

**Information Handling Panel, April 1st - 3rd, 1992,
College Station, Texas.**

Draft Unapproved Uncorrected Minutes

Attendees: Ian Gibson, Patricia Fryer, Brian M. Funnell, Michael S. Loughridge, Ted C. Moore, William R. Riedel, Tsunemasa Saito, John B. Saunders, Andre Schaaf, Henry Spall, Volkhard Spiess, Sherwood W. Wise

Liaison: Wolfgang Berger, Michael A. Hobart, Russ Merrill, Adrian Richards

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Recommendations to PCOM

1. IHP endorses the recommendations embodied in the Data Handling Working Group report and urges PCOM to take immediate action on this matter. As noted in the report, the inadequate computing and database resources presently installed on the JOIDES Resolution are significantly constraining scientific work on board.
2. IHP urges PCOM to continue to support the efforts of the operator, NGDC, and the Logging Group in producing data, indexes, and other information on CD-ROMs. The appearance of the new ODP CD-ROM set in March '92 emphasises that this new medium is a convenient and cost-effective way of ensuring that the results of the program are widely available to the user community.
3. The scientific productivity of the shipboard party could be increased if electronic communication with the JOIDES Resolution were improved. IHP urges PCOM to support such an upgrade which is also a feature of the LDGO DataNet Proposal.

Suggestions to the TAMU/ODP Operator

1. The panel asked if the details of the RFP dealing with the routine indexing of the volumes could be examined by the indexing subcommittee before it is issued.
2. The panel asked TAMU/ODP and NGDC to evaluate the electronic index demonstration (Microsoft's Viewer software) to see to what degree the software meets the needs of the project, and to prepare a report for the next meeting of IHP.
3. ODP should pursue production of the cumulative index in electronic form and an RFP for this issued this Summer following the guidelines presented elsewhere in the IHP minutes.
4. Interstitial water samples should continue to be archived at ODP, as recommended by SMP. Scientists should be actively discouraged from taking 'home' all the available water from samples taken during a leg. Some should be retained for future work.
5. BRG should continue attempts to publish logging data on CD-ROMs that will be inserted in the back of ODP volumes. Such CD-ROMS might also contain long data tables.
6. The usefulness of the BugWare package for collection of biostratigraphy data should be investigated, and if satisfactory, implemented as the standard paleontology data acquisition package on the JOIDES Resolution.
7. The users guide to computers on the JOIDES Resolution needs to be modified to include information on how software developed by scientists can be made available for use by participants on future legs. An effort to catalog such software should start as soon as possible.
8. The panel recommends that a lead stratigrapher (not necessarily a paleontologist) be identified on each leg. This scientist would be charged with identifying and correcting deficiencies in biostratigraphic coverage for the leg in the Proceedings volumes.
9. The Panel recommends that all data collected on board the JOIDES Resolution be archived by ODP.
10. The ODP database group should prepare a brief synoptic table indicating the status of the ODP datasets (Which legs have been added, where additional checks are required, etc). This information should be provided to IHP every six months.
11. The panel suggested that a revised 'Handbook for the Shipboard Stratigraphers' be issued which would include specific suggestions for the shipboard stratigrapher, perhaps with these important pages printed on a different coloured paper.

1. Words of welcome and Review of Agenda

While welcoming the panel to College Station, the chairman noted, with great regret, the absence of the CanAus Panel member, Dr Nicholas Rock, who died in Australia earlier in 1992. The death robbed the Panel of one of its most effective contributors and significantly impoverished the Earth Sciences community. Nick's work with the ODP index and expertise with the CD-ROM format will be particularly remembered. H.Spall agreed to write formally to the University of Western Australia, on behalf of the Panel, to express regret and appreciation of Nick's contribution.

ACTION

2. Review of actions by PCOM in relation to earlier IHP recommendations.

- PCOM accepted the recommendation of the panel and established a working group to advise on the future direction of computing within ODP. The group met in Toronto and the resulting report (Appendix G) was discussed later at this meeting.
- Two computer system managers are now operating on each leg as suggested by IHP.
- PCOM did not act on the recommendation to prepare a cumulative index for the first 25 volumes. The panel will consider re-submitting this recommendation at a later date.
- Additional staff for the East Coast Repository — C. Mato explained that plans are in hand to expand the repository to provide adequate space but that the appropriate personnel resources are not available to deal with the extra load that Atlantic drilling will bring. This problem remains. PCOM was warned, but no action was taken.

3. Review of actions by the TAMU/ODP Operator in response to earlier IHP suggestions.

The Panel asked whether direct suggestions to the Operator are useful. R. Merrill replied that TAMU appreciates the suggestions and normally accepts these whenever the budget allows. The operator confirmed that it had accepted and implemented the suggestions made in September 1991 in relation to:

- Camera-ready art and tables for use in the Scientific Results Volume.
- Only one copy of the locality map is being used in each volume. Authors are required to refer back to it. This procedure is now implemented for the Initial Reports and will be tried in the Scientific Result volumes.
- M. Hobart said that the BRG will start publication of logging data on CD-ROM. TAMU's role will be to insert the CD in the respective volume, and the Publications Group is prepared to do that. TAMU is also working on writing shipboard results on CD-ROMS and work is in progress in relation to Leg 138.
- An advertisement for the Micropaleontological Reference Centers was placed in the JOIDES Journal. The Brochure is being prepared.
- R. Merrill said that ODP will coordinate a workshop on the depth issue when the database design is resolved. IHP and SMP will be consulted on the matter.
- The Publications Policy was modified to eliminate the possibility of dual submissions to the Scientific Result volume and the outside literature after the science (second) post-cruise meeting.

ACTION

Other matters were deferred for discussion under the appropriate agenda items.

4. Review of Action Items from the September 1991 IHP Meeting.

- T. Moore talked with B. Malfait about DSDP data that only appears in a printed form in the DSDP volumes (eg isotopic information). B. Malfait replied that NSF probably would not fund the creation of new data bases containing only data from the Initial Reports. He also indicated that there are no left-over DSDP funds.
- Efforts to design a system for electronic sample requests are on hold as computing programming resources are limited and probably only a small number of scientists would use such a system.
- I. Gibson will continue to pursue revision of the letter to non-performers with the Chairman of PCOM when the 1991 defaulters are reminded of their obligations to the Program following this meeting. ACTION
- I. Gibson proposed that the Panel might like to hear the opinions of some European co-chiefs. It was agreed that two should be invited to the IHP meeting in Marseilles. ACTION
- J. Saunders talked to Ramsey to convey that the Panel is also concerned about biostratigraphic synthesis in the Scientific Result volumes.
- M. Loughridge said that he will inquire as to the status of the RIDGE database to avoid duplication of efforts. ACTION

5. Report from the Paleontological Sub-Committee

The report prepared by the sub-committee was presented by W. Riedel (see Appendix A). The sub-committee met for two days prior to the IHP meeting, and agreed to meet for one day prior to the Marseilles meeting in September. W. Riedel will continue to coordinate the work of the sub-committee. ACTION

Guidelines for the shipboard stratigrapher. The panel supported the inclusion of new guidelines in a revised 'Handbook for the Shipboard Stratigraphers', perhaps with these important pages printed on a different coloured paper, to avoid the material being overlooked. The guidelines outline minimum requirements for shipboard work and it was agreed that these should be developed with SMP.

Assistance to the Shipboard Paleontologist. After extensive discussion, the panel suggested that the operator arrange for the acquisition of the BugWare paleo data-entry program demonstrated to the sub-committee during the meeting and that this be placed on board the JOIDES Resolution for use by scientists as soon as possible. S. Wise will be the member of IHP in charge of tracking developments in this area. ACTION

Micro-paleo reference material for Shipboard-Use. IHP agreed with Sub-Committee that images on CD-ROM might be the most practical way to serve the needs of scientists on the ship. W. Riedel agreed to continue to coordinate volunteer efforts to develop such a CD-ROM. The work involved is large. A useful data-set might contain 5-6000 images. Experiments by W. Riedel and I. Gibson suggest that an experienced operator might generate 100-200 images a week from existing photographs. M. Loughridge said that the image scanning might possibly be done at NGDC. ACTION

Reference sets of micro-fossils. Although there are difficulties with the maintenance of such material, IHP was grateful to S.W. Wise who had contributed a collection of 70 Neogene calcareous nannofossils for use on the JOIDES Resolution. It was hoped that additional reference sets covering other fossil groups might be added.

Age-depth plots — IHP noted that shipboard parties must be made aware that an appropriate public domain software package exists that generates such plots. IHP noted that much effort is invested by scientists developing programs that are then left on the ship. They therefore suggested that a statement be added to the Computing Users Guide indicating how to contribute unsupported user software. R. Merrill agreed that such a list of unsupported user software could be started. ODP would have to verify that the packages were not covered by licensing and that there was some documentation. If a package becomes particularly useful, ODP could invite the scientist to improve the package, perhaps by visiting TAMU/ODP to work on the program in association with TAMU/ODP staff.

ACTION

IHP agreed that to improve stratigraphic coverage on legs, the information given to the co-chiefs on appointment should be revised with the addition of a paragraph on the appointment of a lead stratigrapher for the leg. This person should be charged with ensuring adequate stratigraphic coverage, both at sea, and subsequently in both the Initial Report and Scientific Results volumes. I. Gibson will forward a draft paragraph to TAMU/ODP for consideration.

ACTION

6. Report of the TAMU/ODP Data Base Group

The report was presented by J. Coyne (Appendix B). In discussion he replied that it was possible to extract all the information from the data files generated by the VCD program and that this information will be added in the future to a VCD dataset. This work is not being done at present. I. Gibson asked, on behalf of the Panel, for a clear statement on the present status of the different ODP datasets. J. Coyne promised to provide such information for the next meeting.

ACTION

The panel appreciated the fundamental importance of the work in progress on the corelog data set, as migration to a new database structure cannot be accomplished until all core-log data are verified.

J. Coyne noted that the Database Group and the Computer Systems Group will be joined to constitute 'Information Services' at the level of Science Operations, Engineering, Logistics, Science Services and Administration and that a new Information Services Manager will be appointed.

Matters relating to the review of the structure and content of the ODP datasets are dealt with under agenda item 15.

7. Report of the TAMU/ODP Publications Group

The report (Appendix C) was presented by W. Rose, who noted that the production of the Initial Report volumes 134 and 135 was delayed by difficulties introduced by use of the VCD program. Problems with printer created further delays. The Scientific Results volume 122 was also delayed because of problems with the printer, and volume 120 was impacted by implementation of the new index requirements and the co-chiefs' desire to make it a very complete volume. It is expected that the small backlog of Scientific Result Volumes will be eliminated by the end of 1992.

The Panel was delighted with the progress made in indexing which appears to be very substantial. Further discussion of this item was deferred until later in the agenda.

IHP noted that, in general, they were well satisfied with progress with publications and the demonstrated increasing impact of these on the user community.

8. Report of the TAMU/ODP Computer Services Group

The report (Appendix D) was presented by J. Foster who commented that ODP is required to provide long-range plans for computing to JOI. Help from the panel in formulating these plans is appreciated. J. Foster stressed that he was keen to implement many of the suggestions of the Data

Handling Working Group and that he had been inhibited from adopting the suggestions before this time by a lack of resources.

The major improvements in networking and the file server, implemented following Leg 141, were noted by the panel with enthusiasm. A twice-daily internet mail link to the JOIDES Resolution will be implemented shortly at 2400 bps. ODP is investigating upgrading the hardware for higher transmission rates but the costs will be significant. However, this upgrade was recommended by the Data Handling Working Group and was supported by IHP.

A program for Water Sample Temperature Probe data collection was developed and demonstrated to the panel. The panel was much impressed and noted that new software tools are helping in the design and development of user-friendly MS-Windows software for the PC-386 equipment on board the JOIDES Resolution.

J. Foster also presented information gathered from questionnaires filled out by the scientists before leaving the ship. The summary shows that 90% of the scientists consider the system effective, so that while there is need for improvement, much has been done. The principal difficulty is in satisfying sophisticated users.

I. Gibson asked what is the current level of staffing of the Computer Services Group? J. Foster replied that, in addition to himself, at the moment there is one software engineer, Lisa Patton, and one network engineer, M. Sun. There is also a vacant position for a shorebased systems manager. IHP recognizes that this is a small staff and that the implementation of any new relational database will require significant additional human resources. J. Foster said that one additional system analyst was included in the base budget for FY93, in addition to the one requested from the special operating expenses budget, so that programming support will be enhanced beginning in October 1992.

9. Report of the TAMU/ODP Curator

C. Mato, in presenting the report (Appendix E), noted that the Leg 138 sampling party had taken over the Gulf Coast Repository for 3.5 days and that this effectively closed the repository to other activities. It was noted that this had proved to be a very effective sampling strategy.

Interstitial water policy — After discussion, the panel agreed to recommend that unused water samples should be archived, and that liaison on this matter with SMP should continue.

The question of sampling the archive half was brought before the panel. The panel noted that it was clear that the archive half is being used, and that there was no necessity for a revision of the policy at this time.

Geriatric core study — Assistance is needed with paleontology. Samples have been taken at certain time intervals. They need to be analyzed to determine if the samples are deteriorating during refrigeration. Scientists with expertise in this area are being asked to volunteer their efforts.

10. Report of the LDGO Borehole Research Group

M. Hobart, in presenting the report (Appendix F), noted that during the processing of Leg 138 geochemical log data, errors were found in the calibration. Approximately one year's worth of geochemical log data need reprocessing. The errors were produced by calibrations with a short half-life! The errors were caught in time to be corrected before the results were published, and the backlog that resulted is almost all processed.

In February, 1992, Hobart visited the University of Leicester log analysis group, which has been working closely with the Borehole Research group for several years. Not only has the Leicester group supplied many logging participants on ODP cruises, but it now acts as a secondary data repository that services requests for ODP logging data from U.K. scientists. They have also

developed a Well-Log analysis package for the VAX, which is now being rewritten to run on Unix platforms.

With reorganization of the TAMU technical staff, there is now a need to train new technicians for FMS processing, if this is to continue as a shipboard activity. This data are being distributed as fiche in the back of the volumes at a cost of \$6,000–11,000 per leg, personnel costs not included. BRG will move to distribute this, and other data on CD-ROMs. M. Loughridge offered assistance from the NGDC to help in the test phase. IHP supported the move from fiche to CD-ROM with enthusiasm.

R. Merrill noted that TAMU/ODP hope to purchase equipment to write CD-ROMs and that this might be placed on board the JOIDES Resolution and used for the scientists to take data back to their own laboratories after the cruise. IHP supported this concept.

A mechanism to make log data available in real time has been requested. A common complaint is that logging results are not ready in time to be incorporated into the site chapters. Improved computing and a better database structure might alleviate this problem.

11. Indexing of ODP Initial Reports and Scientific Results volumes

The Indexing Sub-committee reviewed the index from volumes 120 and 122. J. Saunders commented that the index for volume 122 is much easier to use than the indexes for the earlier volumes. Inversion of terms was implemented, and it is now much easier to know the level at which you are working when turning the page. H. Spall added that the overall result represents a tremendous improvement.

After further discussion, it was agreed that at present IHP did not need to provide further detailed guidance on indexing. B. Rose explained that the indexes are presently being evaluated by a geological indexer, who was capable of making corrections where deficiencies are detected. A new RFP dealing with indexing is due to be released shortly. The panel asked if the details of the RFP, dealing with the routine indexing of the volumes, could be examined by the indexing subcommittee before it is issued.

After discussion, IHP agreed that a second RFP for the preparation of an electronic version of an ODP cumulative index should be issued as soon as possible. It was agreed that volumes prior to the introduction of the two-level indexing style should not be re-indexed, but that the cumulative index should be issued in a two-level style. Thus the RFP must require:

- The translation of the older three-level indexes to an index with two level entries, starting with the available ASCII text files of each index.
- The elimination of the resulting duplicate entries
- The inversion of entries where appropriate
- The generation of the cumulative index

I. Gibson demonstrated an electronic version of portions of the indexes for volumes 120 and 122 using Microsoft's Viewer software. Scientists can browse through the index of each leg, or search a merged list of first level entries, or use a sophisticated search engine to find occurrences of a word anywhere in the index. It was agreed that TAMU/ODP and NGDC would evaluate the demonstration to see to what degree the software meets the needs of the project, and to prepare a report for the next meeting of IHP.

ACTION

12. National Geophysical Data Center Report

M. Loughridge reported that the DSDP cumulative index on CD-ROM was NGDC's first experience with the use of commercial software. This move has helped reduce development time for the ODP CD-ROM. Notwithstanding, the development of the CD containing the ODP data took two person years plus some help from illustrators.

C. Moore, in introducing a demonstration of the ODP CD-ROM, noted that the work has resulted in the identification and removal of many errors in the ODP datasets. Consequently, development took longer than expected as the data was not as clean as hoped. Users are asked in the 'read me' notes accompanying the ODP CD-ROM to identify and report problems that can be corrected in future releases.

IHP noted with approval that the user interface associated with the ODP CD-ROM was significantly more elegant and useful than that used with the DSDP data, and that users should appreciate the additional functionality. The ODP CD-ROM will greatly improve data accessibility, particularly to the GRAPE data, a dataset now valued highly by the scientific community. C. Moore stressed that critical input from scientists on the ODP CD-ROM was important as the information helps NGDC address users needs.

At the conclusion of the demonstration, I. Gibson thanked NGDC for their work on the ODP CD-ROM — a very valuable contribution to ODP's publications. He volunteered to write to NGDC formally expressing the gratitude of the ODP community.

ACTION

13. Data Handling Working Group Report

This agenda item was discussed in executive session. In general, IHP received the report of the working group (Appendix G) with enthusiasm. The changes recommended are needed and the Panel urged PCOM to act on the report. It was noted that both the TAMU/ODP Database Group and the Computer Services Group viewed the changes proposed as necessary. However, both Groups lacked the manpower resources needed to implement the changes. The panel also noted that expertise at TAMU/ODP in the critical areas of client/server database systems and the Unix operating environment was limited. Such expertise was available, to a degree, in the user community. Delay in acting on the Working Group recommendations will continue to prejudice both optimum real-time use of data on board, and scientific use of ODP data post-cruise, to the detriment of the overall scientific progress of the Program.

Significant short-term additional manpower resources, will be required to implement the recommendations of the Working Group within a reasonable time-span. This could be provided either as funding, or in kind by ODP partners, over a two-year period.

The Panel agreed that it would be useful during any implementation of the working group report if the database design for the core-log dataset was completed initially. The database design and associated programming for each of the remaining datasets could then proceed in parallel.

IHP noted that implementing rigid data collection with quality control on the JOIDES Resolution is presently opposed by scientists because it involves entering data into a system that does not make it readily accessible for manipulation afterwards!!! It was hoped that the new system outlined in the Working Group report would not suffer from the same deficiency. A. Richards indicated that the SMP is also very concerned about this issue.

14. Panel Membership Review

Members of the Panel expressed concern about the Panel's communications with PCOM. The PCOM liaison must be present for the greater part of the IHP meeting for the liaison to be effective. I. Gibson will emphasize this point with W. Berger and Y. Lancelot.

ACTION

The Panel considered that it would be appropriate, when new members were appointed to IHP, for them to have expertise in database design, or computing, or electronic publications, or geochemistry or some combination of these specialities. I. Gibson will pass this information to JOI and PCOM and to the appropriate National Committees when new members are nominated to the Panel.

ACTION

It was noted that Sherwood Wise, one of IHP's two appointed co-chiefs, will be retiring from the panel following the September IHP meeting. R. Merrill pointed out that the complete cycle (from preparation for the cruise to publication of the Scientific Results) may last between three and four years. The insight of the co-chiefs into the ERB process is very valuable to IHP.

15. Review of ODP Datasets

With the possible forthcoming change to a new database structure, IHP considered it appropriate that IHP and SMP should review the detailed content of data sets being kept at ODP and make recommendations as to any that should added or deleted. J. Coyne prepared a document containing detailed descriptions of all datasets, the fields in each, and their relationships. IHP therefore assigned major groups of datasets to appropriate panel members with expertise in the area. Each member will take copies of this information home and, in cooperation with a member of SMP, work on reviewing it. The fields and those responsible for reviewing the datasets in each are as follows:

ACTION

- Core log/leg, site, hole — Andre Schaaf, Ted Moore
- Sediments, Age Profile, Paleo — John Saunders, W. Riedel
- Igneous/metamorphic rocks — Ian Gibson
- Paleomagnetism and Physical Properties — Volkhard Spiess, William Sager

Specific recommendations will be considered at the Fall meeting of the IHP in Marseille. Those recommendations will be reviewed and forwarded to a joint meeting of SMP and IHP to take place Spring '93 at College Station. Levels of precision, what is being recorded, and other details should be reviewed. It was suggested that some datasets will need to be examined regularly, perhaps every four years.

R. Merrill stressed that IHP should establish guidelines to handle new types of data. At present, scientists bringing new tools simply took their data home after the cruise. IHP therefore recommended that as a matter of policy ALL data collected on the JOIDES Resolution should be provided to ODP and archived. Those data would be distributed under the same moratorium guidelines as for all other data. Data not properly documented after a reasonable period (2-3 years), and not formally included into a ODP dataset, could then be discarded.

Some data published as data tables in the Scientific Results volumes is NOT being entered into the ODP databases because of a lack of resources to code the information. Obvious examples include post-cruise hard-rock geochemical data and much paleontological data. The backlog on these data is increasing with time and the problem is significant. IHP would like to review the document that instructs authors to submit the data, and R. Merrill agreed to provide this information at the next IHP meeting.

ACTION

16. Review of Recent ODP Volumes.

IHP moved to initiate a review of recent ODP Proceedings volumes. After some discussion, it was decided that both the Initial Report volume and the Scientific Result volume for a group of recent Legs would be examined by a panel member for:

- Scientific coverage. Is it complete in relation to the drilling?

- Layout, typographic errors, positioning of figures and tables, headings
- Illustrations, photographs, data tables — are these well reproduced?
- Stratigraphic synthesis — is it complete? Is a synthesis of the Leg results present?
- Index and table of contents coverage

The objective is to assess the performance of the co-chiefs, scientific party and editorial review board AND the work of TAMU/ODP in editing and producing the volumes. The following volumes/Legs will be examined by the panel member(s) indicated:

ACTION

- Leg 119 - Sherwood Wise
- Leg 120 - Brian Funnell and Henry Spall
- Leg 121 - Andre Schaaf
- Leg 122 - Tsunemasa Saito
- Leg 124 - Patricia Fryer

17. The JOIDES Journal

IHP considers that the new double column format for the JOIDES Journal represent a significant improvement over the older, smaller format. It also noted that there was an increasing tendency to adopt the 8.5 x 11 inch format in the publishing industry and that ODP was thus conforming to a growing industry 'standard'. IHP consider the content of the JOIDES Journal to be informative and useful but hope that the section dealing with Panel and Working Group reports would be expanded to include reports for the service panels and perhaps information on developments in progress in the Engineering group. A list of the appropriate TAMU personnel, with their telephone numbers and internet addresses, would also be a useful addition to the content.

18. Non-performers

The panel reviewed a list of potential non-performers prepared for seven recent legs. Five scientists were identified to receive letters from the PCOM chairman. A smaller group will receive letters from the Chairman of IHP.

19. DataNet

M.Hobart reviewed the White Paper on DataNet, submitted by the Borehole Group to XCOM in January, 1992, which PCOM had asked IHP to examine. The White Paper (Appendix H) proposes the establishment of an international network of collaborating institutions that could, for the first time, participate actively in the day-to-day operations of ODP. This 'ODP DataNet' would provide and maintain an electronic archive of all ODP digital data that would be instantly available from any Internet site around the world. Real-time communication of data and images to and from the JOIDES Resolution would be an integral part of the ODP DataNet. Hobart then provided a demonstration of the search/retrieval capabilities of the ODP DataNet using a demonstration Macintosh diskette.

The on-line data base would handle interactive requests, which would save sending data requests to TAMU and free up ODP personnel for other tasks. The ship-shore data transfer would allow the

satellite transmission of data to 'processing nodes' around the world, with a return of processed data to the ship within a target turnaround time of 24 hrs. Much of the data would be logging data that is not now processed on the ship and, consequently, is not always looked at by the scientist after the shipboard cruise (e.g., temperature logs from the Lamont tool). Not only could this procedure assist with the general problem of core-log integration, but data could be returned to the ship in near real-time. This might allow the drill bit to be 'steered' by knowledge from the physical property measurements.

The ODP DataNet would allow the establishment of speciality nodes, called 'technology nodes', to provide technical services funded now on an ad hoc basis, such as for borehole seismology, developmental engineering of third party tools, and hydrogeology.

IHP is supportive of the concepts presented in the white paper. The establishment of the DataNet, processing nodes and technology nodes will require new funds. Priorities would have to be established as to which data can be handled most efficiently by the Processing and Technology Nodes. However, the Panel stressed that DataNet did not provide an alternative to the renewal of the shipboard computing system and associated database structure. This upgrade of the shipboard facilities continues to be the IHP priority.

20. Micro-Paleo Reference Center

The Panel received from Dr. Annika Sanfilippo (Scripps Institution of Oceanography), a Progress Report (Appendix I) on Radiolaria Preparation (Oct. 1990 – Sept. 1992). The Panel noted with pleasure the expeditious way that she will complete her assigned task of processing all the radiolarian samples from the DSDP/IPOD phase of drilling (to the end of Leg 96). To get 2700 high-quality radiolarian preparations in place at the eight Centres so quickly is a fine achievement.

The integrated collections now include four major fossil groups (nannofossils, foraminifera, radiolaria and diatoms). Foreign partners (Switzerland and Japan) have made a major contribution of more than half the effort of choosing and processing material that is held at no cost to the Project in four centers in the U.S.A. and four overseas.

Material from the ODP legs 101 through 128 has been selected and this includes important high-latitude southern sites. IHP strongly support the proposal from Dr. Sanfilippo for a continuation of the radiolarian preparation work. The cost for continuation for an additional two years is \$167,389. Funding could be released on an annual basis.

21. A Rational PCOM wish-list

The panel re-affirmed that it accorded highest priority to the re-structuring of the ODP computing and Database facilities.

Equipment required to allow core-log integration was given second priority. However, IHP noted that it is inadvisable to make substantial permanent additions to the range of shipboard equipment available until computing resources are available to deal with the resulting data!! (This does not preclude the installation of visiting equipment for specific Legs.)

22. Date of Next Meeting.

The panel accepted the invitation of Yves Lancelot to meet in Marseilles on Sept 9th, 10th and 11th and agreed to meet in conjunction with SMP at College Station early in 1993 at a date to be arranged.

Appendix A

Report of the Paleontological Sub-Committee 30-31 March, 1992, College Station, Texas.

Attendees: Brian M. Funnell, Carla Moore, William R. Riedel, Tsunemasa Saito, John B. Saunders, Andre Schaaf, Volkhard Spiess, Sherwood W. Wise

The subcommittee unanimously adopted the following guidelines in the hope of improving the quality of routine shipboard stratigraphic work.

Guidelines to shipboard stratigraphers.

Practically all of the investigations on ODP cores depend heavily on fossil-based age assignments for their placement in a time-stratigraphic framework. For this reason, the fundamental task of the shipboard paleontologists is to provide age-determinations for all fossiliferous sequences, at the highest feasible resolution. Only after this obligation is fulfilled should effort be devoted to other projects of special interest.

An important requirement for ODP publications, as for any other, is that it must be possible for records of species occurrences, zonal assignments, and magnetostratigraphic and isotopic scales therein to be compared with results reported in earlier and later publications. Since the concepts associated with the name of each species, zonal limit and event can vary from author to author and year to year, it is necessary to associate a bibliographic reference with the concepts applied in each ODP paper, if it is to be effectively integrated into the total geologic literature.

Guidelines for shipboard paleontologists.

The following guidelines are intended to help paleontologists to achieve the results needed by others for shipboard work, and for the compilation of the Initial Report volume. These guidelines constitute a required minimum standard for recording fossil occurrences.

1. At least one sample per core should be examined for each of the major microfossil groups (calcareous nannofossils, foraminifera, diatoms and radiolarians), and their abundance and preservation, or absence, recorded.
2. In fossiliferous sequences, it will generally be one of the groups for which smear slide preparations are adequate for age determinations (calcareous nannofossils or diatoms) that provides the bulk of the age assignments. Except where impractical because of overwhelming recovery, this primary fossil group should be evaluated with a minimum frequency of two or three samples per core. Other fossil groups present in usable amounts should be investigated in one sample per core.
3. Each fossil group present in a sequence should be recorded in a tabulation of species abundances in all samples investigated. If abundances are not reported as absolute counts or estimated percentages, the ranges of percentages implied by the use of such categories as 'abundant', 'common', 'rare', etc. should be given. Unless the information available on a fossil group is too sketchy to justify a tabulation, records of species occurrences should not be presented in paragraphs of text.

4. Ages of assemblages will usually be given in terms of a scheme of biostratigraphic zones, or a series of datum levels (first or last occurrences of species). A bibliographic reference to the scheme used should be given, or if a published scheme is being applied in a modified sense, those modifications should be clearly stated.

Guidelines for shipboard paleomagnetic observations and records

1. Measurement of natural remanent magnetization (NRM) with the pass-through cryogenic magnetometer of all archive halves containing mainly undisturbed sediment sections (only APC cores).
2. Determination of general characteristics of magnetization by systematic stepwise demagnetization of selected discrete samples.
3. Measurements of discrete sediment samples, where long core results need to be confirmed or improved or where a larger portion of the cross-section represents disturbed sediments, which degrade the primary signal. Systematic stepwise demagnetization is recommended according to the results of step 2.
4. If time allows, additional pass-through measurements in critical intervals after demagnetization with appropriate alternating fields, which were derived from magnetization characteristics (step 2), are desirable.
5. Graphical presentation of the critical magnetization angle (inclination or declination) to determine magnetic polarity together with magnetic polarity column for each Hole. Unrecovered and uninterpretable intervals should be noted with specific signatures.
6. Development of a magnetostratigraphy in an interactive feedback process with biostratigraphers. The standard procedure normally includes the following steps
 - Determination of the magnetic polarity pattern
 - Comparison with a standard geomagnetic polarity time scale (GPTS)
 - Definition of the preliminary primary biostratigraphic tiepoints in cooperation with biostratigraphers
 - Assignment of the polarity pattern to the standard GPTS
 - Final integration of biostratigraphic data into magnetic age assignments
7. Construction of an age-depth model for each Hole/Site in cooperation with the biostratigraphers. Indication of discrepancies between bio- and magnetostratigraphies.
8. Identification of those intervals which are critical for a magnetobiostratigraphic integration, for further refinement in detailed shorebased studies. This should happen in consultation with co-chief scientists and the paleontologists to provide high quality stratigraphic age control.
9. Routine rock magnetic measurements of magnetic susceptibility with the MST should be used as an additional correlation tool, together with other core logging methods.

Suggestions relating to Age-Depth plots

Age-depth plots (sedimentation rate diagrams) are usually prepared by stratigraphers for Site chapters in the Initial Reports and for the stratigraphic syntheses in the Scientific Results volume. These not only provide a convenient graphic method to display sedimentation rates and hiatuses, but can facilitate comparisons of biostratigraphic age data among fossil groups or with paleomagnetic or lithostratigraphic data sets in order to determine chronostratigraphies for drill sites. These charts should be accompanied by appropriate data tables defining the stratigraphic events used to construct the age-depth plots.

ADP is a computer program written for the Macintosh by Dave Lazarus to aid in the construction of age-depth curves and in the comparison of chronostratigraphic data with published time scales (Lazarus, 1992). Examples of output from this program are illustrated in that paper, and in ODP Scientific Results volume 120, pp.1031-1052 (Harwood et al., 1992).

Harwood, D.M., Lazarus, D.B., Abelmann, A., Aubry, M.-P., Berggren, W.A., et al., Neogene integrated magnetobiostratigraphy of the central Kerguelen Plateau, Leg 120. In: Wise, S.W., Schlich, R., et al., 1992. Proc. ODP, Sci. Results, 120. College Station, TX (Ocean Drilling Program).

Lazarus, D. 1992. Age Depth Plot and Age Maker: age modeling of stratigraphic sections on the Macintosh series of computers. Geobyte, vol.7, no.1, pp.7-13.

Stratigraphic synthesis for each Scientific Results volume.

Each Scientific Results volume should contain a tabular stratigraphic synthesis showing, for each Site, the zones and events used for correlations of the cores obtained on the Leg. The concept of each zonal scheme represented should be identified in this table, even though this will normally have been done somewhere in the text as well. For each Site in this synthesis table, a scale indicating the numbered cores should be included.

It will be helpful to later readers if uncertainties in the placement of zonal boundaries or events, or in their correlation with whichever data category is used in the unifying standard for the table, are shown as hachured intervals, rather than stretching the interpretation by representing them as thin lines.

Ideally, uncertainties in the placement of zonal boundaries at a Site will be made clear in the special chapter dealing with each data type (fossil group, paleomagnetism, isotope, etc.), so that these can be evaluated separately from the cumulative uncertainties presented in the stratigraphic synthesis.

In an effort to provide assistance to the shipboard paleontologists the subcommittee considered the following additional topics:

Capturing paleontologic data on board ship.

The shipboard party needs to be provided with data-entry software that can be used at sea and then taken off the ship by the paleontologists and used for the continuation of their work ashore. This data-entry software should be available in both PC and Macintosh versions. The capabilities that we saw demonstrated in J.M. Covington's BugWare package would (after customization for ODP) well serve the needs of biostratigraphers. We note that this is a well-tested package available at modest cost from a cooperative vendor.

Reference sets of microfossils.

Reference sets of authoritatively-identified microfossils of the major microfossil groups (calcareous nannofossils, foraminifera, diatoms and radiolarians), available for shipboard use, would significantly assist the paleontologists to make reliable and consistent identifications of species. This in turn would translate into more reliable age-determinations, and thus a more reliable time-framework into which other observations on the cores are placed.

There has been some progress toward assembling such sets of shipboard reference slides.

- Calcareous nannofossils. S.W. Wise has prepared for shipboard use a set of 70 slides of Neogene calcareous nannofossils. An appeal through the International Nannofossil Association might result in the provision of additional slides covering other parts of the geologic column.
- Foraminifera. Brian Huber at the U.S. National Museum seems willing to coordinate any volunteer efforts to provide reference collections of foraminifera, but there is little evidence of concrete progress.
- Palynomorphs. AMOCO paleontologists had at one time expressed a willingness to provide a reference set for this group of microfossils, but its realization has become doubtful as a result of cutbacks and relocation of their paleontological labs.

We wonder whether paleontologists at ODP would be willing to take care of the acquisition and deployment of these shipboard reference sets of microfossils.

Reference images on CD-ROM.

A set of good images on a CD-ROM could serve much the same purpose as the reference sets of fossils described above. W. Riedel and his colleagues have looked into the size of such a job. A comprehensive but not over-generous set of images of the four major microfossil groups from the Cretaceous through the Cenozoic would comprise about 5–6,000 images. It takes 20–25 minutes to scan an image optimally, clean it up, and label it. Images with 64 gray-scales can be displayed at (often better than) publication quality on a VGA monitor with 640 x 480 resolution. Each image occupies about 10–100 Kb of storage, and thus several thousand could be accommodated on a CD-ROM.

Because of the high cost in person-months or -years to assemble a total set of this size, the only practical way to proceed would be by dispersing the job among people willing to undertake parts of it. Carla Moore indicates that NGDC might well be able to produce one-off CD's as a means of experimenting with the production and deployment of portions of such an image-base. Ton Romein in Utrecht might help in assembling the nannofossil component of the image-base (as part of his NANNOSYS project under the auspices of the International Nannofossil Association). W. Riedel is willing to try to coordinate dispersed contributions to an ODP microfossil image-base, in order to ensure compatibility of image file formats, associated textual material, etc.

Aids to improving biostratigraphic resolution and consistency.

Until computer software becomes available to assist in this function, shipboard stratigraphers will have to rely on stratigraphic scales available in the shipboard library, and literature that they bring with them, to provide the stratigraphic framework for their age determinations. In their published reports, stratigraphers should provide justification for all of their age assignments by specifying which published scheme they are using, or how they have modified a particular published scheme.

Shore-based backup for shipboard paleontologists and database considerations

In the publications resulting from some recent legs, there are substantial deficiencies in biostratigraphic coverage, such as total absence of information on some of the major fossil groups, or disproportionate attention to certain parts of the column as the result of the personal interests or limited capabilities of a paleontologist. We need to find mechanisms to reduce the incidence of such inadequacies, and to correct them when they occur.

Prevention. A biostratigraphically competent staff scientist (perhaps in consultation with an appointed subgroup of IHP or OHP) should work with the co-chief scientists during the staffing of each leg, to ensure that the leg is adequately staffed with paleontologists, and that those paleontologists are fully aware of the minimum requirements for their reports. Whenever possible, a lead paleontologist should be identified early, and involved in the staffing process.

Cure. Weak spots in the biostratigraphic coverage should be identified during the first post-cruise mini-meeting, and rectified by the recruitment of shore-based backup contributors, who might be compensated by USSAC and its non-US equivalents in the same manner as shipboard participants. This mechanism of appropriately compensated shore-based participants might also be used in non-emergency situations, when it is impossible to recruit competent paleontologists who are able to sail on a leg. D. Tying age assignments to other data sets needing them - or, in other words, placing all data sets in a time-stratigraphic framework.

How can this be accomplished most effectively? We were not able to make any progress on precisely this question. But it is clear that the database must carry a distinction between which ages are derived secondarily, from interpolations, and which are primary, by dating of their constituents. Also, each primary age assignment must carry an attribution, generally in terms of an author-and-date reference to published evidence on which it is based.

Through what mechanism does the ODP database reflect changes in age assignments, as the stratigraphy becomes refined? We take as a starting point the ages available at the end of a cruise. The two obvious stages of refinement of the stratigraphy would be (1) as a result of the first post-cruise mini-meeting (i.e., the ages given in the Initial Reports volume), and (2) at the time of publication of the Scientific Results volume. If ODP provides software into which Scientific Results contributors can enter revised age assignments, this would ensure that the revisions would be in a format facilitating their entry into the database. This same mechanism might also provide a means for entering revised ages onto a CD-ROM for the cruise.

INTEROFFICE MEMORANDUM



OCEAN DRILLING
PROGRAM


March 29, 1992

To: I. H. P. Panel Members

From: John Coyne

Please find enclosed the Database Report for the I.H.P. meeting.

Sincerely,



John Coyne

Enclosure

Data Base Group Report to the Information Handling Panel

I. Data Requests

The Data Librarian and Data Analyst responded to a total of 1,463 requests for individual DSDP and ODP datasets since May 1985. From August 1, 1991 to February 24, 1992 a total of 203 requests were processed. The variation in the number of requests with time is shown in Figure 1. The 1992 data include requests received up to February 24th. The number of requests by type of data is shown in Table 1.

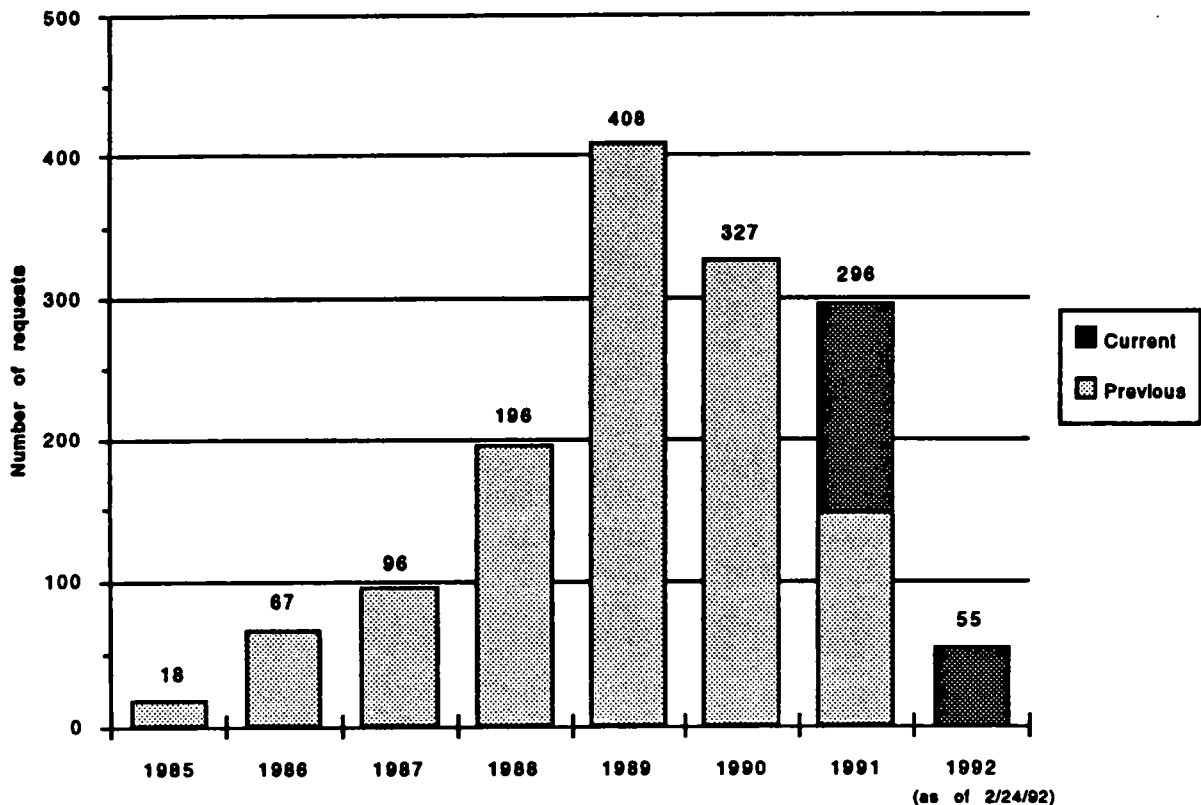


Figure 1: Total Data Requests by Year

II. ACTIVITIES

VCD

John Olsen has continued work on providing a stable version of VCD for use in collecting data on the ship and production in the Art Department. The interface revisions have been completed and the feature set frozen for the current version. Numerous serious bugs were fixed and portions of the program have been rewritten. VCD is undergoing Beta testing on Leg 143. Any bugs that are found will be fixed before Leg 145 sails. The final version of VCD 1.0.1 is anticipated along with release notes and a written manual for Leg 145.

Data Type	Public		In-house		Subtotal		TOTAL
	Previous	Current	Previous	Current	Previous	Current	
Photo	361	31	14	1	375	32	407
Legs, Site, Hole Summary	85	5	43	24	128	29	157
Physical Properties	71	22	23	3	94	25	119
Chemistry	54	8	28	5	82	13	95
Sediment Description	73	5	7	0	80	5	85
Underway Geophysics	56	4	7	1	63	5	68
Core Log	26	4	36	8	62	12	74
Paleontology	53	11	5	2	58	13	71
Smear Slide	33	1	19	4	52	5	57
Paleomagnetism	41	8	5	0	46	8	54
Sample Record	22	0	9	0	31	0	31
Igneous/Metamorphic Rock Description	22	4	7	0	29	4	33
XRF	25	4	3	0	28	4	32
Igneous/Metamorphic Thin Section	11	1	0	0	11	1	12
Sample Request	8	0	1	0	9	0	9
Bibliography	7	0	1	0	8	0	8
Other†	88	29	16	18	104	47	151
TOTAL	1036	137	224	66	1260	203	1463

TABLE 1: Number of Data Requests by type.

Previous= from May 1985 to July 31, 1991
 Current = Aug.1 1991 to Feb.24 1992

† This category includes maps, technical notes, well logging journals and downhole tools data requests as well as any requests not covered in the above categories.

CORELOG Editing

This project is necessary to provide a "clean" version of the CORELOG dataset with which to verify the sample identifiers in other datasets. The inclusion of this identifier in all datasets requires the sample IDs to match in all instances in order that the database be searchable using even simple queries. The process requires review of the core photos, VCDs, and sample records to identify discrepancies in the CORELOG dataset. These discrepancies are resolved by inspection of the core, or discussions with staff scientists, marine technicians and or lab officers. The objective is to provide a "clean" CORELOG dataset for the scientists at the first post cruise meeting. This method was implemented beginning with Leg 139.

Table 2 is a progress chart showing the activity to date and the remaining work on editing the CORELOG dataset.

Paleontology Program

The RFP for a Paleontology program has been delayed. A reevaluation of the problem suggests that it may be more cost effective and expedient to identify a commercial product which will handle the majority of the functions required. Work on this project has centered on finding a commercial database product with the functionality to provide rapid data entry and range charts for publications. An initial "prototype" has been developed using 4th Dimension, a relational database management system for the Macintosh from Acius, Inc.

Database Review/Migration

A review of the data types, datasets and methods of collection has been completed and compiled in anticipation of a redesign of the database. This information will serve as a starting point for the development of individual data models for each of the identified data types.

Core/Log Integration

Prior to his departure, the Data Analyst undertook a short project to identify some of the database issues involved in Core/Log Integration. A commercial visualization product called PV Wave, from Precision Visuals, Inc., was obtained for a 30-day trial. This software was installed on both Silicon Graphics GVX and SUN ipx Unix workstations on loan from the respective companies.

A series of simple procedures were written to import data files from the VAX and display and manipulate them with PV Wave. The preparation of the data files for import required a significant amount of time under the current database structure. It is obvious that to implement real-time Core/Log integration will require a restructuring of the database and the querying methods.

Leg Nos.	1011	1012	1013	1014	1015	1016	1017	1018	1019	1010	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1221	1222	1223	1224	1225	1226	1227	1228	1229	1230	1331	1332	1333	1334	1335	1336	1337	1338	1339	1440	1441	1442	1443	1444	1445								
Edit started																																																					
First edit complete																																																					
Second edit complete (if applicable)																																																					
Final review complete																																																					
Final corrections complete																																																					
Core evaluation complete (if applicable)																																																					
Error/change documents sent																																																					
CORELOG revisions complete																																																					
Hardcopy revisions of CORELOG filed																																																					

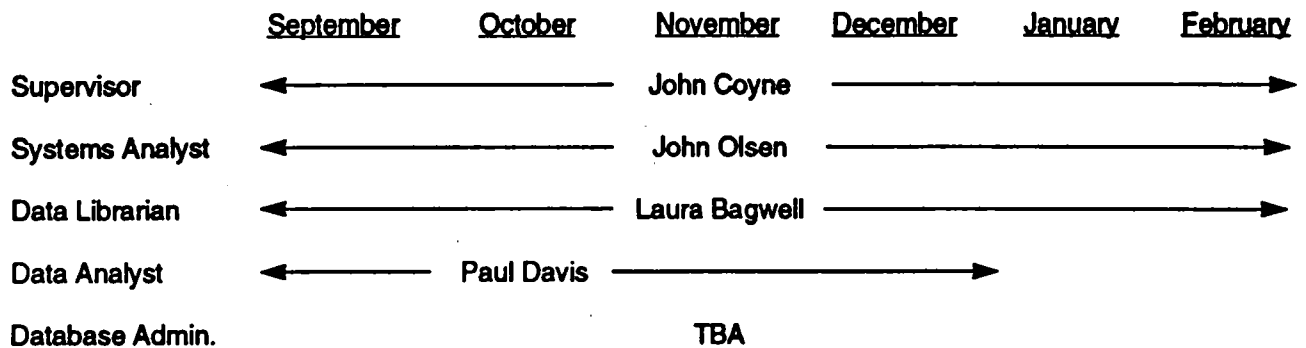
▶ Table 2. Status of CORELOG Editing

ODP CD Rom

The ODP CD Rom should be available for distribution by the end of March.

III. PERSONNEL

The Data Analyst, Paul Davis, has returned to school in a work study program. He is not available for full time work at ODP. An advertisement was placed in March for a Database Administrator to augment the abilities of the three remaining full time employees. Student help for the coming year will be provided by 6 graduate students working on data editing and input for CORELOG, database redesign and the paleontology database.



Appendix C

Summary of ODP Publications Activities, September 1991–February 1992 (Prepared by W. D. Rose for April 1992 IHP meeting)

1. **Proceedings volumes:** We continued preparation and publication of ODP *Proceedings* volumes as follows (see ATTACHMENT 1):

a. *Initial Reports:* Vols. 133 and 134 were printed and distributed.

b. *Scientific Results:* Vols. 119, 121, 122, and 124 were printed and distributed. Vol. 120 is at the printer.

c. ATTACHMENT 2 shows the time in distribution of IR Vols. 120 through 141.
ATTACHMENT 3 shows the time in publication of SR Vols. 104 through 129.

These attachments were prepared by our chief production editor, Jennifer Hall.

2. **Informal publications:** Technical Note 15, *Chemical Methods for Interstitial Water Analysis Aboard JOIDES Resolution*, by Joris Gieskes, Toshitaka Gamo, and Hans Brumsack, was printed and distributed.

3. **Other publications:** The National Geophysical Data Center, in cooperation with ODP, is producing a CD-ROM set consisting of two discs of ODP data from Legs 101 through 129. One disc contains underway geophysical and sediment/hard-rock data, and the other disc, GRAPE data.

4. **Volume indexes:** The Vol. 121 index was prepared following the IHP meeting in Victoria last September and was a transitional effort in the sense that the IHP indexing subcommittee's recommendations could be implemented only partially. Since that time, two additional indexes were completed--those for Vols. 122 and 120. We attempted to implement all the indexing subcommittee's recommendations in these indexes. Of the two, I feel that the Vol. 120 index (the last prepared) followed the subcommittee's guidelines more closely. Some of the principal changes include (1) only two hierarchies of entries (instead of three), (2) combining the site index with the subject index, (3) better standardization of terminology, and (4) adding more cross-references.

5. **History of manuscript submission and review:** Debbie Partain and Janalisa Soltis have continued the series of four graphs that show the period of elapsed time vs. the number of manuscripts during the periods when (1) manuscripts were initially submitted, (2) reviews were received, (3) revised manuscripts were received, and (4) final disposition (acceptance or rejection) was received. The series of graphs prepared for the IHP meeting in September covered SR Vols. 120, 122, and 124. The current series (ATTACHMENT 4) covers Vols. 121 (corrected), 123, 125, and 126. This information shows in detail where lag time developed before and during the review process.

6. **Manuscript-submission deadlines:** Original and revised deadlines for manuscript submission for SR Vols. 127/128 through 136 are shown in ATTACHMENT 5, prepared by Janalisa Soltis.

7. **ODP/DSDP literature citation search:** The search we subcontracted with the Institute for Scientific Information (ISI) to evaluate the effectiveness of ODP (and DSDP) by the number of citations from their respective volumes in the literature of marine geology and geophysics covered the years 1981–90. This search showed a large number of citations for DSDP. Only the years 1987–90 cover the ODP *Proceedings* volumes, and only the years 1989–90 cover the *Scientific Results*, but the exponential increase is striking. Russ Merrill and I have authorized ISI to conduct an additional

literature citation search covering 1991 to see if the increase in citations to ODP volumes continues at the projected rate. We will have the results of the updated search (1981-91) in the form of graphs and other illustrations and statistics at our meeting in April.

8. Experiment to identify alternate printers: When we continued to have problems with our long-time printing subcontractor, Edwards Brothers, mostly involving billing and distribution matters and halftone reproduction, we decided to identify several other printers who were capable of doing our work. We prepared requests for proposals (RFPs) for the printing of IR Vol. 134 and SR Vol. 122. We were gratified to receive several proposals from reputable firms; Allen Press, of Lawrence, Kansas, submitted the most favorable proposal in the first round. We received IR Vol. 134 and SR Vol. 122 in February. A striking feature of both these volumes is the high quality of halftone reproduction from the use of 300-line screens. In the second round, Thomson-Shore, of Dexter, Michigan, was the successful bidder for printing SR Vol. 120; this book is due for distribution in March.

The foregoing process delayed our schedule by 2 or 3 months, but we feel it was worth it in the long run by familiarizing additional printers with our books and interesting them in bidding. We continued the process with IR Vol. 135; the proposals for printing are due next week. So far, we are quite pleased with the response and the results of dealing with these new printers, and with the savings of about 10% relative to what it would have cost at Edwards Brothers.

9. Other subcontractors:

- a. **Typesetting:** 3-year subcontracts were executed with Industrial Publications and Graphics, Anaheim, California, and Graphic Composition, Menasha, Wisconsin, beginning 1 October 1991. Our subcontract with Design Service, Anaheim, California, was extended for 1 year through the 1992 fiscal year.
- b. **Indexing:** Our subcontract with Wm. J. Richardson Associates, Inc., was extended for 1 additional year through the 1992 fiscal year. We are preparing a new indexing RFP so that we can execute a new 3-year contract before the end of the 1992 fiscal year.
- c. **Microform:** Southwest Image Technology, Inc., Houston, is our current vendor.

10. Electronic publishing: We are planning to add the Microsoft Word software package to WordPerfect for editorial processing of manuscripts. We are also evaluating two page-makeup programs, Quark XPress and Framemaker. The former operates from both Macintosh and PC platforms, and the latter, from Unix as well as Macs and PCs. These programs are used by our typesetters. We are also evaluating commercial programs for MANTRACK, our manuscript tracking system, to see if any of them will enable us to expand our ability to track manuscripts from receipt all the way through production to publication. We are finding that authors and shipboard parties are realizing the advantages and potential of CD-ROMs in presenting data from their cruises in conjunction with the printed *Proceedings* volumes. A CD-ROM insert already is planned for IR Vol. 138. The Leg 140 scientists have expressed a possible interest in this medium, as well as some authors of SR Vol. 130. We do not now have equipment or facilities for in-house mastering of CD-ROMs. Should we be funded to acquire such equipment, an estimated cost for production of 1900 discs to accompany 1900 books (our normal print run) is \$4000.

11. Publication storage space: We were allotted additional storage space by Texas A&M University to enable us to house our current back stock of ODP and DSDP volumes and to provide sufficient space to accommodate volumes published through the 1998 fiscal year. The Publications Distribution Center will be moved to the new facility this summer.

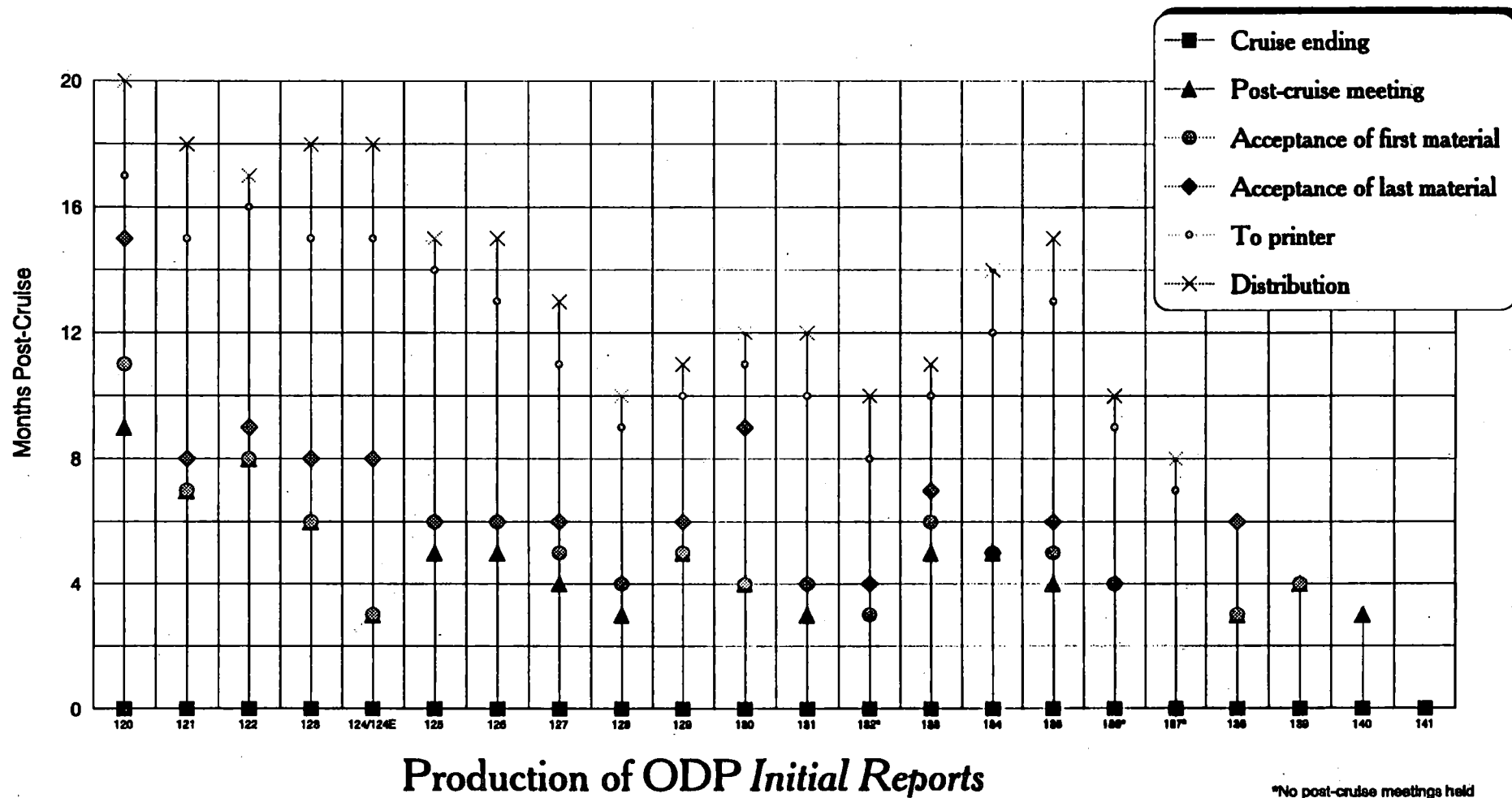
Attachments 1 through 5

Proposed Distribution Dates of ODP Volumes - Fiscal Year 1992

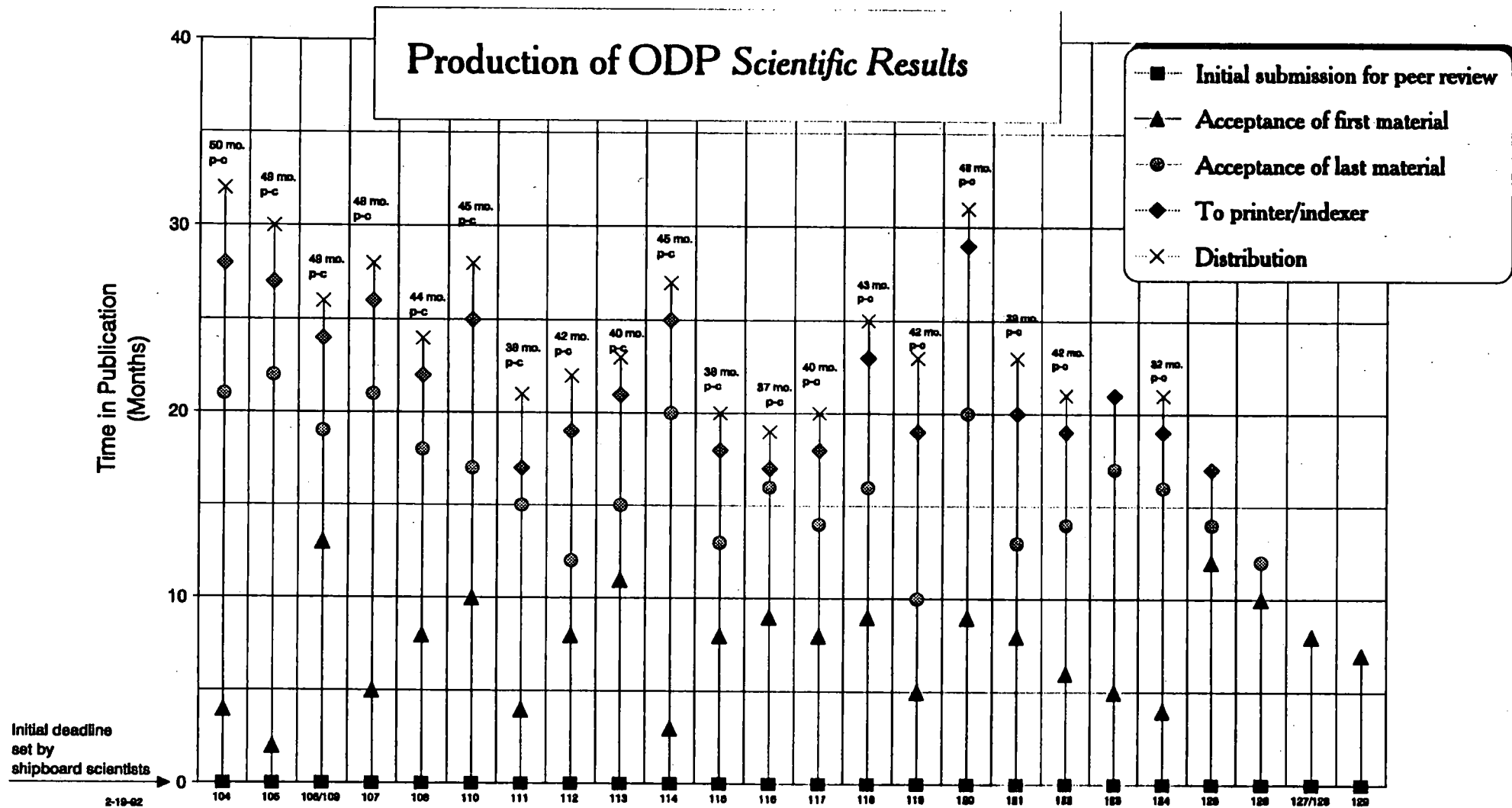
	<i>Initial Reports Volume</i>	<i>Date to Printer</i>	<i>Date Distributed</i>	<i>Months Post-Cruise</i>	<i>Scientific Results Volume</i>	<i>Date to Printer</i>	<i>Date Distributed</i>	<i>Months Post-Cruise</i>
OCTOBER								
NOVEMBER					121	8-20-91	11-30-91	41
DECEMBER								
JANUARY	136/137	12-10-91	1-27-92	10/8				
FEBRUARY					122	12-19-91	2-28-92	42
MARCH	134	12-19-91	3-92	15				
APRIL	135	2-92	4-92	14	120	2-3-92	4-92	48
MAY					123	2-92	5-92	42
JUNE	138	5-92	6-92	12	125	3-92	6-92	38
JULY					126	4-92	7-92	37
AUGUST								
SEPTEMBER	139 140	8-92 8-92	9-92 9-92	12 10	127/128	7-92	9-92	37/35

Month-day-year listings indicate actual dates. Month-year listings indicate proposed dates.

February 18, 1992



*No post-cruise meetings held



2-19-02

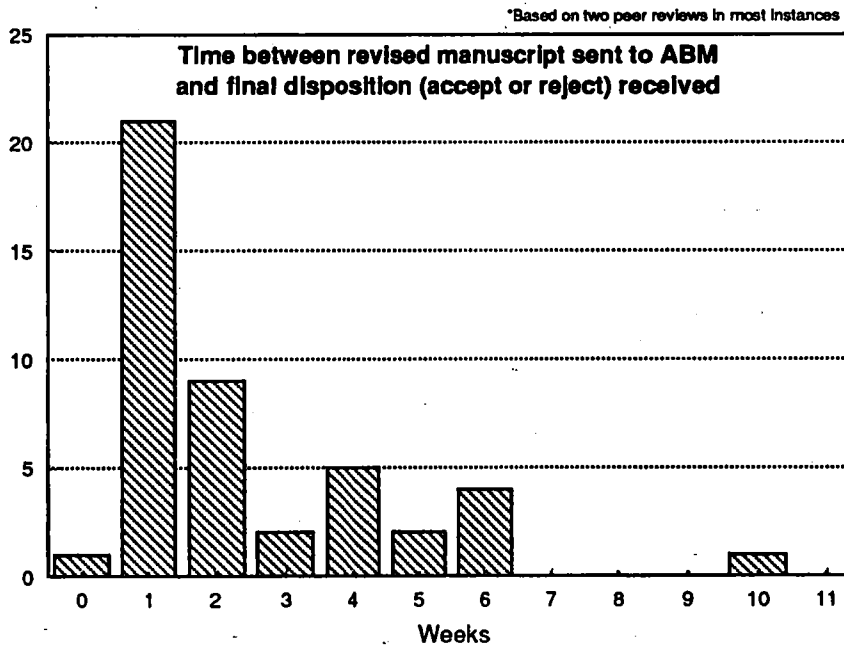
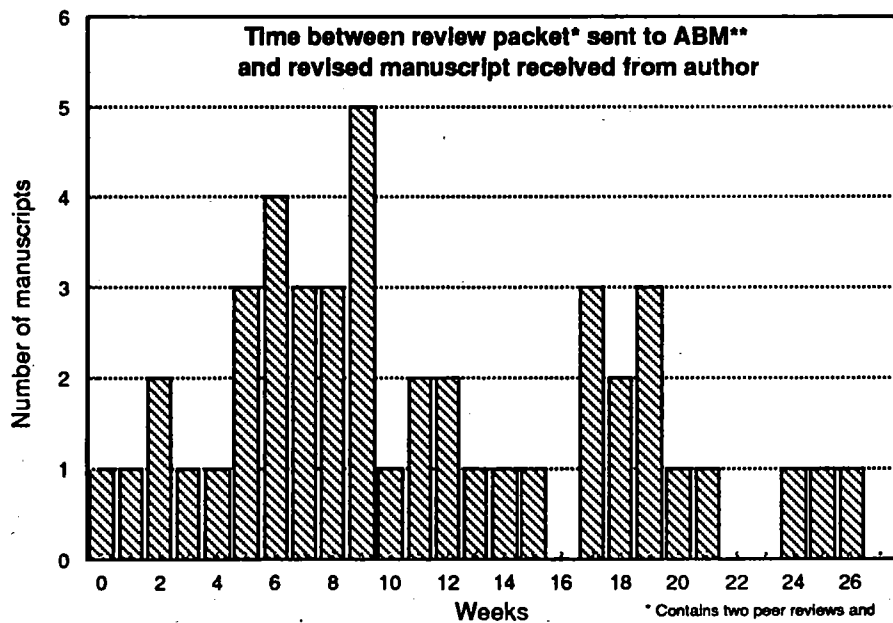
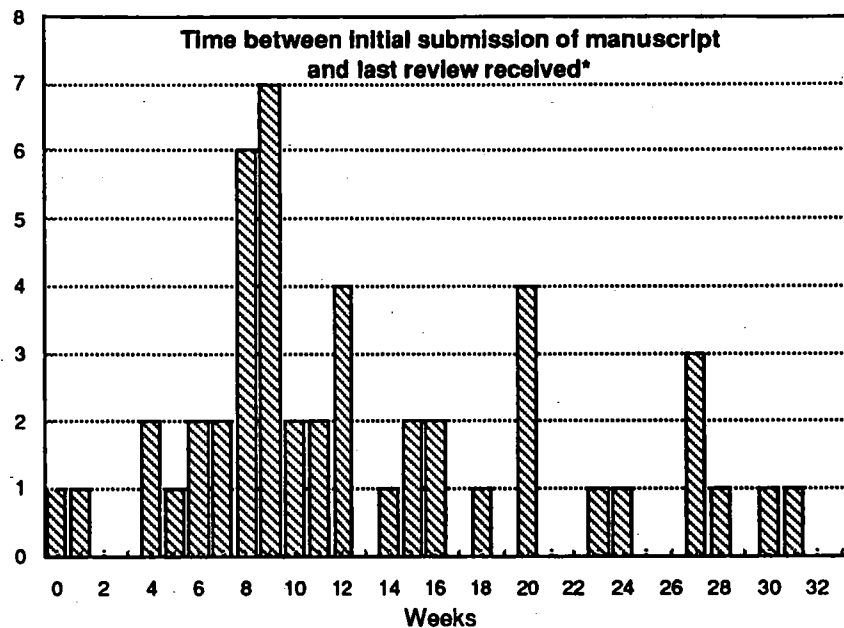
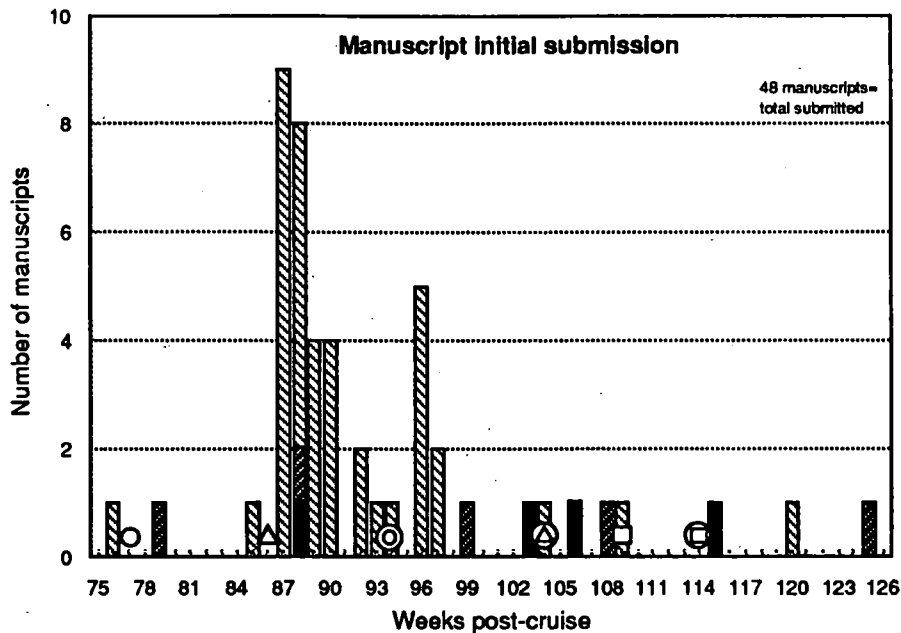
Key for Volumes 121, 123, 125, and 126 IHP graphs:

- Original specialty manuscript submission deadline (approx. 16 months, or 69 weeks, post-cruise)
- Original synthesis manuscript submission deadline (approx. 22 months, or 96 weeks, post-cruise)
- Closing deadline for specialty manuscript submission (approx. 19 months, or 83 weeks, post-cruise)
- Closing deadline for synthesis manuscript submission (approx. 24 months, or 104 weeks, post-cruise)
- Final submission of specialty manuscript (if later than closing deadline)*
- Final submission of synthesis manuscript (if later than closing deadline)*

Synthesis

Data Report

*Note: This is the latest submission that was allowed to the volume.



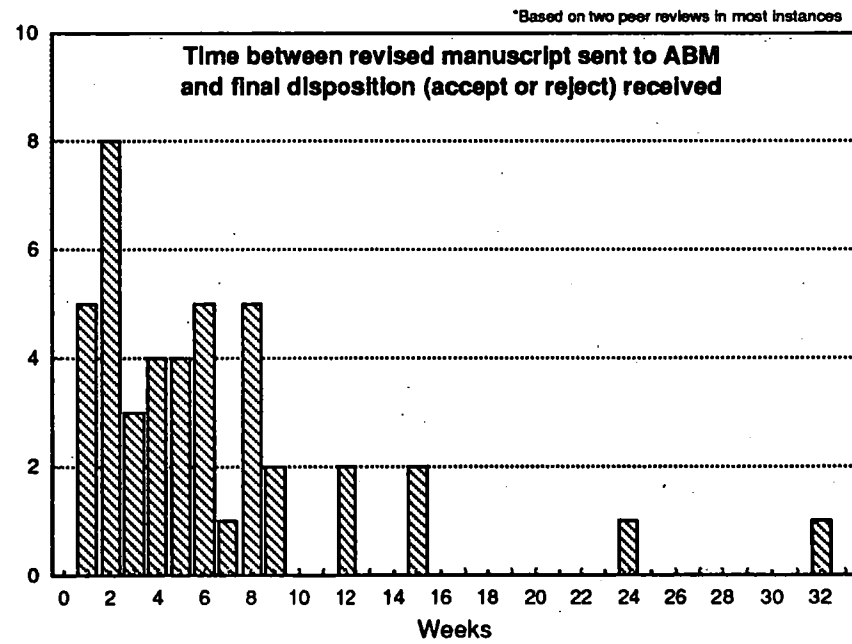
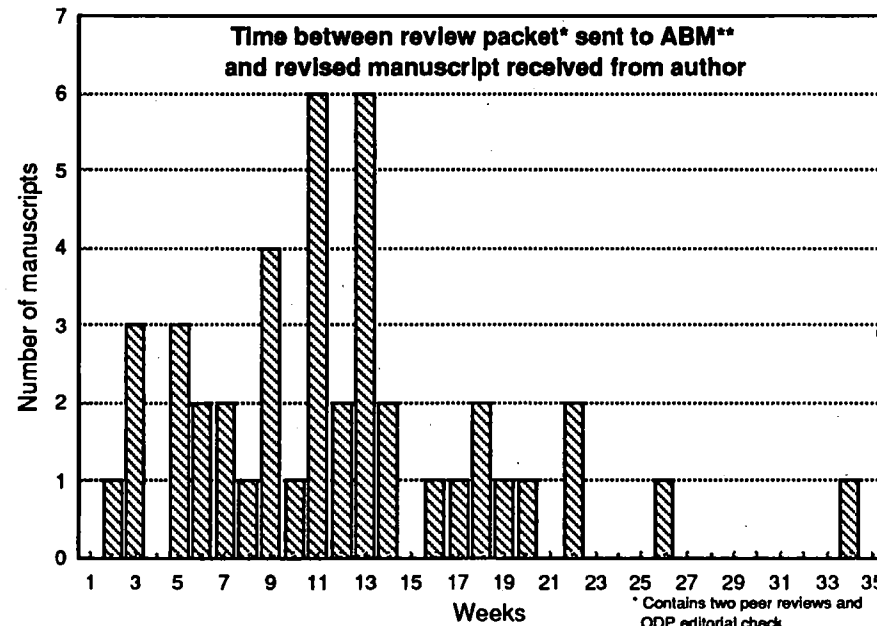
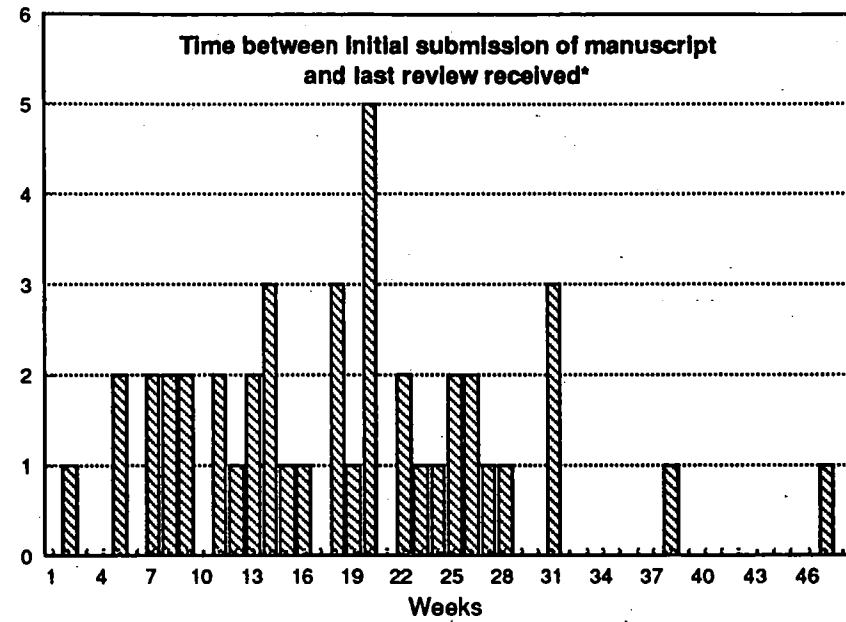
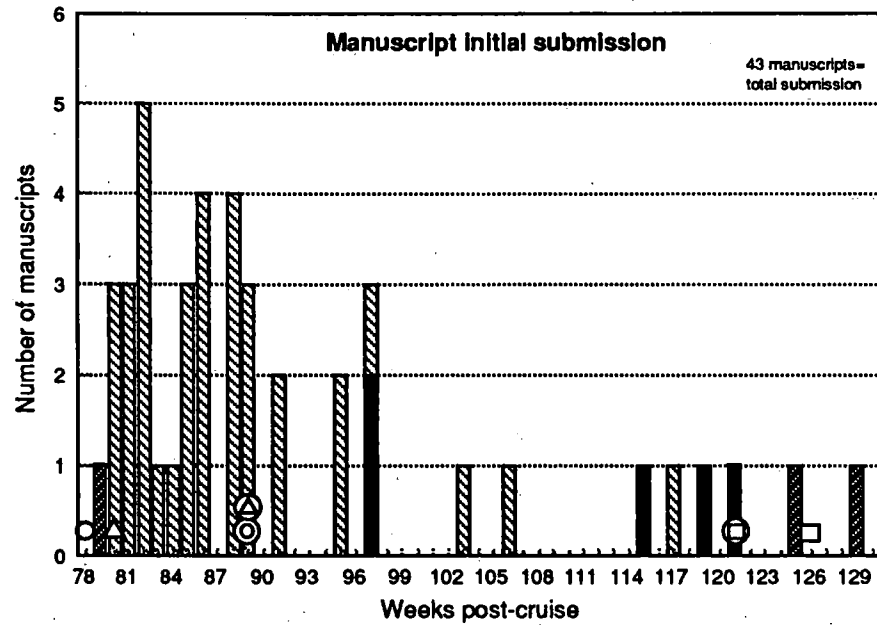
*Based on two peer reviews in most instances

Leg 121 co-chiefs:
 John W. Peirce, Petro Canada
 Jeffrey K. Weissel, Lamont-Doherty Geological Observatory

Cruise ending date:
 28 June 1988

Post-cruise meeting:
 9 January 1989

* Contains two peer reviews and ODP editorial check
 ** Assigned Board Member



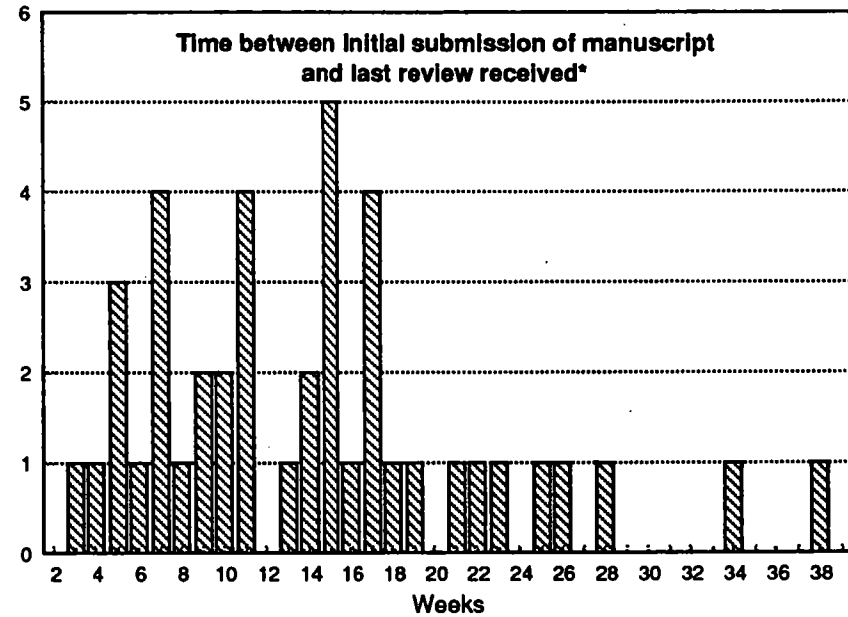
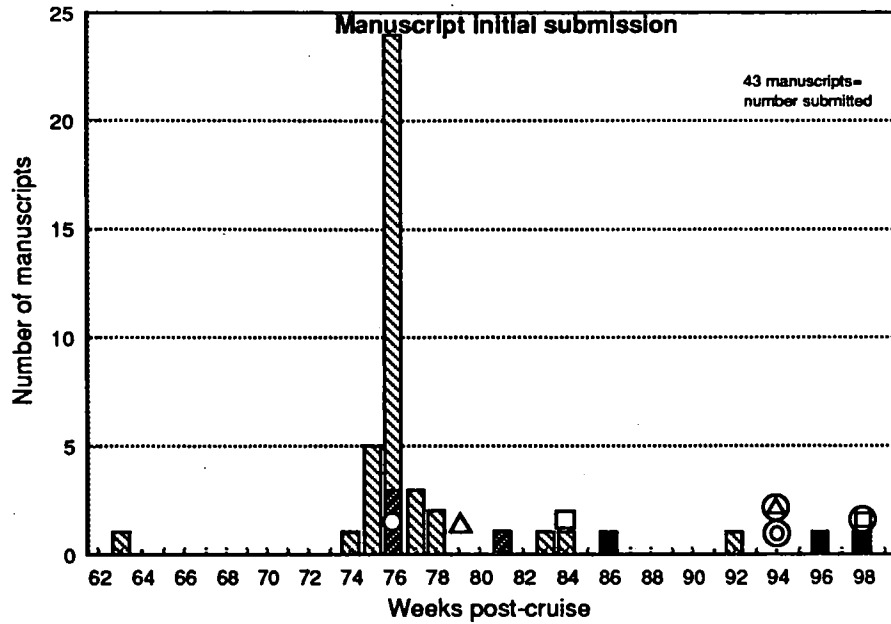
*Based on two peer reviews in most instances

Leg 123 co-chiefs:
Felix M. Gradstein, Bedford Institute of Oceanography
John Ludden, Université de Montreal

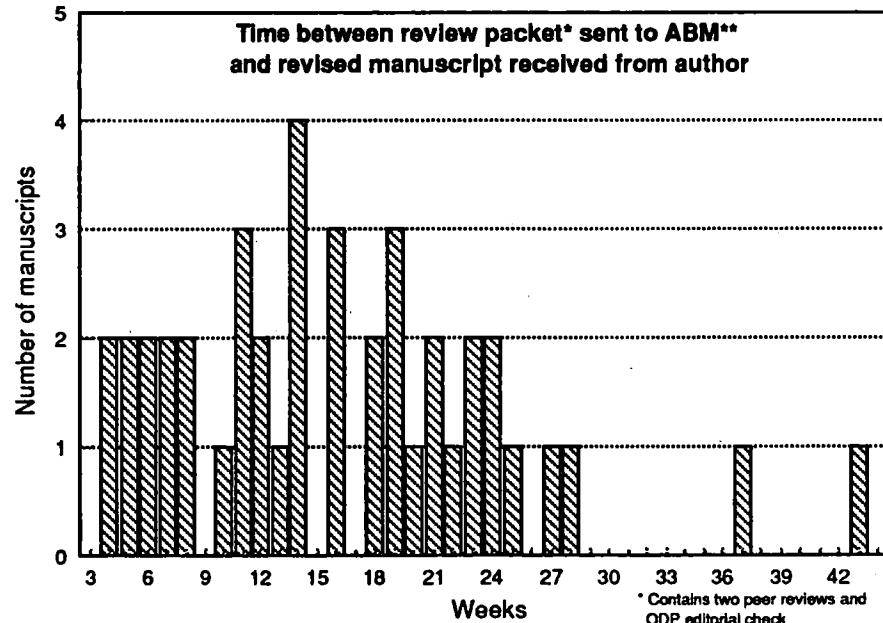
Cruise ending date:
1 November 1988

Post-cruise meeting:
1 May 1989

* Contains two peer reviews and ODP editorial check
** Assigned Board Member



*Based on two peer reviews in most instances



* Contains two peer reviews and ODP editorial check

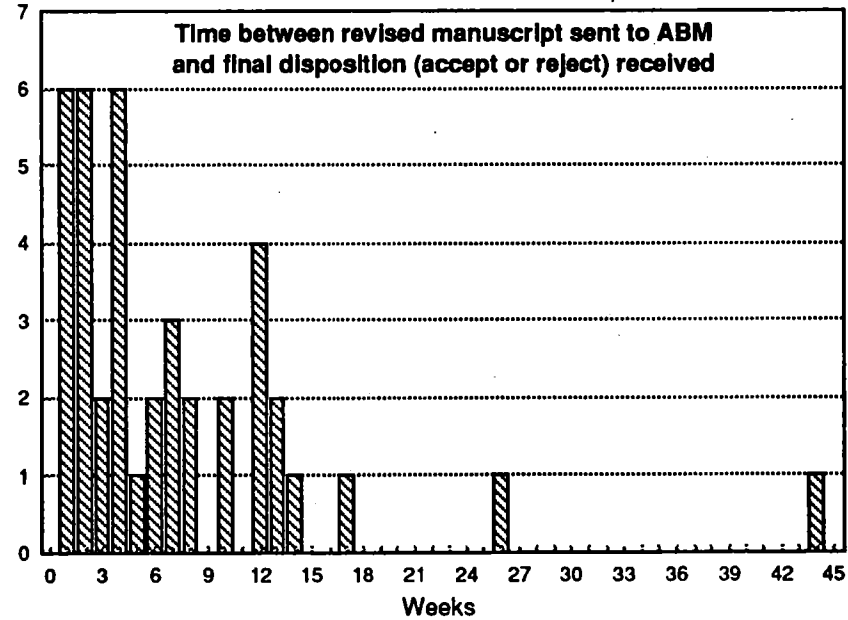
** Assigned Board Member

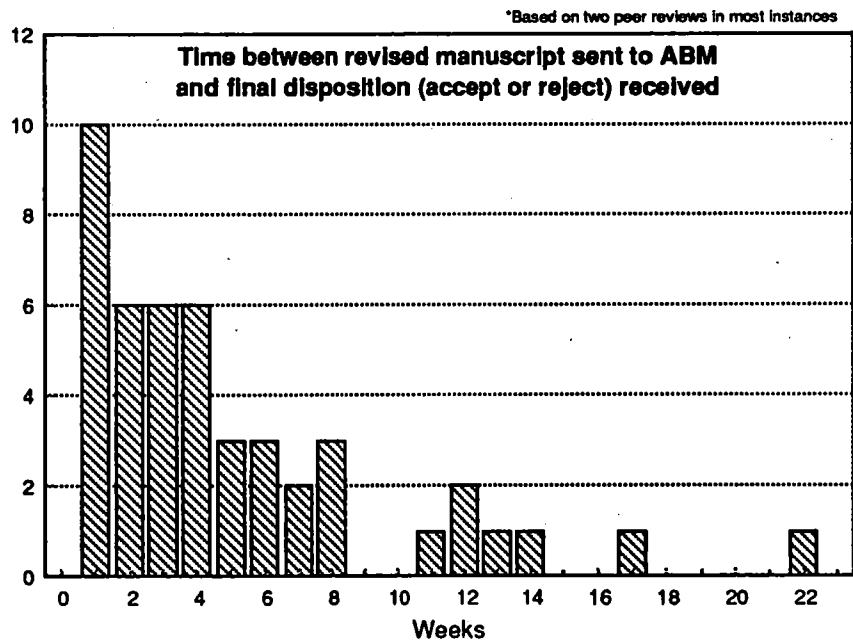
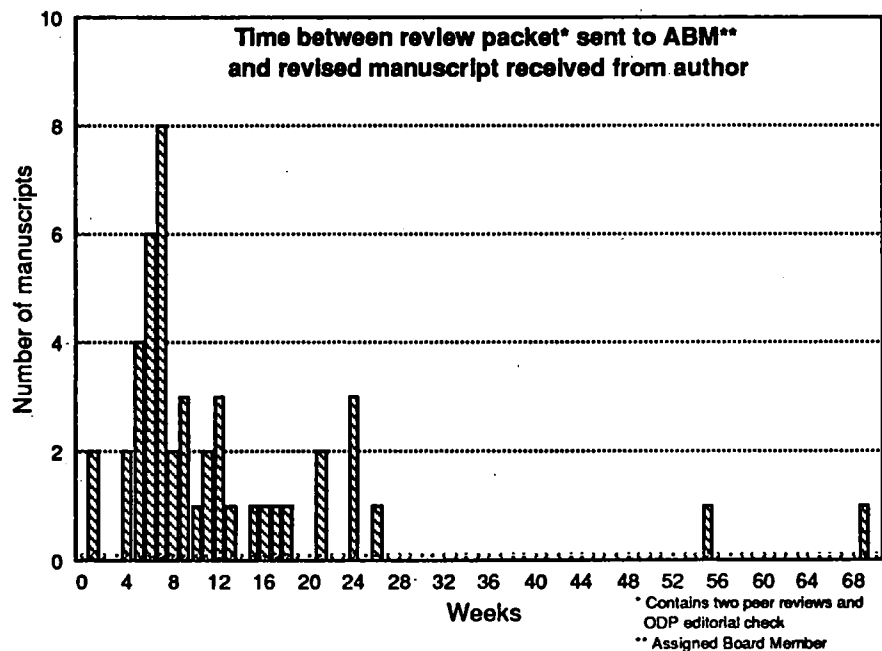
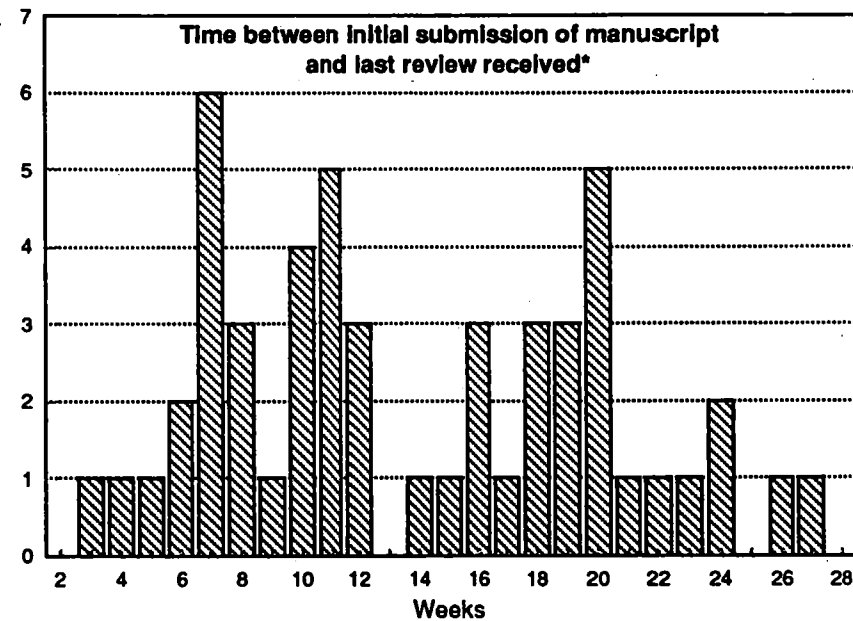
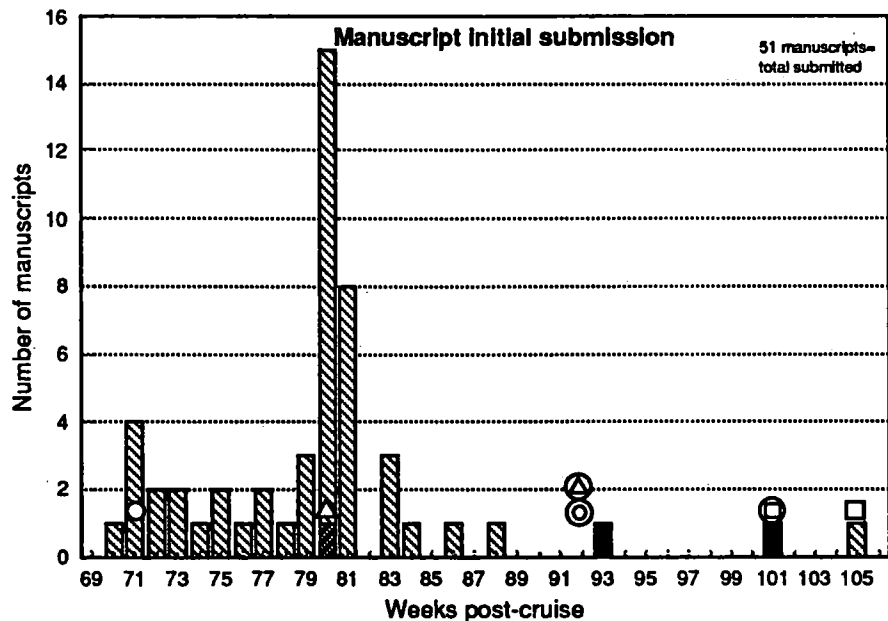
Leg 125 co-chiefs:
 Patricia Fryer, University of Hawaii
 Julian A. Pearce, University of Newcastle upon Tyne

Cruise ending date:
 18 April 1989

Initial post-cruise meeting:
 29 September 1989

Science post-cruise meeting:
 22 May 1990





*Based on two peer reviews in most instances

Leg 126 co-chiefs:
Brian Taylor, University of Hawaii
Kantarō Fujioka, University of Tokyo

Cruise ending date:
19 June 1989

Initial post-cruise meeting:
20 October 1989

Science post-cruise meeting:
25 July 1990

Scientific Results Manuscript Submission Deadlines as of February 27, 1992

<u>Leg</u>	<u>SPECIALTY Initial Submission¹</u>	<u>SPECIALTY Revised Submission²</u>	<u>SYNTHESIS Initial Submission³</u>	<u>SYNTHESIS Revised Submission⁴</u>	<u>ALL to Production⁵</u>
127/128	15 MAR to 15 APR 91 <i>6 JUN 91</i>	15 JUL to 15 AUG 91 *	15 JUL to 15 AUG 91 *	15 DEC 91 *	15 JAN 92/29 FEB 92
129	1 JUNE 91 <i>4 NOV 91</i>	1 OCT 91 *	30 NOV 91 <i>27 JAN 92</i>	1 MAR 92	1 APR 92
130	1 SEP 91 <i>6 FEB 92</i>	1 JAN 92 *	1 JAN 92 *	1 MAY 92	<u>15 APR 92/1 JUN 92</u>
131	1 OCT 91 <i>11 FEB 92</i>	10 JAN 92 *	10 JAN 92 *	1 MAY 92	1 JUL 92
133	15 MAR 92	15 JUN 92	15 JUL 92	15 OCT 92	15 DEC 92
134	15 APR 92	15 AUG 92	15 AUG 92	15 NOV 92	1 JAN 93
135	30 JUN 92	30 SEP 92	30 DEC 91/10 JAN 93	28 FEB 93	31 MAR 93
136	1 SEP 92	1 DEC 92	1 MAR 93	1 MAY 93	1 JUN 93

Deadlines established by IHP (updated Feb 91):

- ¹ 16 months post-cruise (specialty initial)
² 19 months post-cruise (specialty revised)
³ 22 months post-cruise (synthesis initial)
⁴ 24 months post-cruise (synthesis revised)
⁵ 25 months post-cruise (ALL to Production)

Dates in italics: Actual submission of last manuscript

Dates in bold: New deadlines

* still expecting late submissions

Deadline given to authors

Appendix D

March 1, 1992

Summary of CSG Activity Since Last IHP Meeting

Since the last CSG report to the IHP, software development work has continued on the Physical Properties System, the shipboard sampling program (SHIPSAM), and the WSTP program. The beta test version of the WSTP program has been delivered and we are awaiting feedback from the testing. The shipboard sampling program will be delivered for beta test in the middle of March with installation of the completed version anticipated for May 1992. Phase one of the Physical Properties System is expected to be complete in May 1992 also.

A significant upgrade has been made to the shipboard network since the last IHP meeting and a 'scratch' server added to facilitate a more efficient mechanism for sharing and storing working data. This 'scratch' server is much faster than the DRAKESHARE file server and provides a 1 gigabyte fast hard disk for data storage. The network was upgraded to provide ethernet speeds of 10Mbps to all of the Macs and PC compatible units. The majority of the microcomputers were upgraded to ethernet cards to take advantage of the higher speed.

Computer Services Group Task Completion Report for Past 12 Months

03/01/92

* - Completed since last IHP meeting

Application Name	Ship/Shore Usage	Status	Comments
Core Sample Inventory	Both		
- Phase 3A: Repository Sampling program REPOSAM linkage to Vax central data base for validation of leg, site, hole, sample id and depth of sample at data entry time.		Complete	This phase completes the conversion of the Repository Sampling program from the PRO350 to the PC with all of the planned enhancements.
Upgrade Vax Systems to Version 5.3 of Vax/VMS	Ship	Complete	Upgrade Vax systems to use same operating system as being used on shorebased systems
Upgrade shipboard PCs to provide more capabilities	Ship	Complete	Provide faster CPU, more memory, additional software, and a graphical user interface.
Modifications to ODP Computer Userroom at ODP Headquarters.	Shore	Complete	Modifications to ODP computer userroom and additional equipment added for teaching of 'hands-on' computer courses.
Core Sample Inventory	Both		
-Phase 5: Installation of SAMUTL Vax Core Sample Database program at ECR and WCR		Complete*	
Upgraded Appletalk Network on Ship	Ship	Complete*	Upgrade networking capability on ship to provide 10Mbps service to all PCs and Macintosh units.
Added Ethernet network cards Shipboard PCs and Macs	Ship	Complete*	Upgrade PCs and Macintosh microcomputers with Ethernet cards to provide faster network speed.
Added 'scratch' server to Shipboard network	Ship	Complete*	Added an additional server with 1 gigabyte hard disk to provide more space for file sharing and storage as well as faster file retrieval/storage speed for scientists.
WSTP (Water Sample Temp. Prob) - Phase I	Ship	Complete*	Water Sample Temperature Probe application software.

Computer Services Group
Task Status Report
03/01/92

Application Name	Ship/Shore Usage	Status	Expected Compl. Date	Comments
Core Sample Inventory	Both			
- Phase 4: Conversion of Shipboard SAM to PC with enhancements similar to those for REPOSAM		Development	May 1992	Application currently running on PRO350 and will be converted to IBM PC compatible unit.
- Phase 6: Further automation of residue and inventory tracking.		Analysis	To be determined	
- Phase 7: Implementation of bar code printing and reading for sample IDs.		Pending	To be determined	
Water Sample Temperature Probe (WSTP) - Phase 2	Ship	Pending	To be determined	Software enhancements for temperature probe developed under the Windows 3.0 environment on the PC.
Physical Props (strength, index props, discrete sample GRAPE, velocity)	Both	Development	May 1992	Development of a new Physical Properties Data Collection application program.
Paleontology Database Update Program	Both	Pending	To be determined	Loading of PC entered Paleontological data into S1032 data sets and post-processing. Further work on hold pending acquisition of an acceptable data entry program.
Utility Libraries	Both			
- Phase 2: Make CSG utility libraries available to users with appropriate documentation; supply other utilities as requested.		In Progress	To be determined	Documentation is being upgraded on a time-available basis.
<u>Integration of Logging & Corelog data aboard the Resolution</u>	Ship	In Progress	To be determined	This is currently being done on some legs by shipboard scientists with assistance from the shipboard system managers. It is expected that a full needs analysis and design effort will be forthcoming.
Evaluation of alternate data base management systems	Both	Pending	To be determined	
Develop and Improve User Interface to Computers	Both	On-Going		
Development & teaching of computer courses for ODP computer users	Both	On-Going		Provide computer short-courses to ODP personnel on Vax, IBM, and Apple computers.
User software support and maintenance of micros	Shore	On-Going		User support for software applications, application installation, and maintenance of microcomputer hardware and peripherals.
Network Monitoring and Support	Shore	On-Going		Monitoring and correction to problems encountered on ODP LAN. Enhancements as needed to enhance operation and efficiency.
Daily Support of Shore Computer Systems	Shore	On-Going		Day-to-day operations and support of shorebased computer systems and peripherals.

Appendix E

Curation and Repositories January 1991 - December 1991

I. Repository Sampling Statistics

A. Average yearly sample distribution from the repositories under DSDP vs. ODP

23,230/year under DSDP (1976-1984) versus 44,368/year taken under ODP (Jan 1985-December 1991; based on ODP total to date of 266,205. Average # samples taken per year under ODP is 48% greater than under DSDP (i.e. an average of 21,138 more samples are taken per year under ODP).

B. Total sample distribution (January 1991- December 1991) is 66,147. Breakdown of sample distribution by repository (East Coast Repository= ECR Gulf Coast Repository= GCR and West Coast Repository= WCR) is as follows:

ECR = 18,756 (all subsequent)
GCR = 35,633 (23,558 shorebased, 10,928 subsequent)
WCR = 11,758 (all subsequent)

C. Total number visiting scientists at each repository (includes sampling, describing and photographing cores)

ECR = 100
GCR = 73
WCR = 44

D. Average request approval turnaround by the Assistant Curator's office is: 1.4 weeks

E. Non-Visitor average sampling turnaround (based on date received at ODP until samples are sent):

ECR = 4 weeks
GCR = 2 weeks
WCR = 3 weeks

F. The GCR held its first high resolution post cruise sampling party during 20-26

October 1991. A total of 15,475 samples were taken by 20 visiting scientists and the repository staff.

II. Shipboard Sampling Statistics

Total sample distribution (January 1991 - December 1991) is 43,059. Breakdown of sample distribution by leg is as follows:

Leg 135 =	6,408
Leg 136 =	750
Leg 137 =	82
Leg 138 =	21,138
Leg 139 =	8,344
Leg 140 =	844
Leg 141 =	5,593

III. The Curation Project and the Recuration Program

A. The Core Curation Project, initiated by DSDP in 1983 and continued by ODP until 1986, involved photography and in some cases, rephotography of all archive halves of cores stored at the ECR and WCR for Legs 1-65. Cores in whole round were split and labeled (including many igneous/metamorphic, zero and miscellaneous sections). At the ECR, all archive halves were cleaned and occasionally reconstructed when time allowed. At the WCR, all archive halves were cleaned and reconstructed. Cores were intermittently rephotographed by ODP when necessary in order to complete this project. The end result of this work can be seen on the ODP video disc. A steady state was achieved in January 1989.

B. The Recuration Program was initiated by ODP in 1985 in an effort to combat the advanced state of deterioration of many cores due to expansion, desiccation, heavy sampling associated with lack of proper curatorial maintenance, and poor initial shipboard curation. If necessary, restoration of the core sections is performed by the permanent staff of each repository when a section is being sampled for a request, however, this process slows the sampling process tremendously. Sponges stored with the cores are always refreshed when a core is sampled. In order to keep sample output high and also maintain the cores, a full fledged Recuration Program is proposed (Appendix A). At present the Program exists in the summer months only, when student labor is readily available. The following is the work that has been accomplished to date.

WCR	ECR		GCR		WCR		
	mmw	done	mmw	done	mmw	done	
1. rewet sponges*		0	12	3	3	4.0	1
2. recurate cores**		110	4	65	1.5	53	1
3. inventory thin sections/smear slides***	.5	-	-	-	-	4	1
4. curate frozen OGs****	-	-	-	4	1	-	-
5. curate frozen dedicated cores****	-	-	-	1	-	-	-
.5	-	-	-	-	-	-	-

* suggested sponge rewetting schedule is every two years

** (ECR/GCR=archive & work, WCR work only)

*** Not applicable to GCR which continues to receive thin sections and smear slides while ship is in the Pacific/Indian Oceans.

**** Not applicable to the ECR which does not house frozen OGs or frozen dedicated cores. The WCR, which houses all DSDP OGs, is caught up.

IV. Geriatric Core Study (GER)

In January 1988 IHP and PCOM endorsed a request to collect cores of convenience to monitor the changes (if any) which occur in cores while they are stored in the DSDP/ODP repositories. As of this writing eight cores have been collected for use in the Geriatric Study. No additional cores intended for use in the Geriatric Study have been added to the collection since the last report to the IHP.

A. Collected Cores

2 GER cores from Leg 119 (Kerguelen Plat.) are stored at ECR

3 GER cores from Leg 124E (Luzon Straits) are stored at GCR

1 GER core from Leg 132 (Shatsky Rise) is stored at GCR

B. Status of Geriatric Core Sampling

Sampling of Leg 119 from the Kerguelen Plateau was done in February 1992.

V. Communication with the Scientific Community

All three repositories now have readily accessible fax machines. Scientists with requests for information or those having questions about sample requests are encouraged to communicate freely with the repositories and the Assistant Curator via fax or electronic mail. The possibility of implementing an electronic mail "forum" as suggested in the minutes from the March 1991 IHP Meeting, for the purpose of requesting samples is being explored by the Assistant Curator. The fax numbers and email addresses are:

Assistant Curator fax = 409-845-4857, email address = CHRIS@TAMODP.BITNET
ECR fax = 914-359-5262, email address = ECR@LAMONT.LDGO.COLUMBIA.EDU
WCR fax = 619-534-4555, email address = WCR@ODPWCR.UCSD.EDU
GCR fax = 409-845-4857, email address = GCR@TAMODP.BITNET

VI. Computer Status

A. Communications

1. File transfers- Routine file transfers are being made between the repositories and the Assistant Curator using FTP (file transfer program). In addition, the repositories have the added flexibility of transferring files with KERMIT via modem.
2. Computing environment, new computer installation and networks- Five program versions at the ECR and WCR were updated. The updates will speed file transfers and allow the use of error checking programs which have been, or will be installed on the remote systems. The utilities were activated first at the WCR with an on-site visit by a representative of the Computer Services Group, and then remotely at the ECR after WCR testing was completed.

B. Sample Investigations Database (SID)

1. Sample Requests (January-December 1991)

Requests processed = 552
Requests coded and entered = 3,333
Backlog of requests to code as of 31 December 1991 = 2,698

2. Data entry of the bibliographic reprints are at a steady state. All published ODP Scientific results and part A papers have been entered. All reprints from the outside journals that authors have sent ODP are entered.

Reprints entered = 2,525

C. DSDP Bibliographic Database (Curation assumed responsibility in May 1991)

As of 31 December 1991, the Initial Reports of the Deep Sea Drilling Project through volume 96 have been entered.

D. Sample Records Data

All ODP shipboard sample records are recorded in real-time and are available in a computerized database during the cruise. Recent improvements to the shipboard system includes the addition of the request number and request part providing a clear link to the sample request datasets. Several reports are made available to the scientists. DSDP sample records have been cleaned up and loaded into searchable datasets. They will be used to ease the task of residue inventory. The sample records datasets are used to determine the extent of sampling across specific intervals in a core. These records can be linked to SID which contains detailed information about the proposed studies, the investigator and the resulting papers.

DSDP Sample Records have reached a steady state.
Legs 100-141 shipboard sample records uploaded and on-line.
Legs 1-135 subsequent sample records are uploaded.

E. Thin Section Database (TSD)

The TSINFO (Thin Section Information) dataset and its user interface program were modified per specifications provided by ODP thin section technicians and repository staff. Changes should make it easier to inventory and track ODP thin sections.

Steady state achieved for ODP thin section data entry.
Upload DSDP (Legs 64-96) thin sections inventory (mmw = 6).

F. Repository Sampling Database (REPSAM) - the backlog of sample request data entry from all repositories has been entered using REPSAM.

Sampling in the repositories is quite different than sampling in the shipboard environment and as such, requires computer programs which address special data entry needs. With the completion of the beta version of REPSAM, scientists now receive sample inventories with calculated sub-bottom depths and when requested, electronic copies of sample data. The Computer Services Group installed the customized SAMUTL, the VAX based package of utilities that allows uploading, searching, editing and report writing, and installed it on the ECR and WCR microVAXes. The problem of electronically transferring "uploaded" sample data from the remote repository microVAXes to ODP/TAMU datasets has yet to be resolved.

G. Section Log Dataset

This dataset is designed to keep a record of the history of core sections which require curation or have experienced a noticeable change from the original state as recorded in barrel sheets or core photographs. In addition, it will contain information on critical or rare material in the cores. It is intended to supplement the core-specific information stored in the CORELOG database.

The SECTIONLOG dataset's user interface program has been rewritten. The beta version of the program has been tested and debugged. A user's guide is in preparation by the curatorial staff.

Testing and debugging = 1 month of curatorial staff effort
Data entry of backlog = 12 mmw

H. Other computer related enhancements

1. New sample/D-tube labels were produced. The new labels are slightly larger, contain no printed horizontal line (previously used to separate the core information from the sample interval and ID number), and are printed on a wider backing. These changes make it easier to align the labels using a printer's feed mechanism and permits the user to peel one label off the backing without having to advance the labels. These new labels were manufactured in smaller stacks to hopefully reduce the problem of labels sticking to each other as they are being fed into a printer.

VIII. Curation and Repository Improvements

A. West Coast Repository

1. The new lab construction is slowly taking place. The floor tiles and heat pump have been installed. The additional electrical and plumbing work remains to be done. The last order of new core racks has been received and will be installed as time permits. The new core racks will allow the WCR to gain some additional space for the storage of residues and other miscellaneous collections. Archive and work halves of each core are now stored in the same rack.
2. The trailer used for bulk stores has been moved to a temporary location until its final location can be prepared. The final location will be behind two locked gates and should be more secure than it has been in the past. It will be connected to power which will permit its emergency use as refrigerated storage.
3. The paper inventory of the core catcher and IW collections has been completed.

B. Gulf Coast Repository

1. (As of now) The TAMU Physical Plant completed a design specification for the expansion of the GCR's B118 core refrigerator. The specification was put out for bid - the construction contract was awarded to a local contractor (4D Mechanical). The contractor is currently procuring items necessary to complete the expansion. Actual construction is scheduled to begin in March, 1992 and must be completed by no later than 31 March 1992.
2. Five and ten year expansion plans for the GCR were completed. These plans included total square footage estimates based on expected future core recovery, potential floor plans, and a list of equipment requirements and costs.
3. A wall display depicting core flow from the JOIDES Resolution's drill floor to an ODP repository was completed and mounted on the east wall of the GCR's sampling area.

C. East Coast Repository

1. The recuration is continuing (both spot and systematic) on a full-time basis by a temporary worker. The present rate of recuration is: 170 sections/month
2. Planned summer projects utilizing student work force:

- a. rewet sponges (2 years since last rewet)
- b. inventory backlog of returned residues
- c. inventory Leg 75 physical properties sections/samples
- d. train student to do recuration (in addition to temporary worker)

3. Plans to expand the refrigerators to receive the Atlantic cores in March 1993 are underway.

D. New Sampling Tools

1. (As of now) A mold has been made to produce newly designed 5 cc/1 cm wide and 10 cc/2 cm wide plastic sample scoops. Initial design and production problems have been resolved; the mold and a special cooling fixture are now being used to produce scoops. These scoops will be useful for high-resolution sampling and for taking samples from intervals which were previously sampled using sample tubes. Because the scoops collect a significant amount of outer-core contamination, they will not be used to replace plastic sample tubes as the standard ODP sediment sampling tool.

2. U-channels used to take continuous samples over long intervals were produced by GCR staff for use by French paleomagnetists during the Leg 138 post-cruise meeting. Based on advice received from Dr. Bob Karlin (University of Nevada, Reno), clear acrylic square tubing was purchased. One side of the square tubing was then cut off and the resulting inner edges were sharpened to produce "u-channels".