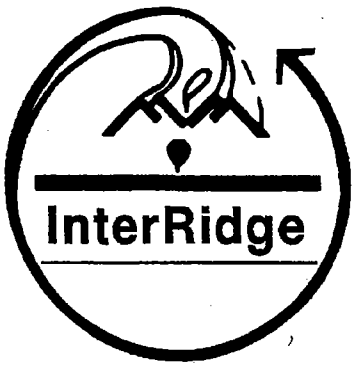
WILSON



InterRidge

Steering Committee Meeting 1997 Report

Paris, France
25-26 September, 1997

Chair:
Mathilde Cannat

(January, 1998)

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Absent Steering Committee Members:
Peter M. Herzig (Germany)
Kensaku Tamaki (Japan)
Tetsuro Urabe (Japan)

Agenda

- **Introduction and Welcome** (Cannat)
- **New Members**
  Endorsement of Italy and Canada as new Associate Members and of their representatives to the Steering Committee. (Wilson)
- **General Organization of meeting**
- **Agreement on meeting agenda**
- **Ratify InterRidge Program Plan Addendum 1996**
- **Accept the Minutes of 1996 meeting** (Wilson)
- **Coordinator Report**
- **National Updates**
  - RIDGE (Von Damm)
  - BRIDGE (German)
  - DORSALES (Francheteau)
  - InterRidge-Japan (Fujimoto)
  - De-Ridge (Rihm)
  - Spain (Dañobeitia)
  - Portugal (Miranda)
  - Norway (Sundvor)
  - Canada (Juniper)
- **InterRidge Projects**

  Receive project reports from Project chairs. Review progress made during the last year and discuss direction, membership and action for the upcoming year.
  - SWIR (Mével, Chair)
  - Arctic Oceans (Rihm, Chair)
  - Global Digital Database (Blondel, Chair)
  - 4-D Architecture of the Oceanic Lithosphere (Parson, Chair)
  - Quantification of Fluxes (German, Acting Chair)
  - Back-Arc Basins (Fujimoto, Prospective Chair)
  - Biological Studies (Mullineaux, Chair)
  - Undersea Cables (Chave, Chair)
  - Event Detection and Response/Observatories (Fox, Prospective Chair)
- **Make decisions on Chair(s) for the following Projects**
  - Back-Arc Basins
  - Event Detection and Response
  - Quantification of Fluxes
- **InterRidge liaisons with other programs**
  - ILP
  - SOPAC
  - SCOR (Mével)
  - ODP
- **InterRidge Steering Committee members and National Correspondents:**
  - Steering Committee
  - National Correspondents
- **InterRidge Budget** (Searle)
  Receive final Durham Budget (Wilson)
  Receive the 1997 financial report
- **Determine date and location of next Steering Committee Meeting**
- **Receive and, if necessary, update the 1998 Calendar** (Wilson)
- **Summary of Principal Conclusions**

InterRidge Steering Committee 1997 Report
Paris, France, 25-26 September, 1997

1. Introduction and Welcome (Chair, M. Cannat)

The Chair acknowledged the work of R. Searle, H. Sloan, and R. Williams who established most of the office structure that allowed for a smooth transition to the new office in Paris. The Chair welcomed everyone to the meeting, and introduced those participants who were observers or new steering committee members. A round table was conducted to identify all participants.

2. New Members

The Steering Committee endorsed Italy and Canada as new Associate Members to InterRidge. We have not yet received nominations for Steering Committee members from their national organizations.

Action: • Letters of welcome and confirmation will be sent to the new Italian and Canadian Steering Committee members.

3. General organization of meeting and agreement on meeting agenda

The general timeline of the meeting was established and the agenda was accepted.

4. Ratify InterRidge Program Plan Addendum 1996 and accept the Minutes of 1996 meeting

The Program Plan Addendum 1996 was ratified and the minutes of the 1996 meeting were accepted.

5. Matters arising

5.1 SOSUS

Karen Von Damm tried numerous times to contact SOSUS about the status of their Atlantic arrays but never received any response. The Atlantic arrays are effectively not operating.

5.2 Science Funding

The dwindling of science funds was a theme that came up recurrently in the European reports and throughout the meeting. This problem is evident on two levels, marine sciences in general, and ridge crest sciences specifically. Science on a fundamental level needs to promoted within the European community. A more visible InterRidge could serve to promote the importance of ridge crest science. We need to make people, and funding agencies in particular, aware of what InterRidge does and what it has accomplished scientifically. The brochure being written by the SCOR 99 was also brought as a potential media for education about ridge science for a variety of audiences.

Actions: • InterRidge will write a lobbying letter to European funding agencies and program managers emphasizing the importance of ridge research and expressing our concerns. It will be circulated to the Steering Committee before being sent out.
- InterRidge will write a general article about InterRidge for EOS. The BRIDGE article that R. Searle wrote for BRIDGE can be used as a starting point. It will be circulated to the Steering Committee before being sent out.
- InterRidge will write a general letter outlining InterRidge goals and objectives and send it to funding agencies.

5.3 InterRidge Projects and Working Groups

The issue was raised during the meeting of what it means if we talk about a working group that has no members. For this reason the semantics have been changed and the term 'project' is used for the nine projects that were created at the 1996 meeting when the three themes, Global Meso-scale and Active Processes were broken down into these smaller components (Phase II projects). It was envisioned then that these projects would have working groups which would implement the project plan established for the project. Most of the projects do have working groups, and the term 'working group' is now used only to refer to those groups.

6. Coordinator Report

6.1 InterRidge Office Transfer

January 1997 marked the end of InterRidge's three-year term in Durham, and the office moved to the Laboratoire de Pétrologie at the Université Pierre et Marie Curie in Paris, France, where it will reside for the next three years. Mathilde Cannat took over as InterRidge Chair from Roger Searle. Ruth Williams, the assistant Coordinator during the Durham term, oversaw the office transfer and was acting Coordinator until March 1997 when Cara Wilson started as the InterRidge Coordinator. Hélène Horen is the current assistant Coordinator.

6.2 InterRidge Membership

Italy and Canada have definitely decided to upgrade to Associate Members in 1998, and India and Korea have been discussing upgrading as well. South Africa and Brazil have joined as new Corresponding members. Thus, at the end of 1997 InterRidge is composed of 21 member countries: 6 principal members (France, Germany, Japan, Spain, UK, and USA), 2 associate members (Norway and Portugal) and 13 corresponding members (Australia, Brazil, Canada, Denmark, Iceland, India, Italy, Korea, Mexico, Russia, South Africa, Sweden, and Switzerland).

6.3 InterRidge WWW Pages

Since the InterRidge web pages (**http://www.lgs.jussieu.fr/~intridge**) were transferred to Paris considerable effort has been put into restructuring and updating these pages. The primary changes have been to streamline the structure of the main home page, and to add more information that is published in *InterRidge News* (which follows the decision at the 1995 IRSC meeting to put *InterRidge News* on the web). Links have been made from the list of Steering Committee Members and National Correspondents to the electronic directory. However, very few steering committee members or national correspondents were on the electronic directory. Steering Committee members were encouraged to place themselves on the directory. Forms were available at the meeting to place oneself on the electronic directory. Almost everyone at the meeting who was not already on the directory filled one out. It was discussed that the community should be told again about this resource, with emphasis on the fact that it now contains over 200 entries, and it can be a useful resource.

Pages have been created for the almost all of the InterRidge projects (currently only Event Detection and Response & Observatories, and Hydrothermal Fluxes do not have one). These pages include the working group membership, a summary of current activities, and workshop reports. A list of all past InterRidge workshops, with links to a workshop summary (as written in the IRSC reports) has been added. Pages have also been created for most InterRidge member nations, which contain the most recent national update (as published in *InterRidge News*). So far, these pages have been made for the 16 countries for whom a recent update exists, and include the first bilingual page (Brazil's page has an English and Portuguese version). Member nations were encouraged to submit national updates for *InterRidge News*, which would also be placed on the web. Two principal members, Spain and Japan have not contributed an update since 1995 and an associate member, Portugal, has never contributed an update.

As before, the InterRidge web pages include the InterRidge Researcher Electronic Directory and Ridge Crest Biologist Directory, information about InterRidge program structure, a calendar of upcoming meetings and workshops, a list of InterRidge publications, the global Ridge-Crest cruise schedule and links to other relevant home pages.

There was discussion about the difficulty of accessing the InterRidge pages from the USA, and of European access problems to the Ridge page when the network is busy. It was suggested that Ridge and InterRidge set up mirror sites for one another.

Actions:
- The form in the *IR News* to be placed on the electronic directory will be revamped.
- The InterRidge Office will contact the Ridge Office about the possibility of setting up mirror web sites.

6.4 Working Group Communications

One of the ongoing problems for the working groups is how to have productive interactions in the absence of formally scheduled workshops or meetings. Some working group members have expressed a frustration with determining what (if anything) is happening within their group. A possible solution to this problem is to establish electronic bulletin boards for the working groups, which would contain the working groups objectives and current plans for achieving those objectives. They would operate similar to web pages, except that each member has the ability to add items to the board, and members would be automatically notified of additions to the board. Preliminary investigation into what type of system/software requirements would be needed to do this have started, but needs more development. The Ridge Office has done some work with setting up a board like this for the EDR community, although it has not received much use because there is little awareness in the community of its existence. It was decided that the InterRidge Office should contact Chris Keeley in the Ridge Office for help on establishing bulletin boards for the working groups.

Actions:
- The InterRidge Office will contact Chris Keeley in the Ridge Office for more information on electronic bulletin boards.
- An announcement about the Ridge EDR page will be in the next *IR News*.

6.5 Activity in the InterRidge Office

The office transfer, publication of *InterRidge News 6(1)*, organization of the First International Deep-Sea Hydrothermal Vent Biology Symposium and its abstract volume, working on workshop reports, and restructuring and updating the web pages were the major activities of the first portion of 1997. The Office continues to reply on a daily basis to e-mail inquiries from the international ridge crest research community, and to update and maintain the InterRidge database, which contains over 2200 entries.

7. National Updates

7.1 US - RIDGE *(Von Damm)*

RIDGE is in the process of revising the RIDGE science Plan for the next five years. It is likely that the new Science Plan will be organized around questions relating to various time and spatial scales, rather than the Program Element Committees (PECS) that currently exist. A draft of the revised Science Plan will be put on the RIDGE website for community input. A draft should be available prior to the Fall AGU meeting in San Francisco.

RIDGE has co-sponsored several workshops in the last year, including the Magnetization of the Ocean Crust in Orcas Island in October 1996 (a summary appeared in EOS, May 13), an Event Detection and Response Workshop in Washington in March 1996 (a report is in the draft stage), A Workshop on the Subsurface Biosphere in Washington, DC in March 1996 and the Summer School on MOR Processes in Iceland in August/September aimed at US participants. The next RIDGE meeting is the MELT Workshop on Mantle Flow and Melt Generation beneath Mid-Ocean Ridges in Providence, RI in October 4-6, 1997.

The new support vessel for Alvin and JASON, the *Atlantis*, came on-line this past June. This happened sooner then scheduled because of a breakdown on the *RV Thompson* which had been scheduled to conduct ROV operations with Jason and Alvin.

The Ridge Office will be rotating to another office next fall.

7.2 UK- BRIDGE *(German)*

The BRIDGE program is winding down. Since its inception in 1993, 40 proposals have been funded. There will not be a BRIDGE II in 98/99, although they will continue to fund InterRidge. Post-BRIDGE ridge research in the UK will be supported by core funding, and scientists will probably rely more on international collaboration.

A data synthesis is now being planned that will integrate data from the different geological, oceanographic, chemical and biological cruises. The BRIDGE Steering Committee has formed a small BRIDGE Data Committee to oversee the collation and integration of the data from all BRIDGE research and produce a definitive dataset for the BRIDGE geographical areas. This monumental task is being undertaken by Philippe Blondel of Southampton Oceanography Centre, InterRidge Steering Committee member and Chair of InterRidge's Global Ridge Bathymetry Database Project. It is expected that the unified BRIDGE data product will be available in CD-ROM format by the year 2000 and should have educational as well as research interest.

7.3 France -DORSALES *(Francheteau)*

DORSALES is now in its fifth year of a program that was initially set up for 10 years. It is currently undergoing a mid-life review by the funding agency. An international board has been set up to evaluate the program, which will be reviewed during a national symposium that will take place in Paris November 24-25.

7.4 InterRidge-Japan *(Fujimoto)*

The government in Japan is currently planning for reorganizing which has had ramifications on InterRidge-Japan. Their RIDGE FLUX program is half way through its six year program. They have compiled a video report of this project which was distributed at the meeting.

JAMSTEC (Japan Marine Science and Technology Center) is now preparing four cruises, two in the Mid-Atlantic Ocean and two cruises in the Indian Ocean in 1998 using the submersible "Shinkai 6500" and the surface ship "Yokosuka". In each ocean one cruise will be carried out under JAMSTEC-WHOI, while the other cruises are open for international proposals.

7.5 Germany - De-Ridge *(Rihm)*

Currently De-Ridge has no funding, the office is located in Kiel and shared between R. Rihm and C. Devey. Last March De-Ridge decided to focus on two major themes - (1) Evolution of oceanic crust and (2) Back-Arc Basins. Workshops were held last summer to further define these themes.

7.6 Spain *(Dañobeitia)*

The Institute of Earth Sciences (Jaime Almera) from the CSIC and the Marine Geosciences Group of the University of Barcelona (UB) started working on ridge-related studies in 1992, when the R/V *Hesperides* was launched as part of the Spanish Antarctic Programme. Seven geology-geophysics cruises have been made which concentrated on the NW Antarctic Peninsula - Bransfield Basin region, Galapagos Region, and the EPR at southern (Eastern Island) and northern latitudes around 22°N at the junction between Pacific and Rivera plates.

7.7 Portugal *(Miranda)*

Portuguese ridge researchers have participated in MAST projects in the last year and a half. Proposals for projects on a national level proposals were not accepted. Funding agencies view the science as too expensive. We need to make funding agencies aware of the importance of our science.

The 1998 World Expo will be held in Lisbon in May/June, 1998. The theme is the Oceans. The SOC group will be represented there and it was discussed that InterRidge should also try to promote ourselves there.

Action: • InterRidge will look into having a presence at the World Expo.

7.8 Norway *(Sundvor)*

Although Norway does not have a national ridge program, it has been involved in geophysical ridge research for the past thirty years. The research has focused mainly on seismic, gravitational and magnetics surveys of the nearby Knipovich and Mohns Ridges. Oil companies have financed a great deal of the research after the discovery of oil in Norwegian waters. Norway has a research vessel and ship time is relatively easy to acquire with international collaboration. Most of the nearby ridge system (140,000 km^2) has been covered by side scan sonar, which happened in collaboration with the Naval Research Laboratory (US) in 1989 and 1990. Norway has collaborated with the French in putting OBSs on the Mohns Ridge and OBS data from the Reykjanes Ridge was collected in collaboration with the Japanese in 1995. A joint US, Russian and Norwegian team conducted geological and geophysical research on the Knipovich Ridge in 1996. A proposal has been written to dive on the Knipovich Ridge with the Russian MIR submersible next year. A lot of Russian data exists from the Knipovich Ridge which has never been published. This data will be compiled by a program involving the collaboration of the Univ. of Bergen, the Institute of Marine Geology at Bologna, Italy (E. Bonatti) and three Russian research institutes.

7.9 Canada *(Juniper)*

Ridge research in Canada does not come under an official ridge program, but has been functioning on a proposal to proposal basis since 1983. Ridge research in the past 5 or 6 years has used the Canadian ROV ROPOS which was lost at sea in October 1996. The first cruise with the new ROPOS happened last June on Axial Seamount. In October 1997 there was a joint Canadian-Australian-American cruise to the Eastern Manus Basin. There is a joint USA/UK/Canadian project to sample around hole 735B on the SWIR in the Spring of 1998.

8. InterRidge Phase II Projects

8.1 SWIR *(Mével, Chair)*

The first SWIR working group was set up to develop the SWIR Project Plan. Under C. Langmuir's direction this group outlined the primary scientific issues to address in the SWIR, which were published in the SWIR Project Plan in April 1997. The SWIR Implementation group was established last fall, with C. Mével as Chair, to implement that plan. Their specific mandate was:

- to set up WWW site with past and present cruise schedules, project plan, sample locations and data sets
- to coordinate and promote cruises

C. Mével tried contacting Indian investigators several times without any response. It seems their main focus is the Carlsberg Ridge and the Central Indian Ridge.

The project web page currently contains the project plan, the working group membership and a list of current cruises. The sample locations and data sets need to be incorporated into the web page.

Coordination and promotion of cruises to the SWIR has been successful, evident in the number of recent and current cruises taking place on the SWIR (see tables on next page).

The working group needs a biologist on it who is actively involved in the SWIR projects. The SWIR should be more actively promoted by InterRidge. The program plan should be formally presented to funding agencies. A meeting of the implementation group will take place at the 1997 AGU Fall meeting. InterRidge should organize a workshop of conference to discuss results from the SWIR in 1999.

Actions: • Continue development of WWW site
• Compilation of bathymetry and sample locations
• Write a formal cover letter to accompany the project plan and send to funding agencies
• Look into deployment of an array on the SWIR (see page 10)

SWIR Scheduled cruises

PIs	Country	Name/location	Objectives	Ship	Dates
Grindlay/Madsen	USA	**KN145**: 15°-35°E SWIR	Bathymetry, gravity and magnetic survey	Knorr	Feb-Mar 1996
Mével	France	**EDUL**: Rodrigues Triple Junction to 49°E	Dredges, rock cores and hydrocasts to look at regional and segment scale variations	Marion Dufresne	Aug. 1997
Mével/Tamaki	France/ Japan	**FUJI**: east and west of Melville FZ	TOBI survey and OBS deployment	Marion Dufresne	Oct. 1997
Dick/Natland	USA	ODP leg 176 -hole 735B	Deepening of hole into more gabbros and hopefully ultramafics	Joides Resolution	Oct-Dec 1997
MacLeod/Dick/ Allerton/ Robinson	UK/USA/ Canada	sampling around Hole 735B	Sampling using ROPOS ROV, deep-towed magnetics, MBARI rock drills	James Clark Ross	Mar-May 1998
	Japan	near 735B	diving	Yokosuka/ Shinkai6500	Fall 1998
	Japan	to be determined after **EDUL & FUJI**	diving	Yokosuka/ Shinkai6500	Fall 1998

SWIR Proposed cruises

PIs	Country	Name/location	Objectives	Ship	Dates
Grindlay/Klein	USA	15°-35°E SWIR	Dredging of the area mapped during KN145		
Patriat/Sauter	France	**FRIMAS**: triple junction trace around 63°E	Bathymetric and geophysical mapping of the crust generated from the axis	Marion Dufresne	1998
Halbach	Germany		Water sampling to locate possible hydrothermal activity	Sonne	
Kaul	Germany	cooperative program	heat flow, single channel seismic digital system, OBSs.		1998

8.2 Arctic Oceans (Rihm, Chair)

A sub-set of the participants of the Arctic Ridges Workshop in November of 1994 finished writing up the workshop report. Subsequently the InterRidge Office compiled and edited the report which will be published in October 1997. Prospective members for the working group were solicited in March 1997 to draft a project plan to help establish priorities for upcoming cruises. A workshop might be held to draft the project plan.

The group at Kiel is involved in a number of different approaches of Arctic research including the recent release of military data, submarine use, low budget drilling, ice breakers (Polarstern, Oden and Tully), and utilizing ice drift. In September there was a workshop held in St. Petersburg on Arctic bathymetry. The Canadians have plans for freezing an ice breaker in the ice next October. This project will be mainly a meteorological study, but there are also plans to acquire crustal structure data with a submersible. The SCICEX cruises with US Navy submarines continue to happen every summer, and this year the submarine will be equipped with a swath mapping system.

Action: • Organize a special session at the Fall 1998 AGU to discuss results

8.3 Global Digital Database (Blondel, Chair)

The mission of this working group is to compile a comprehensive database of high-resolution bathymetric data covering the entire 60,000 km of the MOR. Realizing this goal will necessitate collaboration with all of the national ridge programs and other international programs such as SCOR (particularly the SCOR 107 , Improved Global bathymetry), SOPAC, GEBCO (GEneral Bathymetric Charts of the Ocean), NDGC (World Data ??) and the IOC/IHO (Intergovernmental Oceanographic Commission/International Hydrographic Organization) committee on Bathymetry.

The task can be broken down into two main steps:

- Catalog where there is data, and who has it
- Synthesize the data

Currently the biggest question to address is how the data is archived in each country. The highest priority is to catalog the data. Although it was mentioned at last year's meeting that InterRidge should compile the shiptracks of existing data, this is not a realistic possibility for the InterRidge Office given their current computing facilities. A summary of the situation on a national basis is given in the following table:

Country	Multibeam data availability
Canada	No MB data, excellent SB data
France	MB data centralized at SISMER
Germany	MB data collected on the *Sonne*, the *Polarstern* and the *Meteor*; data is not centralized, one needs to contact the PI; there should be a lot of data from the MAR and CIR
India	Have a German Hydrosweep system
Italy	??
Japan	4 institutions have MB data (not centralized?)
Korea	have MB system (Finnish system)
Norway	centralized in a database at the University of Oslo; a lot of the Arctic data is in the recent atlas edited by K. Crane
Portugal	no MB data
Russia	Data should be Italian, contact Enrico Bonatti or Ron McNabb
Spain	a workshop at the end of August mandated that MB data will be collected on all cruises and data archiving will be centralized by the agency that runs the *RV Hesperides*
UK	BRIDGE is currently synthesizing all UK MB data
USA	Navy (classified); RIDGE database (which was always envisioned to be part of InterRidge); NOAA group compiling a database for the NE Pacific, Dawn Wright compiling for Endeavor

How the data will be synthesized is more problematic. Existing databases could be linked, but that will not include existing data that is not archived. Differing formats and resolutions of the data will further complicate the synthesis. It was discussed that international agencies which accept data could be utilized in the data synthesis of. Currently NDGC accepts unedited MB data. InterRidge should encourage people to submit their data there. They also have an embargo in place for the data, so that it is not released until a certain period of time after collection. There is a European funded program to scan and digitize paper seismic records to prevent losing this data. It is possible that this 'legacy of data' approach could be used to help fund making more accessible some of the unarchived data, particularly the German data. L. Parson will further investigate this matter.

In the US a project has been funded (Langmuir and Ryan) to expand the RIDGE MB database to include petrology data, and this is currently underway. The NOAA group is compiling a comprehensive database for the NE Pacific which includes shiptracks, dive locations, biological data etc. which is available on the web, so that outsiders can access the data an create a map of the data for themselves. Dawn Wright has received funding from RIDGE to do a similar project for Endeavor.

Each country was encouraged to think of the appropriate person to represent their country on the working group. Bill Ryan (USA) has worked on trying to compile a database, and he will be included in the working group. Juan Dañobeitia (Spain) agreed to be on the working group. Christine Deplus should be the French representative.

Actions:
- Define the membership of the working group
- Compile catalog of where there is data and who has it
- Implement bathymetric database
- InterRidge will encourage people to submit data to NGDC
- L. Parson will investigate possibility that there are European funds available for data archiving.

8.4 4-D Architecture of the Oceanic Lithosphere (Parson, Chair)

This project started as a series of meetings and workshops which established the scientific objectives which were summarized in the workshop report published in 1995. Earlier this year a working group was established to work on the realization of those objectives.

The Hess Deep has been selected as the site for fast-spreading ridge experiments. Some work have been completed there and there are currently two proposals in the system to work at Hess Deep. The working group should push for drilling to happen in the Hess Deep. For this to happen proposals need to get into the next round (March 15, 1998).

For slow-spreading ridge experiments four possible sites have been determined: TAG, MARK, 29°N and 35°N (all on the MAR). While work has been going on in all these areas, the decision should be made soon which one to focus on. Recently there has been interest in the area around 15°N. However, while work at 15°N is related to the 4D objectives, it is really a different concept, focusing on examined the heterogeneity of mantle melting processes and sampling the serpentatized peridiotites. Another factor is the issue of the corrugated surfaces that have been observed, as these features need to be drilled. It is not known if all these sites are drillable. The site decision could also arise naturally out of the proposal writing process.

There will be a special session at AGU on "Magma focusing and the segmentation of the Mid-Ocean Ridge at all spreading rates" convened by L. Parson and M. Cannat. There will be a poster and oral session, with an open discussion at the end of the session. Hopefully the discussion at AGU will result in a decision of which of the four areas will be selected.

The scientific results that have arisen out of the InterRidge's efforts in 4D Architecture need to be presented to the funding agencies.

Completed or Scheduled 4D Cruises

PIs	Country	Name/location	Objectives	Ship	Dates
		Hess Deep			
Bideau	France	**OCEANAUT:** MAR between 33.5°-35.25°N	submersible survey, rock samples, magnetic survey	Nadir/ Nautile	Aug-Sep 1995
Searle/Mitchell/ Cowie	UK	**CD99**: 29°N axial segment, MAR	Quantification of total strain in a single spreading segment. Deep-towed side-scan and MB sonar, 3-component magnetics	Charles Darwin/ TOBI	Mar/Apr 1996
Cann/Blackman	UK	**CD100**: segment south of Atlantis FZ (30°N), MAR	Determine strain from indicators near a ridge-transform intersection, test low-angle serpentitite landslide zone vs. fault scarp mode, dredges	Charles Darwin/ TOBI	Apr/May 1996
Gente	France	**TAMMAR**: 22°N MAR	submersible study of mid-ocean ridge segmentation	Nadir/ Nautile	Apr/May 1996
Fornari/Humphris Langmuir/ Van Dover	USA	**LUSTRE:** Lucky Strike, 37°18'N MAR	Mapping and sampling Lucky Strike hydrothermal field	Knorr/ JASON/ ARGO-II	Jul/Aug 1996
Sibuet	France	**SARRidge:** 33°-39° MAR	Mapping	Nadir/SAR	Oct. 1996
Detrick	USA	**Bull's-Eye**, MAR 34°-37°N	Seismic experiment	Maurice Ewing	Oct/Nov 1996
Fouquet	France	**FLORES:** Azores, Mid-Atlantic Ridge		Atalante/ Nautile	Jun/Jul '97

Future 4D Cruises

PIs	Country	Name/location	Objectives	Ship	Dates
Blackman		29°N MAR	Diving near Atlantis II FZ	Alvin	
Karson		Hess Deep			
Cannat/ Rommevaux	France	Sudaçores - MAR: 34° - 38°N, the axis and extending off-axis up to 10-13 myrs	examine influence of the Azores hot spot on the MAR with multibeam bathymetry, reflectivity, gravimetry, magnetism, single channel seismics survey, and dredges	Atalante	May/Jun '98

Actions:
- Use Fall 1997 AGU session to consolidate recent results
- Need to select target area for experiments
- Set up electronic bulletin board/information site
- push for drilling to happen at Hess Deep
- consider ultra-slow segment (SWIR)

8.5 Quantification of Fluxes (German, Acting Chair)

This project was initially conceived to design a holistic "box" experiment to measure all the fluxes over an entire segment. While initially this concept included magmatic fluxes (in addition to hydrothermal, chemical and biological fluxes), they were excluded from the discussion at the Cambridge workshop in 1995 as they were being addressed by the MELT experiments and by the InterRidge 4D lithospheric architecture experiments. It was hoped that the 4D project would therefor conduct their experiments at the same segment as the 'box' experiments.

Currently two segment-scale hydrothermal plume studies have been carried out. The BRIDGE Fluxes-Broken Spur Experiment examined biological, chemical and physical fluxes. The AMORES cruise last summer carried out the same measurements at Rainbow. One of the problems with the Broken Spur experiment is that the plume is small and the signal is hard to follow. By contrast, the Rainbow plume can be traced 25 km from the vent site versus 2 km at Broken Spur. However, the Rainbow site is located in a segment offset, and therefor is not a closed box, nor a segment. As such, the experiments carried out there were not the 'box' experiments originally envisioned.

At this point there are three possible paths to follow:

(1) Continue to follow-up on the holistic approach by moving on to the magmatic fluxes, perhaps working in collaboration with, or becoming absorbed within, the 4D architecture project. The magmatic aspect is outside of C. Germans's expertise and for this approach we would need to find a more appropriate Chair. Some of these people were approached last winter about chairing this, but there was apparently no interest or respond.

(2) The project holds one last wrap-up workshop to make conclusions on the experiments done, and then gracefully disbands, work concluded. While the 'holistic' approach on a segment-scale has not been realized, it appears there is little interest in the community to pursue this approach. InterRidge can encourage and promote ideas, however it can not create enthusiasm where there is none.

(3) The project refocusses to address current issues such as:

- Partitioning of hydrothermal activity on-axis versus off-axis. There is also nothing known about flank fluxes, a subject that has drilling possibilities.
- Partitioning of hydrothermal activity along the global MOR.

The global distribution of hydrothermal activity remains unknown. The issue of global distribution is one that is best approached internationally, and thus is a natural question for InterRidge to take on. Proposals to try to fill this gap are often unsuccessful, as they are viewed as 'exploration' and not science. We need hypotheses to test to make it science. The question can be approached from the perspective of global heat fluxes, or vent biogeography, but care must be taken to ensure that the resulting proposals are scientifically plausible. Proposals which carry on extensive geophysical surveying sound contrived if they hang on the biological objectives. Global distribution could also be addressed by setting up remote detection systems. This issue really comes under the Global theme, rather than Meso-Scale, and it was discussed that the group could be absorbed in the SWIR project, focusing on the hydrothermal fluxes there.

C. German and C. Wilson will be convening a special session at the 1997 Fall AGU "Hydrothermal activity at all spreading rates". This session will focus on the two issues mentioned above (under #3). After the afternoon session a discussion is planned to discuss the direction of the group.

It was discussed that the projects need to have definite lifetimes. If the objective of the project has been realized, there is no reason not to dissolve it. However this project is the only one that provides links between crustal and magmatic processes and hydrothermal systems and biology, and for that reason it should be maintained. C. German will remain Chair dependent on the group's future direction as decided at AGU.

Actions:
- Use Fall 1997 AGU session to consolidate recent results
- Use discussion at Fall 1997 AGU to determine future direction of the project

8.6 Back-Arc Basins *(Fujimoto, Prospective Co-Chair)*

K. Tamaki was Chair of this project until last May when he became too busy to continue as Chair. H. Fujimoto agreed to co-chair this project with someone else. A small meeting of people active in Back-Arc Basins was held last May at the CONCORD meeting in Japan, where a list of possible co-chairs was made. J.-M. Auzende has agreed to co-chair this project.

A draft of a project plan is currently being prepared by K. Tamaki, the former Chair. The primary goal of this project is to study the influence of subduction on ocean ridge processes. The three main sub-topics are (1) melt generation, (2) spreading processes and (3) energy and biological fluxes. The central idea in the Project Plan is that identical data sets should be obtained at typical back-arc basins. These data sets would consist of:

- mantle topography imagery using seismic activity at the nearby subducting slab
- bathymetry mapping
- magnetic and gravity data
- rock sampling
- hydrothermal water chemistry studies
- biological vent community studies

Four target basins have been selected for these studies:

1. Lau Basin — Fast spreading (160 mm/yr)
2. Scotia Basin — Medium spreading
3. Mariana Trough — Slow spreading (30 mm/yr)
4. North Fiji Basin

A great deal of this data has already been collected. There needs to be effort put into synthesizing what has already been done, and what still needs to be done. For example, the Germans have a great deal of data on the Lau Basin, BRIDGE has set up a database for the Lau Basin, and the French have had many cruises to the North Fiji Basin. There should be a connection between this InterRidge project and the DeRidge Back-Arc Basin group, as well as an ODP connection for drilling proposals. There has been talk of drilling sulfide deposits in a back-arc basin but the specific basin has not been decided.

At the request of participants of the InterRidge BAB workshop in October 1993 a geochemical BAB 'database' was created on the WWW. However this 'database' is not really useful, containing only one set of data. It was decided that an

index of cruises and available data would be more useful and that the geochemical 'database' on the web will be removed and replaced with a comprehensive list of Back-Arc Basin cruises.

Prospective members of the working group were discussed and Roy A. Livermore, Chris MacLeod, Peter M. Herzig, Peter Halbach, Kensaku Tamaki, Robert Stern, Steve Scott, Eulália Gracia, Patricia Fryer, Jim Gill, and Ian Wright were suggested as possible members of the working group.

Actions:
- Establish membership of the working group
- Remove current 'database' from WWW site
- Compile index of cruises that have taken place in BABs in past years
- Complete Project Plan
- Contact BRIDGE about their Lau Basin database

8.7 Biological Studies (Mullineaux, Chair)

First International Symposium on Deep-Sea Hydrothermal Vent Biology

This Symposium was held October 20-24, 1997 in Funchal, Madeira, Portugal. Over 110 people from 12 countries attended the meeting, where 83 posters and talks were be presented. There will be six different sessions covering Ecology/Micro-distribution/Temporal Evolution. Physiology/Adaptation, Biological Cycles/Larval dispersion/Plankton, Microbiology/Ultra-thermophiles/Bacterial Symbiosis, Cold Seeps, and Biogeography/Evolution/Genetics/Taxonomy.

International Sample Exchange Agreement

The working group has been concentrating on the developing the International Sample Exchange Agreement. It was first proposed at the InterRidge Biological Studies workshop in 1995 that an international exchange of biological samples could help answer fundamental questions about biodiversity and global biogeography of vent organisms. The first draft of the agreement was circulated to the National Correspondents of InterRidge for ratification, without any response. This lack of response was probably due to lack of interest, almost all of the National Correspondents being non-biologists. However the agreement was also worded rather formally and most probably did not feel that they had the authority to agree to it.

The agreement was subsequently revised to be less formal and was sent out to the National Curators, the biologists who would ultimately be responsible for carrying out the agreement. Recommendations were received from the curators on how to further modify and improve the agreement. The two biggest recommendations were to focus on clearly defined scientific questions and to customize the agreement to allow for the different curation processes in each country. Other concerns which were raised were that there should be a mechanism to ensure the altruism of the curators, and that priority would be maintained for the original collectors. Efforts to resolve this concerns by e-mail were not very effective and a meeting was scheduled during the First International Symposium on Deep-Sea Hydrothermal Vent Biology to further discuss modifications to the agreement.

Last July a proposal was submitted to SCOR to create a working group to further develop this agreement. However it was not accepted, because it was felt that it didn't encompass a scientific question, but rather addressed logistical and political problems. However, SCOR was very supportive of the idea, and offered to help us as much as they could.

Sanctuaries

It was decided at last years Steering Committee meeting that a letter would be written to EOS provoking a response to the issue of sea floor sanctuaries. The issue is difficult, as often multiple, conflicting claims of sanctuaries are laid. There is an obvious conflict between scientists who want to observe organisms in their natural, undisturbed setting, and those who want to collect large numbers of specimens. It was decided that D. Desbruyères would help L. Mullineaux write the article which would be co-signed by M. Cannat, as InterRidge Chair. There also needs to be a unified location place where one can lay claim to a sanctuary, give a brief summary of their scientific goals and objectives, and the requested limits of the sanctuary. It was proposed that the InterRidge web page is where this should occur, with the understanding that these would be endorsed by InterRidge, but obviously these sanctuaries would not be 'policed'. These discussions and agreements should happen within the scientific community, and not be placed on the ship's crew, as has happened in the past.

Bio-Boxes

V. Tunnicliffe will be the international supplier of bio-boxes. InterRidge will take a pro-active role in promoting their use.

Handbook of deep-sea hydrothermal vent fauna

InterRidge has received 29 copies of this handbook, which will be distributed to submersibles and ROVs. These copies should be well marked with the name of the submersible or ROV to try to prevent them from being stolen. It was also decided that H. Sloan and R. Williams should each receive a copy for their efforts into it. D. Desbruyères will be making a CD-ROM of this volume as well.

Actions:
- L. Mullineaux and D. Desbruyères will write an EOS article about sanctuaries, which will be co-signed by the IR Chair.
- InterRidge will establish and maintain a list of proposed sanctuaries on the web site.
- Have a workshop in 1999 to establish scientific goals, which will most likely emphasize global vent biogeography.

- InterRidge will distribute copies of the 'Handbook of Hydrothermal Vent Biology Fauna' to submersibles and ROV's and send copies out on cruises with bio-boxes
- InterRidge will give a copy of the Fauna Handbook to Heather Sloan and Ruth Williams

8.8 Undersea Cables (Chave, Chair)

This project was formed at the 1996 InterRidge Steering Committee to investigate the feasibility of using submarine cables for ridge-crest science and a working group was established last spring. In recent years, there has been increasing interest in placing permanent instrumentation on mid-ocean ridges for active process studies. This idea poses some significant technical problems in delivering long term power and providing a means for data retrieval. Traditionally, the former has been based on self-contained batteries, while the latter has required instrument retrieval during irregular site visits with a surface ship. Such an approach is limiting both in terms of the types of sensors which can be employed and in the types of science which can be accomplished.

Submarine cables are an attractive technology to provide the power and communications infrastructure for a permanent active processes observatory. There has been considerable activity in using submarine cables (both retired commercial cables and new, dedicated scientific cables) in Japan and the US in recent years, as summarized in the proceedings of an international workshop held in Okinaway early in 1997.

As a baseline comparison, providing one watt continuously to a seafloor instrument using state-of-the-art lithium batteries would require about 210 D-size units costing about $10K USD and occupying a 23 cm pressure case 1 m long. Scaling this up to appreciably higher power levels is logistically and economically infeasible. Similarly, real time communications to seafloor instruments with alternative technologies is difficult to accomplish. One approach might be based on commercially-available acoustic modems that can transmit data from the seafloor to a surface buoy at data rates of order 10 kbit/s (higher rates have been achieved experimentally). Getting data from a surface buoy to land in real time is currently problematical, although it might become easier as low earth orbiting satellite-based global cellular phone systems become available over the next few years. These communications issues are compounded by the difficulty of deploying and powering a surface buoy over long time periods, particularly in areas where winter weather is severe.

As an alternative, submarine cables can provide continuous power at the several hundred watt level and communications at the 100 kbit/s level using analog submarine telephone technology. Data rates in excess of 1 gigabit/s are feasible on fiber optic cables. Communications over cables can be bi-directional, opening up the possibility of interacting with seafloor instruments from shore or even conducting perturbation experiments remotely. Most of the early use of submarine cables for scientific purposes has been concentrated on abandoned commercial cables, with the implied requirement that one can work only where cables currently exist. This is not strictly true; it is possible to pick up and re-lay abandoned cables to where they are wanted using research vessels. It is also possible to lay new fiber optic cables from research platforms.

Research vessels are capable are laying 300-400 km of cable, and can do so at 1/10 the cost of commercial cable ships. The cost of laying a 300 km cable is under a million USD. The biggest cost arises from the equipment needed to spool out the cable. To build a spool will cost between $300-400K USD, although they can also be rented for cheaper. The estimated cost of installing a working cable from Washington to the Juan de Fuca ridge is 2-3 million USD if an existing cable is used, and 20-30 million USD if a new fiber optic cable is used.

The Japanese have four dedicated fiber-optic cables in use which are aimed mainly at earthquake prediction. The US community is currently discussing lying a cable to the Juan de Fuca which would have multiple nodes, including nodes to do margin work. P. Tarits, A. Schultz and M. Victor are discussing the prospect of laying a new cable in the 300 km between the Azores and Lucky Strike.

Observatories

HUGO (Hawaii Undersea Geo-Observatory)

A permanent observatory will be installed on Loihi Seamount in October 1997 using a 47 km fiber optic cable donated by ATT. Two-way communication will be available through A seafloor junction box designed at U. Hawaii will provide the capability of two-way communication and multiple experiments. Additionally there will be continuos video surveillance which will be locally broadcast on a public TV station.

H2O

The Hawaii 2 Observatory project is using an abandoned ATT telephone cable. WHOI is involved in the design of the junction box, which will be installed by JASON. U. Hawaii and U. California are also involved in this project.

DEOSE

The DEOSE (Deep Earth Observatory from the Seafloor) program in the US has set up a steering committee chaired by John Delaney. Currently this project is supported by NSF, but eventually it will have to become international in scope, and InterRidge should try to be involved with it. DEOSE has also expressed interest in setting up an observatory in the Atlantic.

A major focus of InterRidge Cables working group will be on the Mid-Atlantic Ridge because of the strong multinational focus in that region. The working group will work closely with the Event Detection and Response & Observatories Project. The working group needs more European members, specifically someone from Portugal and Spain, as well as a biologist. M. Victor from Portugal was suggested.

8.9 Event Detection and Response/Observatories *(Fox, Prospective Co-Chair)*

Real-Time Detection and Rapid Response

RIDGE recently (March, 1997) had a workshop on real-time detection and rapid response. Real-time detection requires a cable or a "smart" hydrophone array that can identify events and transmit data to satellites. Real-time detection is currently only available in the NE Pacific using the Navy SOSUS array. It could also be possible in Iceland as there are SOSUS arrays in the N. Atlantic, but currently they are not monitored. The monitoring effort involved with the SOSUS arrays is not trivial, requiring a team of personnel to monitor and analyze the data, in addition to having the technology available.

Rapid response requires taking a ship to the location of an event as quickly as possible after detection of an event in order to observe temporal changes. This is difficult to do, as it requires a nearby port, an available ship and ready equipment and personnel, on top of the real-time detection. However, a great deal of the subsurface biosphere work has evolved out of this type of research.

Remote Detection and Event Evaluation

Remote detection does not require a cable, utilizing instead an array of hydrophones which are recovered and redeployed at regular intervals (0.5-2 years). It is also possible to turn around the same instruments at sea. It was suggested that the ships crossing the SWIR 2 or 3 times a year could be used to deploy an array. Currently a proposal has been submitted to NSF (by Debbie Smith and Maya Tolstoy) in the US for two 1-year deployments of an array on the Mid-Atlantic Ridge, which should be able to detect events between 15°-40°N. This type of array was tested on the Juan de Fuca Ridge but is also deployed operationally on the EPR. It can locate seismic activity near the ridge with ~1 km precision and there are ways to distinguish between tectonic and volcanic events. Currently hydrophone arrays can not determine the depths of events, but they can distinguish between shallow and deep events.

Observatories

With the increasing use of cables (see previous section, 8.8) a number of observatories are being implemented. We need to mobilize the European community behind the idea of establishing an observatory on the Mid-Atlantic Ridge, and encourage proposals for a real-time array in the Atlantic. The biggest problem with establishing an observatory is reaching consensus in the site selection process. Real-time detection in the NE Pacific has shown that seismic events do not happen where they would be expected to. We need to encourage participation from the Icelanders and the Portuguese. The Geostar group in Italy has been funded to develop observatory technology.

Actions:
- Organize a workshop in Europe before next fall
- InterRidge will continue to search for an Observatories co-chair

9.0 Project Chairs

Quantification of Fluxes

C. German will tentatively remain Chair dependent on the project's future direction which will be discussed at AGU.

Back-Arc Basins

Hiromi Fujimoto and Jean-Marie Auzende will be the new co-chairs.

Event Detection and Response/Observatories

Chris Fox will be a co-chair, but a co-chair is also needed who is involved with Observatories.

Action:
- InterRidge will continue to search for an Observatories co-chair

10. InterRidge liaisons with other programs

10.1 ILP (International Lithosphere Project)

John Mutter, who was the ILP liaison to InterRidge, is no longer associated with ILP, and its oceanic lithosphere working group is currently not functioning. He feels that InterRidge's initiative with oceanic lithosphere negates the need for a oceanic lithosphere component to ILP, which was never very strong. However it was decided that InterRidge should try to maintain a tie with ILP. We should tell the ILP Chair directly of our interest, and remind ILP that as 70% of the lithosphere is oceanic they should be concerned with the oceanic lithosphere.

Action: M. Cannat will contact the current ILP Chair.

10.2 SOPAC (South Pacific Geosciences Applied Commission)

SOPAC is interested in being connected with InterRidge. The decision on whether to become a corresponding or associate member of InterRidge will be made at their annual meeting in October.

10.3 SCOR (Scientific Committee on Oceanic Research)

InterRidge's formal application to become affiliated with SCOR was accepted. In July an application was submitted to SCOR to create a new working group on the International Biology Sample Exchange Agreement. However it was not

accepted, because it was felt that it didn't encompass a scientific question, but rather addressed logistical and political problems. However, SCOR was very supportive of the idea, and offered to help us as much as they could.

The SCOR 99 working group will be meeting in January 1998 to finalize the color brochure about ridges.

10.4 ODP (Ocean Drilling Program)

ODP has revised and simplified its science advisory structure, and the long-term science planning will be done by a Science Committee (SCICOM). Program Planning Groups, PPG, are short lived groups designed to push proposals in specific directions. Of the six current PPG there are three that are relevant to InterRidge: long-term observatories, deep biosphere and the architecture of the oceanic lithosphere. While C. Mével is associated with ODP by being a member of EXCOM, the Executive Committee, ideally the InterRidge liaison should be somebody on SCICOM. There are several upcoming legs that are of interest to the InterRidge Community:

Joides Resolution

Leg	Destination	Objectives	Dates
176	SWIR- Hole 735B	deepening of hole into more gabbros and hopefully ultramafics	Oct/Nov 1997
180	Woodlark Basin	investigate the role and nature of low-angle faulting in continental break-up and the evolution of conjugate rifted margins	Jun/Jul 1998
?	Australian-Antarctica Discordance	Mass flux experiment	1999

The report on the ODP-InterRidge-IAVCEI Workshop "Oceanic Lithosphere and Scientific Drilling into the 21st Century" was finished by Catherine Mével and Henry Dick in August. It is being printed by the JOI Office.

Actions: • M. Cannat will contact Susan Humphries about having a SCICOM member as an InterRidge liaison.
• Invite the SCICOM representative from the host country of next year's steering committee to the meeting.

11. InterRidge Steering Committee members

K. Tamaki, and D. Desbruyères will be leaving the steering committee in 1998 and J. Francheteau will be leaving after next year's meeting. A biologist needs to replace D. Desbruyères, preferable a microbiologist. The idea of having three, rather than two, *ad hoc* biologists on the steering committee was discussed, however concerns were raised about the growing size of the InterRidge Steering Committee. Both Italy and Canada will have steering committee members next years but we did not have their nominations. If K. Juniper is not nominated as the Canadian steering committee member he will be asked to be the next biologist *ad hoc* steering committee member. If he is nominated to represent Canada, then F. Gaill will be asked to be the *ad hoc* biologist. If the size of the steering committee is unmanageable at next years meeting we will discuss asking working group members to also be national representatives.

It was suggested that Taiwan, China (Z. Shikui), Oman, The Netherlands, Belgium, New Zealand, Ireland, Ecuador, and Chile (Dave Narr) should all be contacted about becoming Corresponding members. Cornell de Ronde and Ian Wright were suggested as contacts for New Zealand. They are active in work in the Hauve Trough.

Actions: • Invite *ad hoc* biologist after hearing Canada's nomination
• K. Tamaki and D. Desbruyères will be thanked for their service
• Welcome letters will be sent to the new Italian and Canadian SC members after receiving endorsements from their national agencies.

12. InterRidge Budget (Searle and Wilson)

A report of the final InterRidge budget from Durham was given by R. Searle. The total balance came to $10,494 (62,962 FF; £6,726.81), which has been transferred to the Paris Office. This balance is greater than was expected because the 1993 UK contribution was just accredited this year.

The anticipated income for 1997 is $150,000 and for 1998 it is $160,000. The expected balance at the end of 1997 is $18,305 (102,507 FF). While this amount is still preliminary, it appears as if the InterRidge Office in Paris is operating well within it's budget. A summary of the InterRidge 1997 budget is given on the following page.

13. 1998 Steering Committee Meeting

The 1998 Steering Committee meeting will be held in Barcelona, Spain September14-15* 1998. Alternatively, it will be hosted by the SOC group in the UK.

*At the meeting October 1-2 were picked as the preliminary dates. These have since been changed to avoid conflict with the Japanese SWIR cruise which several steering committee members will be on.

ESTIMATED 1997 INTERRIDGE OFFICE BUDGET

INTERRIDGE COSTS

	EXPENDITURE (FRANCS)	EXPENDITURE (DOLLARS)*	NOTES
SALARIES			
Coordinator	271,420	48,468	
Assistant	95,100	16,982	
Post-doc	174,720	31,200	
	541,240	**96,650**	
TRAVEL AND EXPENSES			
Chair			
travel (AGU)	4,380	782	
expenses	7,200	1286	
subtotal	11,580	2,068	
Coordinator (AGU; RW)			
travel	4,200	750	
expenses	10,200	1821	
subtotal	14,400	2,571	
RR-IRSC 97	900	160	
REPORTS			
IPPA 96-97	2,190	391	
SWIR	2,320	414	
Arctic	4,050	723	
Faunal manual	20,000	3,571	
	28,560	**5,100**	
OFFICE COSTS			
Telecommunications	2,800	500	
Printing IR News	57,410	10,252	
Postage IR News	34,515	6,163	
Postage non-IR News	10,700	1,911	
Supplies	12,000	2,143	
Equipment			
Overhead	94,000	16,786	
	211,425	**37,754**	
	808,105	**144,304**	

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INTERRIDGE INCOME: NATIONAL CONTRIBUTIONS 1997

		FRANCS	DOLLARS
PRINCIPAL MEMBERS:	France	214,000	40,000
	Germany	115,612	20,000
	Japan	114,619	20,000
	Spain	115,612	20,000
	UK	115,612	20,000
	USA	115,612	20,000
ASSOCIATE MEMBERS:	Norway	28,025	5,000
	Portugal	27,500	5,000
		846,592	**150,000**

BALANCES

	FRANCS	DOLLARS*
1996 BALANCE BROUGHT FORWARD	**64,020**	**11,432**
BALANCE 1997	**38,487**	**6,873**
BALANCE CARRIED FORWARD	**102,507**	**18,305**

(*ASSUMING $1=5.6FF)

14. 1998 Calendar

Volcanic and Magmatic Studies Group (VMSG) Annual Meeting *University of Leicester, UK*	**7-8 Jan. 1998**
Ocean Sciences Meeting *San Diego, CA, USA*	**9-13 Feb. 1998**
Winter School on Ocean Ridge Processes in Oman *Oman*	**15-24 Feb. 1998**
6th Zonenshain International Conference on Plate Tectonics *Moscow, Russia*	**17-20 Feb. 1998**
International Symposium on Japan-France Kaiko-Tokai Project: Tectonics of subduction in the Nankai Trough *Maison Franco-Japonaise, Ebisu, Tokyo, Japan*	**25-27 Mar. 1998**
Oceanology International 98 *Brighton, UK*	**10-13 Mar. 1998**
Extreme Environments: A joint meeting of the Marine Biological Association and the Challenger Association for Marine Sciences *University of Plymouth, UK*	**30 Mar.-3 Apr., 1998**
GEOSCIENCE '98 *Keele University, Keele, Staffordshire, UK*	**14-18 Apr. 1998**
Magmatism and Mineralisation in Arcs and Ocean Basins *Keele University, Keele, Staffordshire, UK*	**16-17 Apr. 1998**
European Geophysical Society: XXIII General Assembly *Nice, France*	**20-24 Apr. 1998**
American Geophysical Union 1998 Spring Meeting *Boston, MA, USA*	**26-29 May 1998**
Geological Association of Canada and the Mineralogical Association of Canada Joint Annual Meeting *Quebec City, Canada*	**18-20 May 1998**
Lisbon World Exposition *Lisbon, Portugal*	**22 May -?? 1998**
InterRidge Steering Committee Meeting *Barcelona, Spain* (provisional, if not Spain, UK offered to host at SOC)	**14-15 Sept. 1998**
Ocean Drilling Forum *Edinburgh, UK*	**19-22 Sept. 1998**
InterRidge Workshop: Designing long-term monitoring systems of the Mid-Atlantic Ridge *Lisbon, Portugal*	**October, 1998**

Appendix:

Summary of InterRidge Structure and Activities for 1997

InterRidge Membership

Italy and Canada have definitely decided to upgrade to Associate in 1998 and India and Korea have been discussing upgrading as well. South Africa and Brazil have joined as new Corresponding members. Thus, at the end of 1997 InterRidge is composed of 21 member countries. These countries are listed below with their national ridge research program where they exist, and with their National Correspondent(s).

Principal Members:

1. France - Dorsales - Jean Francheteau
2. Germany - DeRidge - Roland Rihm
3. Japan - InterRidge Japan - Nobuhiro Isezaki
4. Spain - Miquel Canals, Juan José Dañobeitia
5. UK - BRIDGE - Roger C. Searle
6. USA - RIDGE - Karen L. Von Damm

Associate Members:

1. Norway - Eirik Sundvor
2. Portugal - J. Miguel A. Miranda

Corresponding Members:

1. Australia - Trevor J. Falloon
2. Brazil - Suzanna Sichel
3. Canada - CanRidge - S. Kim Juniper, Kathryn M. Gillis
4. Denmark - John R. Hopper
5. Iceland - Karl Grönvold
6. India - D. Gopala Rao
7. Italy - Enrico Bonatti, Paola Tartarotti
8. Korea - Sang-Mook Lee
9. Mexico - J. Eduardo Aguayo-Camargo
10. Russia - Alexander V. Sobolev, Sergei Maschenkov
11. South Africa - Anton le Roex
12. Sweden - Nils G. Holm
13. Switzerland - Gretchen Früh-Green

Liasions with other programs:

1. ODP - Catherine Mével
2. SCOR -
3. SOPAC -

The principal way that members keep the InterRidge community updated on the relevant research and activities in their country is through the national updates that are published in *InterRidge News* and which are now put on the InterRidge web pages. Two principal members, Spain and Japan have not contributed an update since 1995, and one of the associate members, Portugal, has never contributed an update.

InterRidge Steering Committee

1. Mathilde Cannat (France; Chair, 1997)
2. Philippe Blondel (UK, *ad hoc*, 1997)
3. Miquel Canals (Spain, NC, 1995)
4. Alan Chave (USA, *ad hoc*, 1997)
5. David C. Christie (USA, 1997)
6. Juan José Dañobeitia (Spain, NC, 1995)
7. Daniel Desbruyères (France, *ad hoc*, 1991)
8. Jean Francheteau (France, NC, 1991)
9. Hiromi Fujimoto (Japan, 1997)
10. Chris R. German (UK, 1997)
11. Peter M. Herzig (Germany, 1996)
12. Catherine Mével (France, *ad hoc*, 1997)
13. Miguel A. Miranda (Portugal, NC, 1996)
14. Lauren Mullineaux (USA, *ad hoc*, 1995)
15. Lindsay M. Parson (UK, *ad hoc*, 1995)
16. Roland Rihm (Germany, NC, 1995)
17. Roger Searle (UK, 1994)
18. Eirik Sundvor (Norway, NC, 1996)
19. Kensaku Tamaki (Japan, 1992)
20. Tetsuro Urabe (Japan, 1994)
21. Karen L. Von Damm (USA, NC, 1995)

InterRidge Phase II Projects

Phase II Projects in 1997

There are currently nine InterRidge projects, three in each theme (Global Studies, Meso-Scale Studies and Active Processes). The current chair and membership of the working group are given below for each project.

Global Studies:

- ***SWIR (Southwest Indian Ridge):*** Catherine Mével (France), Chair
  Miquel Canals (Spain), Charlie Langmuir (USA), Jonathon Snow (Germany)
  Chris German (UK), Anton le Roex (South Africa), Kensaku Tamaki (Japan)
  Nancy Grindlay (USA), Chris MacLeod (UK), [B]Cindy Lee Van Dover (USA)
- ***Arctic Oceans:*** Roland Rihm (Germany), Chair
  Bernard J. Coakley (USA), Karl Gronvold (Iceland), Neil C. Mitchell (UK)
  Kathleen Crane (USA), H. Ruth Jackson (Canada), Hans Albert Roeser (Germany)
  Olivier Dauteuil (France), Wilfried Jokat (Germany), Hideki Shimamura (Japan)
  Colin W. Devey (Germany), Yngve Kristoffersen (Norway), [B]Cindy Lee Van Dover (USA)
  Vladimir Glebowsky (Russia), Peter J. Michael (USA)
- ***Global Digital Database***: Phillippe Blondel (UK), Chair
  No members yet

Meso-Scale Studies:

- ***4-D Architecture of the Oceanic Lithosphere:*** Lindsay M. Parson (UK), Chair
  Simon Allerton (UK), Pascal Gente (France), Jian Lin (USA)
  Donna K. Blackman (USA), Kathryn M. Gillis (Canada), Nobukazu Seama (Japan)
  Mathilde Cannat (France), Eulália Grácia (Spain), Martin C. Sinha (UK)
  Jérôme Dyment (France), Peter B. Kelemen (USA), Maya Tolstoy (USA)
- ***Hydrothermal Fluxes***: Chris German (UK), Acting Chair
  No members yet
- ***Back-Arc Basin Database***: Chairs: Hiromi Fujimoto and Jean-Marie Auzende
  No members yet

Active Processes:

- ***Biological Studies at the Ridge Crest***: Lauren Mullineaux (USA), Chair
  Paul R. Dando (UK), Charles R. Fisher (USA), Douglas C. Nelson (USA)
  John R. Delaney (USA), Hans Fricke (Germany), Suguru Ohta (Japan)
  Daniel Desbruyères (France), Françoise Gaill (France), Anna-Louise Reysenbach (USA)
  David R. Dixon (UK), Jun Hashimoto (Japan), Karl O. Stetter (Germany)
  Sergei S. Drachev (Germany), S. Kim Juniper (Canada), Verena Tunnicliffe (Canada)
  Aline Fiala-Médioni (France), Richard A. Lutz (USA)
- ***Undersea Cables***: Alan Chave (USA), Chair
  John R. Delaney (USA), Adam Schultz (UK), Heinrich Villinger (Germany)
  Hajimu Kinoshita (Japan), Debra S. Stakes (USA)
  Hiroyasu Momma (Japan), Pascal Tarits (France)
- ***Event Detection and Response andObservatories***:Chair: Chris Fox
  No members yet

InterRidge Publications 1997

Global Studies Workshop Report: Arctic Ridges: Results and Planning, pp. 78, Sept. 1997 (also on web).
Global Studies Workshop Report: SWIR Project Plan, pp. 21, Apr. 1997 (also on web).
InterRidge Program Plan Addendum 1996, pp. 10, Apr. 1997.
InterRidge News, vol. 6, no. 2, pp. 64, Oct. 1997.
InterRidge News, vol. 6, no. 1, pp. 72, Apr., 1997.

The SWIR Project Plan was published without a needed figure due to some miscommunication in conjunction with the InterRidge Office transfer. A revised report was printed in November.

FARA-Ewing Volume

Following the Iceland Symposium, a volume of results from the 15°-40°N area of the Mid-Atlantic Ridge was to be published in the Maurice Ewing series through AGU. However only 16 papers were received, which was not sufficient for a Ewing Volume. The majority of the authors favored that their papers be published in a special issue of a journal. In May the ten remaining papers (six authors requested that their papers be returned to them for publication elsewhere) were sent to Charlie Langmuir, for submission to a special issue of EPSL.

InterRidge Meetings and Workshops 1997

Administrative Meetings:
Steering Committee Meeting
Paris, France, 25 & 26 September 1996
Symposia:
First International Symposium on Deep-Sea Hydrothermal Vent Biology
Funchal, Madeira, Portugal, 20-24 October 1997
Special AGU Sessions:
T11 Magma focusing and the segmentation of Mid-Ocean Ridges at all spreading rates (4D WG)
Special Tectonics session at Fall AGU meeting, San Francisco, CA, AGU, 8-12 December 1997
V16 Hydrothermal Activity at Different Spreading Rates (Fluxes WG)
Special Volcanology session at Fall AGU meeting, San Francisco, CA, AGU, 8-12 December 1997

Symposia Summary:

First International Symposium on Deep-Sea Hydrothermal Vent Biology
Funchal, Madeira, Portugal, 20-24 October 1997

1998 InterRidge Meetings

Event Detection & Response and Observatories workshop: Designing long-term monitoring systems of the Mid-Atlantic Ridge, Fall 1998, Lisbon, Portugal.

InterRidge 1998 Steering Committee Meeting, September 14-15, 1998, Barcelona, Spain (provisional).

InterRidge Mailing List, August 1997

Black: Principal Member, Dark Gray: Associate Member; Light Gray: Corresponding Member.

	Country	Mailing List		E-mail Addresses		Country's %age with E-mail Address
		Number	%age of Total	Number	%age of total	
1	Argentina	1	0.05%			
2	Australia	22	1.02%	19	1.13%	86.36%
3	Belgium	8	0.37%	5	0.30%	62.50%
4	Brazil	3	0.14%	3	0.18%	100.00%
5	Canada	65	3.01%	44	2.63%	67.69%
6	Chile	2	0.09%	1	0.06%	50.00%
7	China	2	0.09%	1	0.06%	50.00%
8	Czech Republic	1	0.05%	1	0.06%	100.00%
9	Denmark	6	0.28%	5	0.30%	83.33%
10	Ecuador	1	0.05%			
11	Fiji	2	0.09%	2	0.12%	100.00%
12	France	230	10.63%	181	10.81%	78.70%
13	French Polynesia	1	0.05%	1	0.06%	100.00%
14	Germany	139	6.43%	97	5.79%	69.78%
15	Greece	2	0.09%			
16	Iceland	16	0.74%	12	0.72%	75.00%
17	India	15	0.69%	12	0.72%	80.00%
18	Iran	2	0.09%			
19	Ireland	8	0.37%	8	0.48%	100.00%
20	Israel	2	0.09%	1	0.06%	50.00%
21	Italy	10	0.46%	8	0.48%	80.00%
22	Japan	157	7.26%	98	5.85%	62.42%
23	Korea	8	0.37%	5	0.30%	62.50%
24	Mexico	5	0.23%	2	0.12%	40.00%
25	Netherlands	15	0.69%	6	0.36%	40.00%
26	New Caledonia	1	0.05%	1	0.06%	100.00%
27	New Zealand	5	0.23%	5	0.30%	100.00%
28	Norway	12	0.55%	9	0.54%	75.00%
29	Philippines	1	0.05%			
30	Portugal	19	0.88%	14	0.84%	73.68%
31	Puerto Rico	1	0.05%	1	0.06%	100.00%
32	Russia	55	2.54%	30	1.79%	54.55%
33	Slovenia	1	0.05%	1	0.06%	100.00%
34	South Africa	4	0.18%	3	0.18%	75.00%
35	Spain	24	1.11%	14	0.84%	58.33%
36	Sweden	8	0.37%	6	0.36%	75.00%
37	Switzerland	14	0.65%	10	0.60%	71.43%
38	Taiwan	1	0.05%	1	0.06%	100.00%
39	Turkey	1	0.05%			
40	UK	203	9.39%	180	10.75%	88.67%
41	USA	1088	50.30%	888	53.01%	81.62%
42	Venezuela	2	0.09%			
	Total	2163		1675		77.44%