the NERC/LINK partnership, the committee comprises six academic and six industrial researchers and is presently chaired by Dr. Edwin Cullen, formerly of Amerada Hess. The PMC overseas the running of the Ocean Margins programme and recommends the award of research grants. The day-to-day running of the programme is carried out by Dr. Paul Egerton, the Programme Science Co-ordinator. The programme was launched in January 2000 with an Announcement of Opportunity (AO) for "scoping" proposals. The AO was cash-limited and was intended to support a wide range of research topics, some of which it was hoped could be developed into full proposals at a later date. This was followed by an AO for two rounds of full research grants. To date, the committee has recommended 19 NERC research grants for funding (total £1.8m) that range in scope from topics such as rift "architecture" and magmatism, through evaluation of the stability of continental slopes, to fault sealing processes and trap development in deep marine reservoirs. The grants address both the so-called "volcanic" and "non-volcanic" margin types in the North and South Atlantic and Red Sea regions and include two major seismic reflection and refraction cruises. Further details of the funded projects can found on the NERC/LINK Ocean Margins web-site (www.nerc.ac.uk/funding/thematics/oceanmargins/).

In addition to research grants, the committee has awarded nine

stand-alone three-year Ph.D. studentships and there are plans to fund at least two post-doctoral fellowships to carry out a research programme over at least three years on any aspect of the main research themes of Ocean Margins. In November 2003 Ocean Margins hosted its first Partnership meeting where researchers had the opportunity to present the projects funded under the programme and to discuss their results in the context of other projects and with industry representatives. One of the main aims of the meeting was to develop research partnerships for future round(s) of funded research and to develop ways of strengthening links between Ocean Margins and other on-going programmes such as the new Integrated Ocean Drilling Program (IODP), the US MARGINS Program, and the European Science Foundation's EUROMARGINS programme.

USA

The U.S. MARGINS Program continues to grow and has become a viable force in the Earth Science community. This year saw 10 new proposals funded spanning all initiatives of the MARGINS Program – Seismogenic Zone Experiment (SEIZE), Subduction Factory (SubFac), Rupturing Continental Lithosphere (RCL) and, for the first time, Source-to-Sink (S2S). The S2S proposals concentrated on the Fly River focus site of New Guinea while the RCL proposals concentrated on research objectives for the Gulf of California. The more advanced initiatives (SEIZE and SubFac) are in the process of creating proposals for IODP riser drilling (e.g. Nankai and Osa peninsula). The funding level for FY2003 will be about US$6.2 million. Most importantly, the 2001-2002 MARGINS fiscal year has seen the establishment of a MARGINS data policy and a fellowship scheme. Deadlines for fellowship applications are the same as the MARGINS proposal deadline, 1 November in each year. Major MARGINS-supported workshops occurred during the year: A workshop for the development of a Community Sediment Model (Boulder, February), and the Izu-Bonin-Mariana (Hawaii, September) and Subduction modelling (Michigan, October) workshops. Funding has also been approved for the second MARGINS Theoretical and Experimental Institute for March, 2003 (Theme: The Seismogenic Zone) and a major international workshop in New Zealand (May 2003) that will be used to help summarise the current research efforts and results associated with the Waipaoa source-to-sink system and the preparation of collaborative proposals for the next MARGINS proposal deadline.

Important elements of the MARGINS data plan include: All data collected with MARGINS funding must be archived as soon as practically possible and certainly within the life-time of the grant, along with all relevant metadata, in the institutional archives that are standard for a particular discipline; Basic metadata (e.g., data types, sample locations, cruise tracklines, etc.) must be provided to the MARGINS Office within 60 days of ending a field program; All raw data must be made freely available two years after ending a field program; Processed, derived and interpreted datasets must be made publicly available as soon as possible, certainly within the life-time of the grant; and most importantly and a shift in procedure, an appropriate plan for data archiving and dissemination is an important element in consideration of proposals for funding.

November 1st this year saw the first call for proposals for the MARGINS Fellowship. Fellowships are awarded for post-doctoral study in fields supported by the four MARGINS initiatives (SEIZE, SubFac, Source-to-Sink and Rupturing Continental Lithosphere). All awards must be held at U.S. institutions, although there is no citizenship requirement. MARGINS particularly wishes to encourage applications from nationals of countries involved in the NSF-MARGINS program, namely Costa Rica, Egypt, Japan, Mexico, New Zealand, Nicaragua, Papua New Guinea, Saudi Arabia and the USA. Fellowships are intended for individuals in the early stages of their professional career, typically within 5 years of being awarded their Ph.D.

During late 2002, the MARGINS RCL initiative had some major trials and tribulations to deal with, especially those related to a Californian court injunction preventing the R/V *Maurice Ewing* from continuing its seismic and underway geophysical acquisition in the Gulf of California, thus significantly compromising the objectives of the first major program of the Rupturing Continental Lithosphere initiative. On the morning of September 24th, two Cuvier beaked whales beached themselves in the Gulf of California. The R/V *Maurice Ewing* was 30-40 miles away at the time of the beachings. Exactly how close the vessel had been to the two whales was unclear. The date of the whales' deaths also was not known. Any causal link between the *Ewing*'s operations and the death of the whales was unclear and undemonstrated and considered by many, highly unlikely. When the ship operator learned about this event, even more rigorous measures were added to the vessel's existing procedures to ensure that marine mammals were not impacted by seismic operations such as aerial over flights, no night time operations, reduced airgun volume, additional skilled marine mammal observers and restrictions concerning operations in shallow water. Irrespective of the facts, the Center for Biological Diversity, an environmental group based in Tucson, filed a lawsuit seeking to stop the research. On September 28th, the U.S. District Court for the Northern District of California issued a temporary restraining order, bringing the cruise to an abrupt halt. The situation remains unresolved but the issue will likely arise again when further phases of *Ewing* research take place, in late 2003 or early 2004. That these issues are resolved and a working procedure installed is absolutely essential to the future of the various MARGINS programs around the world.

The U.S. MARGINS Office has adopted the role of overseeing workshop logistics and assisting principal

investigators in setting up the budgets for their workshop and theoretical institute proposals. Significant effort has also been expended on working with Saudi and Egyptian organisations to prepare onshore and offshore proposals for the RCL Gulf of Suez/northern Red Sea focus site. Unlike the other MARGINS initiatives, the diplomatic and logistic challenge of working in the Gulf of Suez/northern Red Sea region is significant but progress has been and continues to be made. Presenting the theme and objectives of the U.S. MARGINS Program at Middle Eastern geological meetings (e.g. Bahrain in April and the Cairo AAPG meeting in October) has helped tremendously in negotiating Memoranda of Understanding between U.S. and Egyptian universities.

Further reports on recent activities can be found in the Steering Committee Minutes of 25 April 2002
(see www.intermargins.org)

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