ODP SCIENCE OPERATOR'S REPORT TO THE JOIDES SCIENTIFIC MEASUREMENTS PANEL

College Station, Texas

17-19 June, 2002

Review of Activities
January 2002 through June 2002

JOIDES Resolution anchored in the harbor of Valparaiso, Chile, prior to Leg 202.

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Executive Overview

All Science Operator-related recommendations from the December 2001 SCIMP meeting have resulted in action by ODP/TAMU. This includes the expansion of the hard disk capacity of the network server to facilitate the manipulation of large digital images, the integration of the Geotek resistivity system into the shipboard multisensor track for testing on Leg 204, and the availability of the susceptibility point sensor on the ship. In addition, a contract with Geotek, Ltd. focused on updating the original digital acquisition software and developing a new analytical software application for ODP usage. The new software includes bar code reading capability, automatic file name generation, a new file structure (XML) to store meta data, creation of TIFF files instead of BMP files, and creation of a RGB (Red, Green, Blue) text file which is uploaded into the Janus database.

As ODP approaches the last year of seagoing operations, a major emphasis for the Science Operator is on all those activities that support the scientific objectives of each leg. The last five months have been indicative of this commitment, both in terms of implementing legs, as well as planning for future legs that require enhanced engineering. It is very exciting for the program that many of the legs that have recently concluded, or that are scheduled, represent new research initiatives that require enhanced drilling and sampling technologies.

The three legs that have been implemented since the last SciMP meeting have all been very successful. Leg 201, a leg whose primary objective was to prepare a hole in basaltic basement for a geophysical installation, succeeded in setting the casing and preparing the hole, even though the ship experienced hostile sea conditions due to very large swells from North Pacific storms. Moreover, Leg 199/200 port call activities were concluded one day ahead of schedule providing time for an additional scientific objective. The additional time was used to sample the depositional record of the Nu'uanu Landslide, a catastrophic landslide originating from the flank of the island of Oaha approximately two million years ago. Leg 201 was a leg devoted to microbiological research and objectives. In order to support the objectives of the leg, a newly designed and built radioisotope van was installed during the Leg 200/201 port call. In addition, during Leg 201 engineering tests of the Pressure Core Sampler, APC Methane tool, and Davis-Villinger Temperature and Pressure Probe were conducted. Although these tools performed well and enhanced the scientific results of Leg 201, the primary objective was to rigorously test these tools in preparation for full deployment on Leg 204 (Gas Hydrates/Cascadia Margin). Leg 201 was a great success; the microbiological capabilities of the JR performed above specifications and the new tools all tested well. Leg 202 has just ended. The cruise has been very successful with a total recovery of more than 7,000 m. These cores have been collected along a north-south transect that extends from the roaring 40's to the equator with a goal to assess climate and oceanographic changes in the southeast Pacific over Neogene time.

Of the eight remaining legs of the ODP (Leg 203 – 210), six of those legs (Legs 203, 204, 205 206, 209, 210) require the utilization of technological enhancements, and/or demanding drilling installations requiring the necessity for extensive engineering. On Legs 203 (Equatorial Pacific Ion), 205 (Costa Rica), 206 (Fast Spreading Crust), 209 (Mid-Atlantic Ridge Peridotite) and 210 (Newfoundland Margin), long strings of casing will be required to stabilize the holes in order to achieve the scientific goals of these legs. In addition to these requirements, on Leg 205 CORKS

and a new fluid sampler will be deployed in several holes, and the Advanced Diamond Core Barrel and Hard Rock Reentry System may be required on Legs 206 and 209. Finally, Leg 204 (Gas Hydrates) is shaping up to be the most complex and technologically demanding leg that ODP has ever carried out. A wide selection of sampling and sensing tools will be deployed throughout the leg that have required advanced engineering support in preparation of the leg and will require the same kind of support during the leg. In particular, the Program's Pressure Core Sampler and a new percussion coring/pressure sampling system developed by the HYACE/HYACINTH consortium will be used extensively during the leg requiring the support of five engineers.

Introduction

In an effort to codify relevant information and to streamline the summary of the Science Operator's activities, as much information as possible is presented in tabular form. These data are presented by functional department.

Action on recommendations from December 2001 SciMP meeting

SCIMP Recommendation 01-2-01
SCIMP recommends that the Science Operator expand the hard-drive capacity of the Novell network used by shipboard scientists to access and manipulate digital imaging data so that whole-leg data are available and can be routinely accessed. The expanded disk capacity will not substitute for archiving.

DONE. *The capacity of the "scratch" disk space has been expanded to a total of 80 GB. This network drive is not being backed up and is available, for example, to manipulate large image files.*

SCIMP Recommendation 01-2-08
SCIMP recognizes the need for resistivity measurements on cores which are reliable, and preferably continuous and easy to make. SCIMP recommends TAMU facilitate a collaborative pilot study of the Geotek non-contact resistivity measurements system during Leg 204. We note Geotek has agreed to provide a sensor and technical specifications to TAMU prior to Leg 203 to enable integration with the MST to be completed prior to the start of Leg 204.

IN PROGRESS. *The resistivity sensor has been received at TAMU from Geotek and Bill Mills has written the software to integrate the resisitivity system into the shipboard multisensor track. Bill is currently testing and debugging the software for deployment on Leg 204.*

SCIMP Recommendation 01-2-11
SCIMP believes that the current policy regarding borrowing of thin sections is generally adequate and appropriate. Thin sections may be borrowed for a twelve month period, and this loan may be renewed. The borrower is obligated to return thin sections when the research is completed or when requested to do so by the relevant Program manager.
SCIMP recommends that the thin section policy be amended such that failure to keep a loan current or to return a requested section may result in a hold on subsequent sample requests until the sections are returned or the loan is reviewed.

SCICOM Consensus 02-01-04: SCICOM reaffirms the importance of all ODP samples as an integral part of the ODP legacy. Therefore, SCICOM requests that the Science Operator take all necessary steps to maintain the integrity of the entire ODP sample collection as the ODP phase-out approaches. This includes the thin section collection as noted in SCIMP recommendation 01-2-11.

IN PROGRESS. *Based on the SCIMP and SCICOM recommendations, the ODP curator continues to locate and recall checked-out thin sections. As a long-term project it is planned to reproduce thin sections, that cannot be retrieved, from the billets (if available).*

SCIMP Recommendation 01-2-12
SCIMP recommends that the susceptibility point measurement (for the AMST) be available on the ship, so that it can be used when needed, especially for paleoceanography legs.

DONE. *The point susceptibility meter is back on the ship and available for deployment when required.*

Science Services

Schedule of Science Operations for the *JOIDES Resolution*: January, 2002 – September, 2003

	Leg	Port (Origin)	Dates	Total Days (port†/sea)	Days at Sea (transit/on site)	TAMU Contact	LDEO Contact
201	Peru Biosphere	San Diego	28 January – 1 April '02	63 (5/58)	23/35	J. Miller	G. Guerin
202	SE Paleoceanography	Valparaiso	1 April – 1 June '02	61 (5/56)	20/36	P. Blum	U. Ninnemann
203	Eq. Pac. ION	Balboa	1 June – 8 July '02	37 (5/32)	16/16	T. Davies	A. Buysch
204	Gas Hydrates*	San Francisco	8 July– 6 September '02	60 (5/55)	7/48	F. Rack	D. Goldberg, S. Barr
205	Costa Rica	San Diego	6 September – 6 November '02	61 (5/56)	11/45	A. Klaus	K.T. Moe
206	Fast Spreading Crust	Balboa	6 November – 5 January '03	60 (5/55)	6/49	G. Acton	F. Einaudi
	Transit	Balboa	5 January – 13 January '03	8 (2/6)	6/0	N/A	N/A
207	Demerara Rise	Barbados	13 January – 8 March '03	54 (3/51)	13/38	M. Malone	B. Rea
208	Walvis Ridge	Rio de Janeiro	8 March – 9 May '03	62 (5/57)	18/39	P. Blum	P. Gaillot
209	MAR Peridotite	Rio de Janeiro	9 May – 10 July '03	62 (5/57)	17/40	J. Miller	G. Iturrino
210	Newfoundland Margin	Bermuda	10 July – 9 September '03	61 (5/56)	6/50	A. Klaus	H. Delius
	Transit	St. John's	9 September – 21 September '03	12 (1/11)	11/0	N/A	N/A
	Demobilization‡	Galveston	21 September – 30 September '03	9 (9/0)	0/0	N/A	N/A

Notes:
Start date reflects the first full day in port. This is the date of the ODP and ODL crossover meetings. The JR is expected to arrive late the preceeding day. Port call dates have been included in the dates which are listed.
† Although 5 day port calls are generally scheduled, the ship sails when ready.
* A mid-leg port call will occur for Leg 204.
‡ Demobilization assumes a seven day (+2 day port call) period tentatively scheduled for Galveston.

15 February 2002

Co-Chief Scientists and Cruise Staffing for Science Operations

Co-Chief Scientists for Legs 201-210:

	Leg	Co-Chief Scientists
201	Peru	S. D'Hondt University of Rhode Island B. Jorgensen Max Planck Institute for Marine Microbiology
202	SE Paleoceanography	A. Mix Oregon State University R. Tiedemann GEOMAR, Research Center for Marine Geosciences
203	Eq. Pac. Ion	J. Orcutt University of California, San Diego A. Schultz Cardiff University
204	Gas Hydrates	G. Bohrmann GEOMAR Forschungszentrum fur Marine Geowissenschften der Christian-Albrechts-Universitat zu A. Trehu Oregon State University
205	Costa Rica	J. Morris Washington University H. Villinger Universität Bremen
206	Fast Spreading Crust	D. Teagle University of Southampton D. Wilson University of California, Santa Barbara
207	Demerara Rise	J. Erbacher Bundesanstalt fur Geowissenschaften und Rohstoffe D.C. Mosher Geological Survey of Canada – Atlantic
208	Walvis Ridge	D. Kroon Vrije Universiteit J. Zachos University of California, Santa Cruz
209	MAR Peridotite	P. Kelemen Woods Hole Oceanographic Institution E. Kikawa Japan Marine Science & Technology Center (JAMSTEC)
210	Newfoundland Margin	J.-C. Sibuet IFREMER B. Tucholke Woods Hole Oceanographic Institution

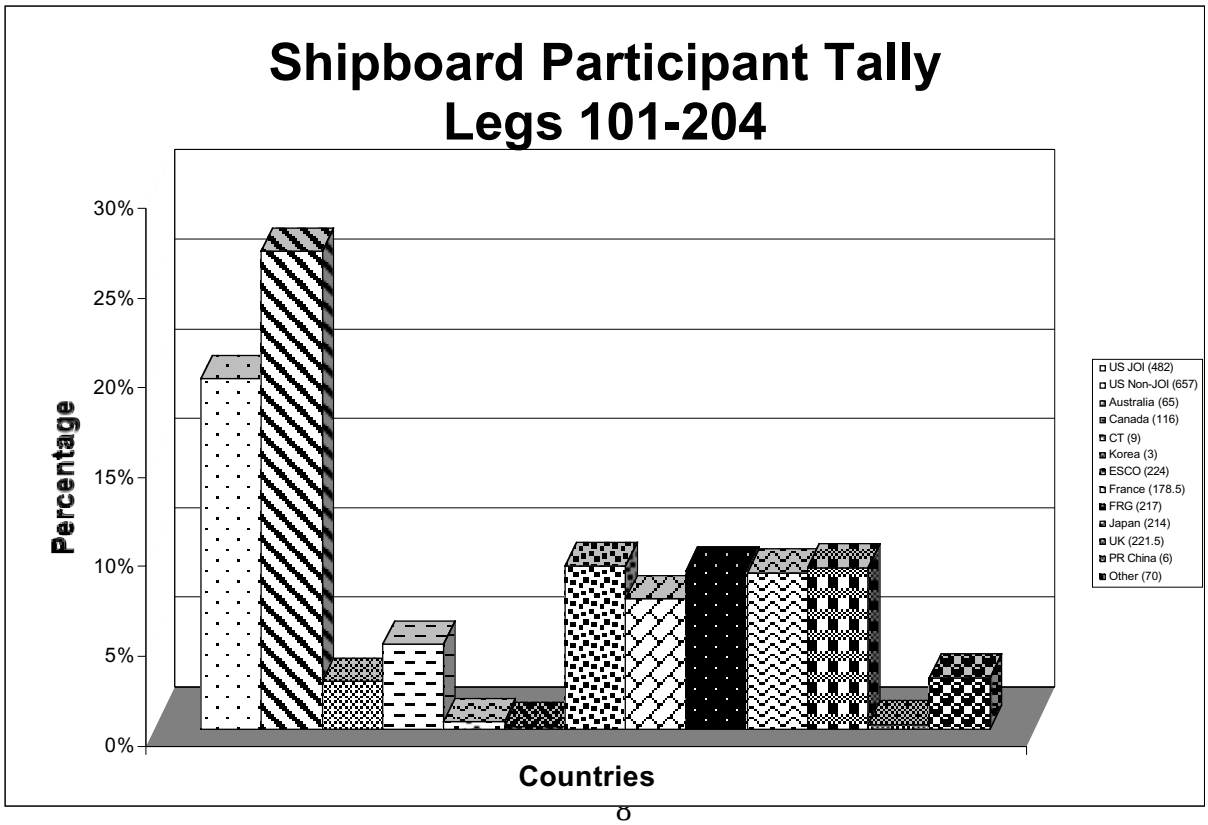
Scientific Party Staffing:
Staffing through Leg 205 is completed and staffing for Legs 206 - 207 is in progress.

Tabulated below are the numbers of applications on file as of April 30, 2002.

Legs	Total Applicants	U.S. Applicants	U.S. Students	Non-U.S. Applicants	Non-U.S. Students
203	21	8	3	8	2
204	69	19	12	26	12
205	43	10	10	15	8
206	16	4	1	7	4
207	51	11	4	25	11
208	32	7	3	15	7
209	17	3	1	10	3
210	21	5	1	12	3

Leg 205 is the last leg in ODP concerned with the installation of downhole instrument packages or CORKs, rather than coring. Legs 206-210 are focussed on more "traditional" ODP operations – making hole and recovering core. This, coupled with the fact that they are the last legs scheduled for ODP, has stimulated community interest in sailing on *JOIDES Resolution* and resulted in a steady flow of applications for these legs.

Shipboard Participant Tally:
Please reference the table below for a compilation of all sailing participants since Leg 101 through Leg 204.



Status of Lab Stack

Microbiology:
Leg 201 (February-April 2002), which focused on deep biosphere studies along the Peru margin, was the first leg dedicated entirely to microbiological objectives. The sites selected had all been occupied and cored previously by ODP (on Legs 112 and 138) so the basic litho- and biostratigraphy are already known. This enabled us to reduce the shipboard activities in those areas to a minimum and to focus on geochemical and microbiological studies. This departure from more usual ODP activities was reflected in the make up of the shipboard science party which included 15 geochemists and microbiologists, rather than the usual three or four representatives of these disciplines.

The use of radioisotopes on Leg 201 was a new development for ODP. A new van, built to UNOLS standards and specially equipment for radio isotope work was installed on *JOIDES Resolution* during the San Diego port call and was be used during Leg 201. It will also be used on Leg 204. The van will then be removed from the ship and stored for future use in IODP.

Acquisition and outfitting of the radio isotope van was the culmination of the project to add a microbiological capability to the *JOIDES Resolution* that began with a temporary facility mounted on top of the laboratory stack for Leg 185. We now have facilities for conducting quantitative contamination tests on the cores, for extensive microbiological sampling and for initial processing, including radio isotope inoculation and incubation, of those samples prior to shipment to shore labs around the world, as well as for making the associated chemical measurements. By all reports, Leg 201 was highly successful and utilized the full range of the new facility.

Status of Projects

Digital Imaging:
A GeoTek system capable of imaging four core sections at each pass was installed on *JOIDES Resolution* at the beginning of Leg 198 (end of August 2001). This was a joint project between Science Services and the Information Services departments. Now that the hardware is installed and operating, the next phase of the project involves primarily software development. The Information Services Department has taken the lead in this phase of the project and progress is reported in that part of this report.

Lab working group (LWG) reports and recommendations

Paleomagnetics LWG
All lab equipment is functioning. There are no major issues at this time. During Leg 200 the calibration of the long-core magnetometer was tested using new standards. The instrument was found to agree with the standards by better than 1%. Active projects include: (1) Several database issues and JANUS Netscape queries need to be addressed. This task needs to be

coordinated with the Janus group and is not a high priority. (2) Finalize the lab manual. A complete draft exists and is under review.

Proposed projects/tasks:
The Leg 202 paleomagnetists are writing a report that notes an association between flux jump occurrence and use of the saw or core scriber.

Action item: The ET should look into what can be done to better isolate the long-core magnetometer from radio frequency or electrical interference from other laboratory devices.

Action item: The Leg 202 paleomagnetists requested that an adjustable flux jump test be added to the software. This would halt the autosave mode and force the user to confirm whether he/she would prefer to remeasure the demagnetization step or move to the next step.

Physical Properties LWG
No report at this time since Peter Blum is on the ship for Leg 202. The NGR data upload and PWS-3 issues were addressed on Leg 200 and Peter will report on the results when he returns from Leg 202

Projects/tasks:
1) Software issues for P-wave velocity. The software has not kept up with the hardware fixes. This is being coordinated by David Fackler.

2) Moisture and density problem - a new method (Method D) has been developed that addresses a specific type of sediment. This needs to be implemented in the MAD program. Several other improvements to the data presentation in the MAD program should be implemented at the same time as Method D is incorporated.

Core Description LWG
The digital imaging system in use since Leg 198 continues to perform well. Conventional film photography continues, both as a back-up for the imaging system and for archiving and quality control. Recent concerns expressed by leg scientists and technicians include:
1) Space and noise problems related to the installation of the new digital imaging system in the core lab,
2) Space improvement for smear slide preparation,
3) Lighting for the core description table,
4) Better lighting for Digital Imaging System
5) The need for new Munsell color charts, and
6) Better microscopes needed for smear slide characterization

Applecore is static. As a description system, Applecore works. Incorporating digital images into Applecore likely will not be accomplished before the end of ODP, since the present version of Applecore is not designed for interactive use and annotation of core images.

A meeting of the Hard Rock Working Group was held in College Station May 9 and 10, 2002. During this meeting a new description method that would permit core description by annotating the digital images was considered. A separate report will be forthcoming.

Projects/Tasks:
1) Hard rock core description. See the forthcoming report from the Hard Rock Working Group.
2) Core-log integration. Phillipe Gaillot has developed software to allow integration of core and log data. This needs to be made more user-friendly. We are presently waiting for a specific proposal from Phillipe concerning wha needs to be done and what resources OD/TAMU would be expected to provide in order to make the software generally useful.
3) Replace the existing core splitter: The core splitter and table have been a problem for a long time because they need constant repairs. To replace the saw and table would cost $30-40,000.

Downhole LWG (see also "Review of Engineering Development Projects")

APC Temperature (APCT). Five APCT tools are on the ship, and 5 at ODP. Of the 5 at ODP, 1 is operational, and 4 need repairs. There is only 1 shoe on the ship that easily accepts the APCT electronics. The interference in the other shoes appears to occur at the battery pack.

Action:
1) Review tolerances on the battery pack
2) Have ship survey number of shoes with the problem and identify cause

WSTP. Three WSTP tools (1 temperature-only) are on the ship, and 2 data loggers and 1 electronics chassis are at ODP.

DVTP. (see also "Review of Engineering Development Projects") One DVTP is on the ship. The two new upgraded electronics were sent to RBR to install the pressure interface card and modify the thermistor circuit to match the DVTPP thermistor. The prototype DVTPP was redesigned to address corrosion and assembly issues, and additional hardware was purchased to assemble a complete tool. One redesigned DVTPP was deployed on Leg 201. Unfortunately, a problem with the prototype data logger prevented the temperature measurement from functioning properly. A second DVTP will be converted to a DVTPP for Leg 204. Both of the DVTPP's will have the new data loggers. Leg 204 will have 2 DVTPP's and 1 DVTP (with 1 spare electronics) operational.

Action: Evaluate the operation of the colleted delivery system

Labview Software interface for downhole tools. The communication software for current ODP downhole tools was written for DOS operating systems. These programs are being converted to LabView for Windows to create a commonality in support software for all downhole measurement tools. The communication and analysis software for the DVTP tool has been rewritten in LabView and is operational on the ship. Work on the APCT tool and WSTP has begun. The LabView driver for APCT and WSTP have been done, but work on the analysis module is stalled because the source code for the "TFIT" software is missing. Work has been suspended due to resources being diverted to Leg 204 preparation.

APC Methane Tool. (see also "Review of Engineering Development Projects") Additional software changes were implemented after the MBARI dive in October 2001 and the APC Methane tool was successfully tested on Leg 199. For Leg 201 a single electronics with a backup sensor cap was sent out. Three APC Methane tools will be deployed on Leg 204. In addition, 3 PCS tools will have a Methane tool mounted on top of the sample chamber so that temperature, pressure and conductivity of the pressurized core can be recorded.

Fisseler Water Sampler. (see "Review of Engineering Development Projects")

Pressure Core Sampler. (see also "Review of Engineering Development Projects") The changes made to the PCS for Leg 201 were 1) new cutting shoes, 2) extension of the cutting shoe ahead of the bit by 1/2 meter, 3) improved flow to the cutting shoe, 4) increased inner core barrel I.D., and 5) improved swivel support of inner core barrel.

Three new styles of cutting shoes were fabricated and tested at the Maurer Drilling Research Center in Houston in late November. One was similar to that used on Leg 164, one was a standard style PDC cutter, and one was a tapered auger with PDC cutters. The tests did not result in a definitive "winner", though the tapered auger performed the best. All three were deployed for Leg 201.

Two complete tools and a spare pressure barrel were sent to Leg 201. The PCS was deployed 17 times on Leg 201. Full closure was not achieved on only two runs, one due to chert blocking the ball valve and the other from failure to pressure up due to inadequate landing. Of the successful closures, 12 recovered at least 67% of hydrostatic pressure. Ten runs recovered the full 1-meter core and only two recovered no appreciable core. Where full closure occurred (15 runs), gas was collected, and methane was present in 11 of those samples.

PCS modifications for Leg 204 will include integrating the Methane tool into the sampling chamber to record temperature, pressure and conductivity of the core headspace. Three complete tools will be deployed for leg 204.

The gas sampling manifold design for Leg 204 will include meters with RS232 outputs to record the pressure of the sampling chamber while in the ice bath.
This data will be merged with the pressure and temperature data from the Methane tool measurement.

Rig Instrumentation System (RIS). The dynamic effect of active heave compensator (AHC) operation renders the hook load signal from the crown-mounted load cell unreliable. A weight-on-bit (WOB) filter is being developed that will electronically filter the dynamics of the top-drive and AHC.

A digital "Hook load" meter and "WOB" meter as well as a "Static Hook load" switch and an "On Bottom" switch were installed on the driller's console during Leg 201 port call. The electronic enclosures for the WOB filter system were also mounted on the back of the driller's cabin and on the top drive during the port call. All interconnecting cable runs and the wiring of

the meters and switches were done during Leg 201. The two electronic packages and software were installed during Leg 202 port call. Debugging and checkout was done during Leg 202. The system is functioning for Leg 203. Evaluation and fine-tuning of the filter will be done over the course of the next several legs.

Chemistry LWG

No items to flag for SciMP. The Labview software controller for the coulometer and balance has been converted from Mac to PC. The Basic program controlling pH and titration alkalinity has been replaced with a Labview program. The interstitial water analysis technical note is being revised.

Leg 201 was probably the most intense cruise yet in the chemistry lab. In addition, to special projects and non-ODP instrumentation, interstitial waters and headspace gas analyses were performed at unprecedented resolution, producing an ODP record of 644 water analyses and 684 gas analyses.

Underway LWG

Teledyne (Houston) has refurbished the troublesome port streamer array, active and stretch sections, but to date has not been able to replace the tow cable which had deteriorated. There was difficulty locating proper cable. Hamlin will be contacting for status update.

During Leg 202, the technical staff has been trouble shooting the starboard streamer winch which has experienced degraded records and problems since Leg 200. There was a problem either in the slip rings or the deck leader. A jumper cable work around keeps the streamer available if needed. New deck cable is being installed on Leg 202 that will eliminate several splices in the old cable.

A G/I gun has been purchased and is being delivered to the ship at the Leg 203 port call. The funds for the guns were provided by Frank Rack from a DOE grant for gas hydrate research targeting Leg 204. It was hoped that we could obtain the two gun array desired for VSP work, however, sufficient funds were not available to purchase the second gun and associated 2-gun array hardware. Air hose and trigger lines have been ordered to support the new equipment. The gun is a SSI 105/105 GI gun and ancillary equipment, which will be received and rigged on Leg 203. The equipment includes chamber reducers with for volumes of 45 and 75 in3. G/I gun training for those not on the ship will take place in early June in Houston. Another time will need to be found for those who are on the ship to obtain the same training.

During Leg 202, the starboard magnetometer sensor was noisy. It has been cleared of sea water, reheaded and filled with an Ashland Chemical equivalent of Shell Sol-71.

The 12 KHz transducer record has reached a point where it can be used only during a quiet sea conditions or shallow water. Occasionally it has been used in depth check mode to make it easier to follow range jumps on the 3.5 record.

The Sun OS versions are getting quite dated however, these are expected to provide the appropriate functionality through the end of the program.

Microscopes LWG
There were several comments in the 198 cruise evaluation report about the lack of appropriate magnification capabilities for the stereoscopes to look at the small-sized Cretaceous forams. They needed 100K magnification to examine these microfossils. Legs 207 and 208 will be looking at the same age sediments, and they will most likely have the same problem.

Action item: We should purchase 16X oculars for the SV-11 binocular scopes on the ship, including an additional one to fit into the camera tube attachment on these scopes. This should be done before Leg 207.

Leg 201 scientists could not use their new biology scope for AODC analysis, because it lacked the proper filter set. (Note: specs were written by the Lexen group, not ODP/TAMU). They had to use the older Axiophot instead, but it's stage is not appropriate for microbiology work.

Action item: Purchase the new filter set for the new scope, plus we need to buy rubber eye-cups for both the Axiophot and the microbiology scope, for Leg 204.

The next scope cleaning is best timed for San Francisco portcall (Leg 204) because Emil lives nearby and cost will be cheaper. This cleaning may be the last one for ODP, but we should re evaluate the scopes before Leg 209 to see if they need cleaning for that leg (high petrology use).

Microbiology LWG
Automated tracer delivery for contamination testing was successfully implemented on Leg 201. The injection pump is in the mud room and turned on and off remotely from the driller's console. The injection rate is controlled automatically by a computer which monitors the mud pump rate.

A van, built to UNOLS standards and designed for radio isotope work was delivered to TAMU in mid January 2002. Additional equipment (scintillation counter, incubators) was installed before shipping the van to San Diego, CA. It was installed on *JOIDES Resolution* during the San Diego port call at the beginning of Leg 201. Outfitting and installation of the radio isotope van was the last stage in the development of a microbiological capability on *JOIDES Resolution.*

Leg 201 (Feb.-March, 2002), focussed on deep biosphere studies along the Peru margin, was the first leg dedicated entirely to microbiological objectives. The sites selected have all been occupied and cored previously by ODP (on Legs 112 and 138) so the basic litho- and biostratigraphy are already known. This enabled us to reduce the shipboard activities in those areas to a minimum and to focus on geochemical and microbiological studies. Reports are that Leg 201 was highly successful in achieving its objectives, and that the microbiological facilities installed on the ship over the past 24 months met the needs of the Leg 201 science program and function very effectively.

Drilling Services

Summary of Leg Operations: Legs 199, 200, 201

	Leg 199 Paleogene Pacific 24 October — 17 December '01 Honolulu - Honolulu	Leg 200 H2O Observatory 17 December – 28 January '02 Honolulu – San Diego	Leg 201 Peru Biosphere 28 January – 1 April '02 San Diego - Valparaiso
Transit/Onsite (day)	14.4/34.6	9.3/28.4	22.6/33.2
Sites	8	2	7
Holes	21	8	33
Water Depth (m)	4837-5406	4255-4978	162-5099
Deepest Penetr. (m)	277	175	422
Cored Interval (m)	2465	289	3179
Tot. Recov. (m,%)	2197 (89.1%)	100 (34.7%)	2837 (89.2%)
APC Recov. (m,%)	1881 (101.4%)	18 (90.3%)	2638 (91.3%)
XCB Recov. (m,%)	316 (51.8%)	14 (23.3%)	191 (51.5%)
RCB Recov. (m,%)	0	69 (32.7%)	0
MDCB Recov m,%)	0	0.2 (110%)	0
PCS Recov (m,%)	0	0	15 (51.5%)
Fugro PC Rec (m,%)	0	0	4 (50.9%)

Review of Operations

Leg 199 (Paleogene Pacific):

- The objective was to core to basement at each of eight high-priority sites.
- Eight sites (21 holes) were cored in water depths from 277-2465 m.
- Despite Eocene chert, which diminished core quality and quantity, 2197 m of core were recovered (89.1%).
- Chert destroyed two 11-7/16 in APC/XCB roller-cone bits and 34 hard-formation XCB cutting shoes.
- Two holes were logged with three tool runs to the bottom of the hole.

Leg 200 (H2O Observatory):

- Primary objective: establish an Ocean Seismic Network (OSN) ION cased hole to emplace a broadband seismometer.
- Secondary objective (if time permitted): determine the depositional history of the Nu uanu Landslide, a catastrophic landslide from Lo olau Volcano on the island of Oahu ~2 Ma.
- Established Site 1224D as OSN/ION reentry hole cased with 20 in to 25.5 mbsf and 10-3/4 in casing to 58.5 mbsf (30 m into basement). Total depth is 64.70 mbsf.

- Cored Hole 1224F, following the deployment of a free fall funnel, to 174.5 mbsf in flows and altered basalt (16.9% recovery).
- Cored Nu uanu Landslide to 41 mbsf through multiple slides and pyroclastic episodes.
- Intense storms in the North Pacific led to consistent heave of >4 m, resulting in 6.1 days waiting-on-weather.

Leg 201 (Peru Biosphere):

- The objective was to explore the distribution, activities, community structure, phylogenetic affinities, and global biogeochemical consequences for microbial communities buried in deep-sea sediments.
- Core handling procedures were changed to expedite core delivery to the science party, and science objectives were achieved at all seven sites.
- The ODP Pressure Core Sampler (PCS) was run 17 times, and 14 runs (82.3%) obtained a pressurized core. Only one of the three failures was due to a tool design problem, which has been corrected for future deployments.
- The HYACE Fugro Pressure Corer (FPC) was field tested seven times in preparation for deployment on Leg 204. Six runs obtained some core recovery, but none of the runs retained a pressurized core back to surface. Based on lessons learned, the tool is being modified by the HYACE team and it will be ready for deployment on Leg 204.
- Undisturbed APC cores were obtained to a significantly greater depth than normal by heavy use of the APC drill-over technique. The APC core barrel was drilled-over 69 times (21.4% of APC runs).
- The risk to the coring equipment was minimized by utilizing the Active Heave Compensator; nevertheless, 10 sections of APC core barrel, 4 core barrel shoe subs, and 11 APC cutting shoes were lost.
- The DVTP tool was run 26 times and successfully recorded temperature data 21 times (80.8%).
- The DVTP-P was run 12 times and successfully recorded pressure data 9 times (75.0%).
- The APC-Methane tool was run on at least one hole at each site, and measured the change in pressure when free methane starts to out gas from the core.

Review of Engineering Development Projects

The ODP/TAMU developmental engineering projects are divided into two categories: surface equipment and downhole instruments. The first category includes Active Heave Compensation (AHC) and the Rig Instrumentation System (RIS), two pieces of equipment that were installed in the fall of 1999. These systems are functioning and continue to undergo refinements as they are incorporated into the daily drilling operations of the *JOIDES Resolution*. The second category consists of downhole tool development projects that are currently underway and include: Davis-Villinger Temperature and Pressure Probe (DVTPP), Memory Drilling Sensor Sub (DSS), APC Methane Tool (APCM), Fisseler Water Sampler (FWS), and the Pressure Core Sampler (PCS).

Active Heave Compensator (AHC) Operational Review

Weight-on-Bit Filter:
Because the AHC imparts significant dynamic forces to the derrick-mounted load cells, there are large variations in the weight-on-bit (WOB) indicator used by the driller. These large variations make it more difficult for the driller to effectively control the WOB because of excessive needle bounce. The WOB filter system consists of an electronics package with accelerometers on the top drive, a data processing electronics package with accelerometers and pressure transducers on the rig floor, and digital WOB and Drill String Weight meters in the driller's console. The installation was started during Leg 201 and completed at the Leg 202 port call. Debugging and initial data evaluation was performed during Leg 202. The operational trials will take place during Leg 203.

AHC Hydraulic Bundle Update:
Crew suggestions regarding strategic placement of valves at the ends of the AHC hydraulic hoses to contain spillage and facilitate inspection or replacement of the AHC hydraulic system were implemented during the Leg 201 port call. This included replacement hoses with blind closures and bleeder valves, and two high-pressure ball valves to facilitate drainage of the AHC Filter System during filter changes.

Moreover, the hose bundle covers are exhibiting signs of wear and new specifications have been prepared for lace-on, vinyl impregnated, nylon covers that provide great wear resistance and spill containment. These old bundle covers will be replaced with covers made from improved material and this activity will be phased in during the next several port calls.

Tracer Pump Automation:
The microbiology goals of Leg 201 required that tracer material be continually pumped downhole at a fixed concentration based on the mud pump flow rate. To prevent two technicians from continuously monitoring and adjusting the tracer pump flow rate, the operation was automated by putting the tracer pump under control of the Rig Instrumentation System computer. The automatic system was installed during the Leg 199 port call and tested during the course of Leg 199. The system worked flawlessly during Leg 201.

Downhole Measurement Technology

Davis-Villinger Temperature and Pressure Probe (DVTPP):
The purpose of this project is to incorporate pore pressure measurements into the DVTP. The prototype DVTP with pressure (DVTPP) was developed by Pacific Geosciences Center in Canada and first deployed on Leg 190. Though the deployment confirmed the viability of the measurement, significant improvements were required to bring the tool up to operational status. The tool underwent a redesign to address corrosion and assembly issues.

A redesigned DVTPP, using the prototype electronics, was deployed 12 times on Leg 201. The first three runs experienced problems with filter plugging and spikes in the pressure reading. A new filter scheme was developed to resolve the plugging, and the elimination of an intermittent internal leak in the pressure transducer line took care of the pressure spikes. The temperature

measurement never functioned properly because of a corrupted setup file in the prototype data logger. The prototype electronics will be replaced with new, upgraded electronics for Leg 204. Overall, the pressure measurement functioned as designed and recorded valid lithostatic pore pressure on five runs, and recorded hydrostatic pressure on four runs. The four runs that only recorded hydrostatic pressure occurred because of inadequate probe insertion in the sediments (lack of an effective seal). A second standard DVTP will be converted to a DVTPP, providing two operational tools for Leg 204.

APC Methane Tool (Temperature, Pressure, Conductivity):
The APC Methane (APCM) tool monitors the effects of gas exsolution in cores from the time the core is cut until it reaches the deck by recording temperature, pressure, and conductivity in the core headspace with sensors mounted in the APC piston. The APCM tool is a joint development between ODP-TAMU and MBARI.

The tool was deployed eight times on Leg 201 to establish baseline data for deployment on Leg 204. In general, the tool was inserted in the coring string when the first APC Temperature tool was deployed (around Core 5) and remained in the string until APC coring was suspended. The average tool run collected 12 hr (8 to 10 cores) of 1-s data. Excellent data were obtained on the first three runs, which clearly indicated variations in gas concentrations among individual cores. The data degraded significantly on the fourth run when the tool experienced excessive shock and vibration. The data quality for the remaining runs was poor because of noisy signals. The electronics will undergo additional hardening for Leg 204.

Pressure Core Sampler (PCS):
The PCS is a free-fall deployed, hydraulically actuated, wireline retrievable pressure coring tool for retrieving core samples maintained at bottom-hole pressures. Modifications of the tool design were made to improve drilling capabilities and extend performance, primarily in the rotary coring mode. The design work focused on the cutter design and modifications to improve core recovery. The major changes aimed at improving core recovery included extending the cutter .5 meter ahead of the bit, increasing flow to the cutter and enlarging the inner diameter of the core barrel. Testing of the PCS cutters and modifications was conducted at the Maurer Drilling Research Center in Houston prior to deployment on Leg 201.

Two complete tools and a spare pressure barrel were sent to Leg 201. The tool was deployed 17 times, 10 times at a gas hydrate site. Full closure was not achieved on two runs (no pressure). One run did not achieve pressure because of chert blocking the ball valve and the other run was because of failure to pressure up the actuation mechanism. Of the 15 successful closures, 12 recovered at least 67% of hydrostatic pressure, and seven of those recovered greater than 98%. Ten runs recovered the full 1-m core and only two recovered no appreciable core. Where full closure occurred (15 runs), gas was collected and methane was present in 11 of those samples. Calculated hydrostatic pressures at the bottom of the holes ranged from 600 to 8000 psi, depending on the depth.

A significant upgrade for Leg 204 will be to incorporate the APCM tool package into the PCS. This will provide for continuous recording of pressure, temperature, and conductivity at the top of the pressure core barrel.

Jerry Dickens at Rice University was instrumental in the gas sampling manifold design for Leg 201. The system consisted of an ice bath for the pressure core barrel, instruments to continuously monitor the PCS internal pressure, and a manifold assembly to safely transfer the PCS gases to a gas bubbling chamber where the gas volume was measured and samples taken for analysis. The manifold system handled two PCS core barrels at a time and the system performed well throughout Leg 201.

Memory Drilling Sensor Sub (DSS):
The DSS will provide data from sensors packaged in its collar wall. These sensors measure weight on bit, torque on bit, annulus pressure, pipe pressure, and annulus temperature. The DSS will be an 8-1/4 in OD memory sub with a 4-1/8 in through-bore to allow for core retrieval. It will be positioned in the Bottom Hole Assembly (BHA) on top of the Outer Core Barrel. Phase I, the preliminary design, was completed in February. Phase I included a detailed design layout, load and stress analysis, material specifications, expected sensor accuracy, and testing and calibration requirements.

A subcontract was issued to APS Technology for Phase II work on December 12, 2001. The first two stages (Mechanical Design and Electronics Design) were completed, reviewed by ODP, and accepted. The last two stages (Manufacturing of Test Article and Preliminary Testing and Sub Manufacture System Integration and Testing) are on hold pending additional funding found through programmatic savings.

Fisseler Water Sampler:
Joris Gieskes at Scripps modified the Fisseler Water Sampler as part of a collaborative project. The upgrade is intended to improve upon the Water Sampler Temperature Probe (WSTP) by controlling the pressure differential and rate of sample intake. The upgraded tool was delivered to ODP in March of 2002. New electronics and software will now have to be developed to adapt to the changes made at Scripps.

Labview Software Interface for Downhole Tools:
The communication software for current ODP downhole tools was written for DOS operating systems. These programs are being converted to Labview for Windows to create a commonality in support software for all downhole measurement tools. The communication and analysis software for the DVTP tool has been rewritten in Labview and is operational on the ship. Work on the APCT tool and WSTP have commenced. The communication software will be integrated into the base Labview program so that it will have the same software front-end as the DVTP. Project completion is expected by the end of calendar 2002.

Information Services

Digital Imaging System (DIS)

The Geotek imaging system was successfully deployed during Legs 198 – 201. A second contract with Geotek, Ltd. focused on updating the original digital acquisition software and developing a new analytical software application for ODP usage. The software was successfully installed and tested during the Leg 202 port call. Updates to the existing acquisition software included bar code reading capability, automatic file name generation, a new file structure (XML) to store meta data, creation of TIFF files instead of BMP files, and creation of a RGB (Red, Green, Blue) text file which is uploaded into the Janus database. During port call, all updates were tested and appropriate lab technicians were trained.

The upgrade project has been a success with the addition of these new analytical capabilities. Final adjustments to the application will take place after its thorough use on Leg 202. Any further enhancements to the product must be accomplished through a negotiated contract with Geotek since the software is proprietary software.

Status of Migration of Historical ODP Data into the Janus Database

Significant progress has been made on our data migration projects (migrating old ODP data: legs 101 - 170 to the Janus database) as seen in the following narrative and tables. It is expected that most of the data that needs to be migrated will be migrated by the end of FY04. The level of progress is impressive when one considers that the work to date has taken place with only one dedicated FTE augmented by TAMU graduate students. To recap our progress, ODP data gathered prior to Leg 171 have been migrated following a prioritization established in September of 1998. All MST (GRAPE, P-Wave, Magnetic Susceptibility, and NGR) data and all color reflectance data have been migrated. Physical Properties data are nearly complete (Thermcon-100%, MAD-98%, PWS-89%, and Shear Strength-86%). These data should be completely migrated by June 2002. Migrating chemistry data is underway. Nearly all (96%) of XRF data and over 50% of carbonate have been migrated. Remaining chemistry data (Interstitial Water, and Gases) have not yet been migrated. Our target completion date for these data is February 2003.

Migration of Paleontology data effectively began in January of this year. A complete work plan has been created for this project. Four groups of data will be migrated during the project duration: Paleo Investigations - Taxa, Datum List (Numerical Ages), Age profile (Geologic Ages, Zones), and Numeric Age-Depth Models. At present, one FTE is assigned to this project. It is estimated that the number of person-months to complete this job is between 75 and 83 months. With only one FTE dedicated to this project, not all Paleontology data will be migrated by the end of FY04. To complete this project by the end of FY04, it will take about 2.3 FTE. However, it is not just a matter of funding the additional FTE's, but one of finding available candidates with appropriate training (MA or PhD level education) and experience to do the job.

The migration of Paleomagnetic data has not been started, but we intend to assign one person (less than 1 FTE) to work on the project, starting in early summer. We anticipate that these data will be migrated by the end of FY04.

Any other remaining data collected during ODP have not been identified as candidates for migration to the Janus database, for one of two reasons: they are not digitally available or they may be in formats no longer supported by ODP. Therefore, at this time, there are no plans to migrate the visual core data or DSDP data to the Janus database.

The recent migration efforts undertaken by ODP have been very successful, given the resources available to perform the work. The prioritization plan established in 1998 is in place and we are on target to have all significant digital data migrated into Janus by the end of FY04. The only issue remaining is one regarding the level of effort that should be applied to the migration of paleontology data and this is under discussion and a mechanism will be found to migrate all the ODP paleontology data into Janus in a timely fashion.

ODP Data Migration Projects - Overview

Project	Data Type	Status % Complete	Target/Completion Date
A	MST — GRAPE, P-Wave, Magnetic susceptibility, Natural gamma, and Color Reflectance	100%	August 2001
B	Physical Properties - Thermal conductivity, Moisture & Density, PWS, Shear strength	94%	June 2002
C	Chemistry - Carbonates, Interstitial water, Gases, XRF, XRD	75%	September 2003
D	Paleontology	6%	
E	Miscellaneous - Paleomag, Downhole temperature, Splicer, Mcd	6%	September 2004

Notes: (1) No core description data will be migrated.
(2) No DSDP data will be migrated.
(3) No contributory (post-cruise) data will be migrated.

MST and Color Reflectance Data Migration

Start Date: September 1998
Completed
Completion Date: August 2001

170	169	168	167	166	165	164	163	162	161	160	159	158	157	156	155	154	153	152	151	150	149	148	147	146	145
x	x	x	x	X	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	o	x	x	x
x	x	x	x	X	x	x	o	x	x	x	x	x	x	x	x	x	o	x	x	x	x	o	x	x	x
x	x	x	x	X	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	o	x	x	x
x	x	x	x	X	x	x	x	x	x	x	x	x	x	x	x	x	o	x	x	x	1				
x	x	x	o	X	x	x	o	o	x	x	x	o	x	x	o	x	2								

144	143	142	141	140	139	138	137	136	135	134	133	132	131	130	129	128	127	126	125	124	123	122	121	120	119
x	x	o	x	O	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
x	x	o	x	O	x	x	o	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
x	x	o	x	O	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101
o	x	x	x	X	x	x	x	x	o	x	x	o	x	x	x	o	x
o	x	x	x	X	x	x	o	x	o	x	o	o	o	o	o	o	o
x	x	x	x	X	o	o	x	x	o	o	x	x	x	x	o	o	o
																	2

Legend:

- x Migration to Janus database completed
- o Data not acquired by ODP
- 1 NGR acquisition started Leg 150
- 2 Reflectance acquisition started Leg 154
  Magsus Leg 104-130 in S1032

Completed = 210 = 100 %

Remaining = 0

Oct. 3, 2001

Physical Properties Data Migration

Start Date: December 1999

Current: April 2002

Target Completion Date: June 2002

Leg / Data	170	169	168	167	166	165	164	163	162	161	160	159	158	157	156	155	154	153	152	151	150	149	148	147	146	145
Thermcon	x	X	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
MAD	x	X	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
PWS			x	x	x		x		x	x	x	x	x	x	x	x	x	x		x	x		o	x	x	x
Shear Strength		O	x	o	x		x	o	x	o	x	x	o		x	x	x	o	x		o		o	o	x	

Leg / Data	144	143	142	141	140	139	138	137	136	135	134	133	132	131	130	129	128	127	126	125	124	123	122	121	120	119
Thermcon	x	X	o	x	x	o	x	o	x	x	x	o	o	x	x	x	x	x	x	x	x	x	x	x	x	x
MAD	x		o	x	o	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
PWS	x		o	x	o	x	x	x	x	x	x	x	x	x	o	x	x	x	x	x	x	x	x	x	x	x
Shear Strength	x	O	o	o	o	o	x		x	x	x	x	x	x	o	x	x	o	x	x	x	x	x	x	x	x

Leg / Data	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101
Thermcon	x	X	x	x	x	x	x	x	x	x	x	x	o	x	x	x	o	x
MAD	x	X	x	x	x	x	x	x	x	x	x	x	x	x	x	x	o	x
PWS	x	X	x	x	x	x	x	x	x	x	x	x	x	x	x	x	o	x
Shear Strength	o	X	x	x	x	x	x	x	x	o	x	x	o	x	x	x	o	x

Legend:

- x Migration to Janus database completed
- o Data not acquired by ODP, or bad files or no data found

Completed = 230 = 94 %

Remaining = 15

Chemistry Data Migration

Start Date: April 2001
Current: April 2002
Target Completion Date: September 2003

Leg / Data	170	169	168	167	166	165	164	163	162	161	160	159	158	157	156	155	154	153	152	151	150	149	148	147	146	145
Carbonates	x	x	x	x	x	x	x	o	x	x	x	x	x	x	x	x	x	o	x	x	x	x	x	x	x	x
Interstitial Water	x	x	x	x	x	x	x	o	x	x	x	x	x	x	x	x	x	o	x	x	x	x	o	o	x	x
Gases	x	x	x	x	x	x	x	o	x	x			o					o					o	o		
XRF	o	x	x	o	x	x	o	x	o	x	o	o	x	x	o	x	o	x	x	x	x	x	x	x	o	x
XRD													o										o		o	o

Leg / Data	144	143	142	141	140	139	138	137	136	135	134	133	132	131	130	129	128	127	126	125	124	123	122	121	120	119
Carbonates	x	x	o	x	o	x	x	o	o	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Interstitial Water	x	x	o	x	o	x	x	o	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Gases	o		o		o	o		o								x	x	x	x	x	x	x	x	x	x	
XRF	x	x	x	x	x	x	x	x	x	x	x	o	o	o	x	o	x	x	x	x	x	x	o	x	x	x
XRD		o	o	o	o		1																			

Leg / Data	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101
Carbonates	x	x	x	x	x	x	x	x	x	o	x	x	o	x	x	x	o	x
Interstitial Water	o	x	x	x	x	x	x	x	x	o	x	x	o	x	x	x	o	x
Gases	o							o		o			o			o	o	
XRF	x		x	x	x	x	o	x	o	x	o	o	x	o	o	o	o	o
XRD																		1

Legend:

x Migration to Janus database completed.

o Data not acquired by ODP or bad files.

1 Data in unreadable pro-350 format.

Completed = 185 = 75 %

Remaining = 61

Paleontology Data Migration

Start Date: December 2001
Current: April 2002
Target Completion Date: **

Leg / Data	170	169	168	167	166	165	164	163	162	161	160	159	158	157	156	155	154	153	152	151	150	149	148	147	146	145
Sample investigation	x	x	o		o		o	o	o	o	o	o	o	x							x		o	o		
Range charts	x	x	o		o	o	o	o	o	o	o	o	o	x							x		o	o		
Datum depths	x	o					o	o					o										o	o		
Age model		o					o	o					o							x	x		o	o		

Leg / Data	144	143	142	141	140	139	138	137	136	135	134	133	132	131	130	129	128	127	126	125	124	123	122	121	120	119
Sample investigation			o		o			o																		
Range charts			o		o			o															x			
Datum depths			o		o			o																		
Age model			o		o			o																		

Leg / Data	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101
Sample investigation										o			o	x			o	
Range charts	o									o			o	x			o	o
Datum depths	o									o			o				o	
Age model										o			o	x			o	

Legend: x Migration to Janus database completed
o Data not acquired by ODP, or bad files or no data found

Completed = 15 = 6 %
Remaining = 224

** About 10 legs of Paleontology data will get migrated per year with current staffing

Miscellaneous Data Migration

Start Date: March 2001
Current: April 2002
Target Completion Date: September 2004

Leg / Data	170	169	168	167	166	165	164	163	162	161	160	159	158	157	156	155	154	153	152	151	150	149	148	147	146	145
Paleomag																										
Downhole temp	x	X	x	x	x		x		x	x	x			x												
Splicer				x																						
mcd				x					x	x	x						x									

Leg / Data	144	143	142	141	140	139	138	137	136	135	134	133	132	131	130	129	128	127	126	125	124	123	122	121	120	119
Paleomag			o		o																					
Downhole temp																										
Splicer																										
mcd																										

Leg / Data	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101
Paleomag																	o	
Downhole temp																		
Splicer																		
mcd		X																

Legend: x Migration to Janus database completed
o Data not acquired by ODP, or bad files or no data found

Completed = 17 = 6 %
Remaining = 260

ODP Data Archive at NGDC

The National Geophysical Data Center (NGDC) is the designated organization responsible for the archiving of the ODP digital data. After several meetings JOI, ODP/TAMU and NGDC have defined a model for how the ODP digital data will be archived. The model calls for extracting data from the Janus database using the pre-defined Janus web queries and saving the data as ASCII text files. Along with the ASCII text data files, ODP will produce a data flowchart for each data type, meta data files, and calibration files. These files will provide a guide or "roadmap" to aid in the effective us of the ASCII text files.

Mirror Sites

Web Mirror Sites. Web mirror sites that contain all the e-publication products of ODP continue to operate successfully in Australia, the Federal Republic of Germany, and the United Kingdom. However, the United Kingdom mirror site has filled the available assigned disk drive and at a minimum requires more disk capacity. None of these sites mirror the Janus database. The sites are updated at the end of each week and are listed below.

Australian mirror site: http://www.agso.gov.au/odp (Australian Geological Survey Organisation)

Federal Republic of Germany mirror site: http://odp.pangaea.de/ (Institute for Marine Environmental Sciences [MARUM] and Alfred Wegener Institute for Polar and Marine Research [AWI])

United Kingdom's mirror site: http://owen.nhm.ac.uk/odp/ (The Natural History Museum, London)

Publication Services

Volume Production

The *Proceedings of the Ocean Drilling Program* volumes are produced electronically and distributed in three formats. A printed booklet (containing the table of contents to the entire volume and a summary chapter) is accompanied by a CD-ROM that contains all volume chapters and core description information (*Initial Reports* only) in PDF format and selected tabular material in ASCII format. The volumes are also published on the ODP/TAMU Web site. Chapter material is presented in both HTML and PDF formats, core description information (*Initial Reports* only) in PDF format, and selected tabular material in ASCII format.

The *Initial Reports* volume booklet/CD-ROM package and the Web publication formats are distributed approximately one year postcruise. For the *Scientific Results* volumes,

papers are published individually on the Web in order of acceptance. The booklet/CD-ROM package is produced and distributed after completion of the leg synthesis paper, which is produced by the Co-chiefs, and is scheduled to be distributed four-years postcruise.

Initial Reports

From November 2001 through April 2002:

The following booklet/CD-ROM sets were distributed: 192 (November 2001); 193 (January 2002); 194 (March 2002).

The following volumes were made available online: 192 (November 2001); 193 (February 2002); 194 (March 2002); 196 (April 2002).

From May 2002 through October 2002:

The following booklet/CD-ROM sets are expected to be distributed: 195 (July 2002); 196 (May 2002); 197 (August 2002); 198 (October 2002).

These volumes are also expected to be available online in HTML and PDF format during the same time period.

Scientific Results

From November 2001 through April 2002:

Publication of online volumes began for volumes: 179 (March 2002); 181 (January 2002); 182 (January 2002).

The following booklet/CD-ROM set was distributed: 175 (March 2002).

From May 2002 through October 2002:

Publication of chapters online is expected to begin for volumes: 183, 184, 185, and 186. Chapters from other volumes will be published when manuscripts have been accepted and processed for publication.

The following booklet/CD-ROM set is expected to be distributed: 180 (August).

Publication of the booklet/CD-ROM sets for *Scientific Results* volumes 171A, 176, 177, 178, 179, and 181 are delayed because the leg synthesis papers were not received by submission deadlines.

ODP/TAMU Web Site

Overall Site User Statistics:

The number of site visitors (defined as single computers accessing the site that did not originate from ODP/TAMU) and the number of pages (or files) accessed at the ODP/TAMU Web site increased by 40% and 68%, respectively, between the 12-month periods ending in April 2001 and April 2002. In the 12-month period ending in April 2002, there were 691,541 visitor sessions, or 57,628 visitors per month (see Table 1; all tables appear at the end of this section). Statistics for the German mirror site are listed in Table 2. At this time there are still no user data available from the mirror sites in Australia and the United Kingdom.

ODP *Proceedings* Online Publication Statistics:

As of 30 April 2002, 35 *Initial Reports* volumes and 32 *Scientific Results* volumes were published in HTML and PDF formats on the ODP/TAMU Web site. Tables 3 and 4 show

user statistics for the period of January 2001 through April 2002 for the *Initial Reports* and *Scientific Results*, respectively. Figure 1 (all figures appear at the end of this section) shows the total number of user sessions for each online volume for the period of January 2000 through April 2002.

A total of 48,145 unique users accessed the *Proceedings* online volumes between January 2001 and April 2002 (see Tables 3 and 4). From the calendar year 2000 to 2001, access to the volumes increased by 78%. And, access rates have continued to rise to higher even levels during the first four months of 2002. *Initial Reports* volumes were accessed during 40% of the user sessions and *Scientific Results* volumes during 60% of the sessions.

A total of 18,989 unique users accessed the *Initial Reports* online volumes between January 2001 and April 2002, or an average of 1,187 users per month (see Table 3). An average of 37 unique users accessed each volume per month for the period of January 2000 through April 2002. This user rate has remained stable as more volumes are published online.

A total of 29,156 unique users accessed the *Scientific Results* online volumes between January 2001 and April 2002, or an average of 1,822 users per month (see Table 4). An average of 66 unique users accessed each volume per month for the period of January 2000 through April 2002. Unlike the *Initial Reports* volumes, the user rate for online *Scientific Results* volumes has increased over time. Although the *Scientific Results* volumes have historically been touted as gray literature, these data illustrate the value in this free online peer-reviewed publication venue that is accessible to researchers around the world.

The number of individual users of the *Proceedings* volumes continues to rise on the ODP/TAMU Web site. On average, 50% to 60% of the users who access the *Proceedings* volumes from this site are from the United States. In April 2002, countries with 1% or more site visits included United States, United Kingdom (6.9%), Germany (6.4%), Japan (6.1%), Australia (4.3%), Canada (3.8%), France (3.1%), Italy (3.0%), People s Republic of China (1.9%), Spain (1.7%), The Netherlands (1.4%), and the European Union (1.1%). Users representing all member countries except Iceland have accessed the online *Proceedings* volumes within the last six months. In addition, users from 65 other nations have used the online volumes during this period. Examination of the top 75 nations and the top 50 institutions accessing the online *Proceedings* volumes illustrates that the use of these publications is broader than the constituency of the ODP membership and extends worldwide.

Leg-Related Postcruise Publications

Since Leg 160, when the publication policy changed and scientific party members were allowed to publish their postcruise research results in either books and journals or the *Scientific Results* volumes, it has been important to track the number of papers projected and published in the different venues. Table 5 reflects the number of ODP-related papers that are projected for, submitted to, in press, or published in *Scientific Results* volumes

and books/journals for Legs 160 through 193. Projected statistics are generated at the time of the second postcruise meeting. The other data on book/journal publications are based on the information ODP receives from the scientific participants from each leg. (There is no guarantee the counts are complete.) For Legs 160 through 193, 462 papers (or 57% of all published papers tracked) have been published in the *Scientific Results* volume and 355 papers (or 43% of all published papers tracked) have been published in books and journals.

Figure 2 shows the total number of submitted, in press, and published papers per leg. For Legs 101 through 159, only *Scientific Results* papers were tracked. Beginning with Leg 160, papers published in books and journals were also tracked. All legs through 178 have passed the four-years postcruise mark. Legs through 186 have passed the 28-months postcruise mark, which is the date when all *Scientific Results*, journal, and book submissions are due (187 deadline = 13 May 2002).

The average number of publications per leg has remained relatively constant since the beginning of ODP. However, the range of time over which postcruise research papers are published has expanded since the Publication Services Department began tracking papers published per month with Leg 169 (the first *Scientific Results* volume published in the electronic format). The Publication Services Appendix graphs the publication history relating to Legs 169 through 186. Each graph illustrates the breakdown of papers by *Scientific Results* and book/journal categories. 340 papers have been published related to Legs 169 through 186. 8% (28 papers) were published by 28-months postcruise, 67% (226 papers) were published between 29-months and four-years postcruise, and 25% (86 papers) were published later than four-years postcruise. All of the publications that were published by 28-months postcruise were in journals or books (this equates to an average of 2 papers per leg). Thus, while a few scientific participants are taking advantage of the policy revisions that allow authors to publish papers shortly after the moratorium has ended, a growing number of publications are now received past the four-year postcruise deadline.

Leg-related Citation Lists:
Authors from Leg 160 and beyond have been required to provide ODP/TAMU with copies of all citations from papers published in books or journals during the first 48 months postcruise. ODP/TAMU posts these citations on the ODP Publications Web site (http://www-odp.tamu.edu/publications/, click on Leg-Related Citations).

The Publication Services Department began collecting leg-related citations in January 1999. The citation lists now include 631 citations, of which 505 are submitted, in press, or published papers and 126 are conference abstracts. Of the 505 papers, 197 have abstracts reproduced on the ODP/TAMU web site. (ODP requests abstract reprint permission from all publishers, but only receives it 39% of the time.) The numbers of citations listed per leg depend on whether authors notify ODP once their papers have been accepted for publication; whereas, the availability of abstracts depends on whether publishers permit their reproduction.

We know the leg citation lists are not complete despite efforts by the Publication Services staff and the Staff Scientists to remind scientific party members of their publication obligations. The success of the leg-related citation lists is dependent upon authors submitting all published citations and a reprint of each publication to ODP, as outlined in the ODP Policy.

ODP Proceedings Distribution

The Department has sold DSDP and ODP volumes for a cumulative revenue of $9,569.38 between November 2001 and April 2002. This revenue supports a portion of the cost budgeted for the printing and distribution of new volumes. The Department has continued to distribute free sets of volumes to academic institutions that do not already have accessible sets of DSDP and ODP volumes (institutions pay shipping costs). Between November 2001 and April 2002, two institutions (University of Sierra, Italy, and Max-Planck Institute, Germany) were sent 325 ODP and 111 DSDP volumes. Total value for the books in these shipments equals $22,099.

DSDP and ODP Citation Database

The Citation Database, which contains more than 18,000 ODP- and DSDP-related citations, has been produced by the American Geological Institute (AGI). ODP/TAMU receives a CD-ROM annually that is used to generate citation reports and statistics for the program. In addition to this report, Publication Services also provides statistics for member country offices and individual authors who request citation data. This database is also being developed in a Web-based format that is updated on a weekly basis from the GeoRef database. ODP/TAMU is conducting a final review of the online database and expects to release the product in 2002. Users will be able to access the database via the Internet and also download data into common bibliographic software.

Overview of the Database:
AGI indexes and records citations from approximately 3000 foreign and domestic publications, as well as citations from books, other citation databases, and publications arising from meetings. To create the Citations from Deep Sea Drilling Project and Ocean Drilling Program Research database (or DSDP/ODP citation database), AGI used a series of key words to extract a subset of citations related to DSDP and ODP research from the AGI GeoRef database. In late 2000, ODP set up a draft of the database on the Web and asked the ODP scientific community to review the database contents and provide any ODP-related citations that were missing. These were added to the AGI as of the end of 2001.

As of 28 February 2002, the database contained 18,367 records. These can be divided into program proceedings and nonproceedings citations (42% and 58%, respectively). See Database Parameters for the definition of program proceedings. The bulk of this summary focuses on the nonproceedings citations in the database through 2001.

Database Parameters:

- AGI indexes and records citations from approximately 3000 foreign and domestic publications, in addition to books and publications arising from meetings. AGI also obtains citation information from international data-exchange partners in Canada, China, the Czech Republic, Finland, France, Germany, Hungary, Italy, the Netherlands, New Zealand, Poland, Russia, and Spain. There is no guarantee that this covers all publication venues for ODP or DSDP research, but scientific publications throughout the world are represented.
- There is often a time lag between the date new papers are published and the date they are input into the GeoRef database. The length of the time lag varies depending on the source from which AGI gets its information. As a result, the DSDP/ODP citations database does not contain a complete listing of citations from 2001. It is possible that some citations are still pending from 2000 as well.
- The program proceedings citations include publications produced and published directly by DSDP or ODP. This includes *ODP Proceedings* and *DSDP Initial Reports* series publications, as well as Scientific Prospectus, Preliminary Report, and Technical Note publications. It does not include other Program publications, such as the *JOIDES Journal.*
- Most of the information presented in this report is based on author affiliation (institution and country of contributing authors). AGI did not begin recording author affiliation information until 1975, so this information is absent from many records. Affiliation is also absent from some records simply because there are many publication venues that do not require an author to supply such information. In addition, some authorships, such as Shipboard Scientific Party, cannot be given author affiliations because the author is a group of individuals from a variety of countries. A small percentage of the citations in this database do not have author affiliation data. The majority of these records are nonproceedings citations. AGI has no plans to update these records in their master database except when ODP/TAMU supplies AGI with the information to complete those data fields. Although 1,915 records of the citations in the ODP/DSDP citation database do not contain country affiliation information, this database represents the best and most accurate record available of the science produced in the scientific literature.
- Since this database contains citations for meeting abstracts and proceedings, a single citation may indicate where a paper/abstract was presented as well as where it was published after the meeting. So, a single record may represent double dissemination into the scientific community.

Author Information:

Authors from 78 countries have contributed to DSDP and ODP nonproceedings publications (see Table 6). Scientists from countries that have been members of either DSDP or ODP authored 8,471 non-proceedings publications (see Table 7). Most of these nonproceedings publications were published by first authors from the United States (58%). See Publication Categories for breakdown by publication type.

The nonproceedings publications are sorted into three major categories: serial publications, professional meeting publications, and miscellaneous publications. Serial publications include periodic journals, special publications produced as part of a series,

and serial publications produced by governments, organizations, and/or institutions. Professional meeting publications include the initial publications of abstracts and/or proceedings for these meetings. This does not include papers, abstracts, and/or proceedings subsequently published in journals or other special publications. Miscellaneous publications include books, maps, etc.

Citation Distribution in Geoscience Publications:
ODP- and DSDP-related science has appeared in 778 serial publications. Many of these citations represent abstracts of papers that were given at professional meetings. See Table 8 for a list of the serial publications with 35 or more program-related citations. A complete list of serial publications is available upon request.

Figure 3 displays the number of nonproceedings citations accounted for in the DSDP/ODP citations database vs. the total number of citations from ODP and DSDP. Proceedings citations include *DSDP Initial Reports* and *ODP Proceedings* volumes, as well as the ODP Technical Notes, Scientific Prospectus, and Preliminary Reports series.

Table 1. Web User Statistics for ODP/TAMU Main Entry Points*

	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Oct 01	Nov 01	Dec 01	Jan 02	Feb 02	Mar 02	Apr 02	TOTAL
Total for ODP/TAMU site	**43,989**	**50,371**	**55,994**	**57,756**	**52,000**	**55,628**	**64,120**	**57,753**	**47,057**	**68,115**	**72,528**	**66,230**	**691,541**
Totals for specific pages:													
ODP/TAMU home page	8,926	8,921	8,005	8,667	20,011	10,690	9,210	7,244	7,393	8,820	8,660	9,087	115,634
Publication Services	1,752	1,761	1,816	1,857	1,723	2,008	2,223	1,589	1,624	1,963	2,086	2,209	22,611
Cruise Information	1,112	1,082	1,186	1,213	1,494	1,632	1,566	1,169	1,328	1,549	1,425	1,639	16,395
Janus Database	1,187	1,156	1,145	1,169	1,265	1,369	1,618	1,456	1,245	1,488	1,580	1,657	16,335
Operations Schedule	708	761	626	774	908	899	901	722	1,090	910	847	882	10,028
Science & Curation	582	551	485	552	614	657	685	520	539	616	643	665	7,109
Cruise Participation	398	332	280	324	377	405	396	328	373	460	449	454	4,576
Site Maps	444	452	423	487	589	594	650	455	450	565	625	670	6,404
JOIDES Resolution drill ship	466	408	444	536	629	624	588	460	493	660	576	589	6,473
Search	873	740	789	824	777	961	1,076	770	810	952	962	993	10,527
Drilling Services	767	586	583	651	815	892	970	717	716	919	905	901	9,422
Sample request form	302	315	254	299	323	324	377	250	319	346	334	421	3,864
Staff Directory	429	495	489	478	489	595	581	424	483	527	546	564	6,100
ODP/TAMU positions	354	436	516	569	339	372	383	374	312	518	745	1,138	6,056
Life onboard *JOIDES Res.*	609	487	612	675	929	815	926	673	672	883	823	886	8,990
Leg 199 photos							1,003	935	237				2,175
Leg 200 photos								387	1,129	702	270		2,488
Leg 201 photos										929	1,364	775	3,068
Leg 202 photos												705	705

Notes: * = numbers represent unique-computer sessions that originate outside ODP/TAMU; each session may result in multiple page views and/or database requests; mirror sites are not included. † = see "Volume Production" section for statistics on unique-computer sessions for each volume.

Table 2. Web User Statistics for German Mirror Site.

	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Oct 01	Nov 01	Dec 01	Jan 02	Feb 02	Mar 02	Apr 02	TOTAL
German mirror site	282	524	787	1,000	1,367	1,865	2,633	2,853	2,895	3,591	1,821	3,045	**22,663**

Note: * = German mirror site went online in Jun 2000. No data are available for mirror sites in Australia and the United Kingdom.

Table 3. 2001–2002 *Initial Reports* Web Publication User Statistics.*

Vol	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Oct 01	Nov 01	Dec 01	Jan 02	Feb 02	Mar 02	Apr 02	Total	Date of Web Publication
166†	39	38	48	44	46	44	43	34	50	55	90	45	49	57	42	43	**767**	1 Oct 1997
167†	30	30	37	32	36	38	56	76	49	36	49	27	42	41	40	49	**668**	13 Feb 1998
168†	21	34	18	20	31	47	36	48	37	36	27	29	24	24	26	28	**486**	23 Feb 1998
169†	30	38	25	27	31	47	44	53	73	59	27	31	30	38	28	27	**608**	17 Apr 1998
169S†	18	21	14	13	17	21	25	35	30	26	28	17	21	20	12	16	**334**	10 Apr 1998
170†	27	31	18	25	20	41	39	44	31	37	51	24	38	35	46	44	**551**	24 Apr 1998
171A†	25	24	17	28	24	33	22	41	28	31	23	25	23	29	22	22	**417**	26 Jun 1998
171B†	36	36	25	14	20	34	53	31	36	26	23	23	36	44	39	26	**502**	26 Jun 1998
172†	22	41	28	17	27	51	30	48	44	40	26	30	36	48	42	27	**557**	31 Jul 1998
173†	23	32	18	19	25	34	33	50	36	31	35	36	33	36	24	32	**497**	4 Sep 1998
174A†	26	28	33	40	31	41	32	58	45	39	29	29	28	33	36	35	**563**	31 Dec 1998
174B†	17	25	13	18	11	25	30	38	25	15	21	17	23	25	20	20	**343**	31 Dec 1998
174AX†	17	15	10	11	18	13	24	37	28	27	23	19	20	22	13	26	**323**	31 Dec 1998
174AXS	14	14	15	28	24	29	24	29	23	26	26	16	19	18	15	23	**343**	28 Dec 1998
175†	44	45	34	32	52	53	66	67	28	42	38	37	44	63	46	51	**742**	9 Feb 1999
176**	25	21	20	13	20	21	31	44	15	32	16	15	14	23	19	34	**363**	30 Jun 1999
177**	27	33	35	22	66	67	72	54	76	53	43	40	23	41	45	44	**741**	28 May 1999
178**	39	36	47	23	28	64	59	95	38	77	43	41	29	55	55	71	**800**	31 Aug 1999
179**	20	18	19	39	60	69	64	66	47	60	58	53	38	61	37	33	**742**	23 Jul 1999
180**	35	41	38	28	40	56	70	46	29	36	38	21	32	51	61	53	**675**	4 Feb 2000
181**	30	21	21	17	30	44	64	41	18	42	28	36	28	39	36	45	**540**	12 May 2000
182**	29	32	13	26	24	35	46	74	36	56	26	25	24	25	23	38	**532**	26 May 2000
183**	35	31	26	23	51	35	60	61	35	37	24	22	29	36	46	62	**613**	9 Jun 2000
184**	29	27	32	37	51	98	74	56	44	101	39	33	35	48	35	46	**785**	12 Jun 2000
185**	33	42	42	46	45	73	54	56	60	60	51	31	36	64	41	75	**809**	19 Sep 2000
186**	33	43	24	47	62	53	63	55	37	28	38	32	36	38	21	33	**643**	28 Jul 2000
187**	58	60	30	25	24	32	24	29	20	15	23	16	17	26	27	31	**457**	9 Jan 2001
188**			88	97	56	47	55	58	35	53	38	25	25	43	35	42	**697**	5 Mar 2001
189**					145	125	98	85	66	71	50	39	47	72	67	71	**936**	2 May 2001
190**						46	88	94	152	106	89	33	56	84	59	88	**895**	29 Jun 2001
191**									92	81	41	18	20	24	27	32	**335**	3 Sep 2001
192**										14		61	61	44	46	37	**263**	16 Oct 2001
193**														107	77	47	**249**	12 Feb 2002
194**															36	143	**201**	28 Mar 2002
196**																52	**52**	30 Apr 2002
Month Total:	782	857	788	811	1,115	1,416	1,479	1,603	1,363	1,448	1,161	946	1,016	1,414	1,244	1,546	**18,989**	

Notes: See Figure 1 for total use per volume for January 2000-April 2002. * = numbers represent unique-computer sessions that originated outside ODP/TAMU to the entry page of a volume; each session may result in multiple page views. Hits to mirror sites are not included. † = volumes in PDF format. ** = volumes in PDF and HTML formats.

Table 4. 2001–2002. *Scientific Results* Web Publication User Statistics.*

Vol	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Oct 01	Nov 01	Dec 01	Jan 02	Feb 02	Mar 02	Apr 02	Total	Date of Web Publication
150X	61	49	85	59	43	76	76	84	48	122	69	45	61	67	83	70	**1,098**	7 Aug 1998
152	92	70	77	66	98	140	69	106	52	74	87	61	43	66	73	67	**1,241**	8 Jul 1998
154	58	74	78	72	92	84	105	98	42	106	74	60	69	90	79	70	**1,251**	1 Oct 1997
155	81	104	88	104	80	90	72	86	59	88	84	62	65	71	74	76	**1,284**	15 May 1998
156	59	50	76	74	55	63	81	62	66	80	42	45	47	65	63	66	**994**	21 Aug 1998
157	94	69	92	69	75	65	107	95	65	73	65	46	57	69	73	75	**1,189**	14 Aug 1998
158	51	56	73	45	54	51	61	80	41	54	53	48	67	72	57	60	**923**	15 May 1998
159	63	75	95	49	59	65	66	76	45	70	70	59	67	81	55	75	**1,070**	31 Dec 1998
159T	40	22	39	18	30	35	50	56	29	41	33	32	40	32	38	37	**572**	31 Dec 1998
160	159	157	125	106	120	140	126	115	186	177	124	110	129	174	180	107	**2,235**	9 Nov 1998
161	79	86	85	92	103	71	101	134	71	77	62	58	66	93	87	86	**1,351**	19 Mar 1999
162	51	29	47	26	57	56	60	46	36	44	62	32	23	40	38	37	**684**	20 Aug 1999
163	28	26	31	24	34	40	56	82	21	47	57	24	16	38	56	39	**619**	19 Sept 1999
164	56	38	53	53	76	97	216	97	66	81	67	35	49	70	88	105	**1,247**	19 May 2000
165	42	37	44	31	38	49	76	52	33	61	64	48	30	52	46	60	**763**	26 May 2000
166	26	29	29	42	43	44	63	47	38	74	35	28	20	46	34	27	**625**	29 May 2000
167	36	42	51	29	42	45	69	62	34	84	74	34	47	54	38	50	**791**	31 Jul 2000
168	31	27	34	24	30	27	48	38	21	44	35	25	37	55	38	31	**545**	4 Aug 2000
169	48	37	50	37	40	50	46	73	10	41	44	39	42	53	35	31	**676**	15 Apr 2000
169S	29	21	29	24	22	25	28	23	26	28	33	24	24	27	26	26	**415**	8 Aug 2000
170	46	32	35	27	35	31	48	63	68	69	49	32	24	49	52	35	**695**	20 Jun 2000
171A	44	33	44	20	37	28	26	40	28	29	28	24	20	33	40	31	**505**	2 Aug 2000
171B	44	60	46	49	55	77	63	63	41	44	44	38	46	43	41	40	**794**	4 Jul 2000
172	42	41	35	41	45	46	54	58	39	57	48	37	230	56	55	45	**929**	1 Sep 2000
173	42	33	39	40	71	46	40	82	57	55	63	32	42	40	37	43	**762**	2 Oct 2000
174A	28	25	28	29	32	32	27	41	41	56	31	18	24	27	40	32	**511**	29 Sep 2000
174B	32	29	27	25	39	29	30	38	19	38	30	21	24	31	34	23	**469**	5 Jan 2001
175	109	90	114	112	145	82	110	97	52	112	90	32	47	82	61	52	**1,387**	10 Jan 2001
176											45	17	33	40	38	55	**228**	18 Dec 2001
177						30	104	61	55	56	43	36	29	43	75	53	**585**	28 Jun 2001
178					72	118	144	111	75	146	93	73	44	95	72	106	**1,149**	29 May 2001
179											22	13	19	29	26	30	**139**	In press
180							101	140	78	78	72	36	43	72	86	56	**762**	16 Jul 2001
181											6	8	25	62	64	53	**218**	30 Jan 2002
182											64	52	64	88	107	75	**450**	29 Jan 2002
Month Total:	1,571	1,441	1,649	1,387	1,722	1,832	2,323	2,306	1,542	2,206	1,962	1,384	1,713	2,105	2,089	1,924	**29,156**	

Notes: See Figure 1 for total use per volume for January 2000-April 2002. * = numbers represent unique-computer sessions that originated outside ODP/TAMU to the entry page of a volume; each session may result in multiple page views. Hits to mirror sites are not included. Volume 169 and beyond = volumes published chapter by chapter in the order of acceptance in PDF and HTML formats; date indicates when first paper was published.

Table 5. ODP-related peer-reviewed papers projected, submitted, in press, and published in *Scientific Results* volumes vs. books or journals.

	SR Volume				Journal or Book			
Leg	**Projected***	**Submitted**	**In Press**	**Published**	**Projected***	**Submitted†**	**In Press†**	**Published†**
160	62			58	2		1	28
161	47			46	6	2	0	10
162	24			46	32	3	1	32
163	22			17	4	0	0	5
164	35			44	18	0	0	9
165	26			22	2	0	1	11
166	28			21	7	10	0	12
167	40			33	11	0	0	8
168	17			14	47	0	0	27
169S	0			1	28	0	0	25
169	14			10	29	0	1	13
170	6			7	15	0	0	12
171A	1			3	16	0	0	10
171B	15			11	43	1	2	44
172	8			12	36	8	1	4
173	8			12	19	0	0	26
174A	8		1	6	17	4	1	14
174B	1			2	5	0	0	1
175	14			24	24	0	0	18
176	17		9	5	20	0	0	8
177	7	7	3	5	44	23	0	3
178	8	2	5	32	44	2	0	6
179	15	2	2		8	1	0	1
180	15		4	22	25	1	0	6
181	21	1	6	4	25	9	0	2
182	13	6	5	5	37	3	1	5
183	15	5	10		25	17	0	3
184	23	18	1		34	11	12	1
185	9	9	2		29	2	0	3
186	19	17			11	1	0	0
187	4	0			15	0	0	1
188	16	15 Jul 02**			19	0	0	2
189	11	23 Sep 02**			50	1	0	3
190/196	May 02‡	18 Nov 02**				3	0	2
193	Fall 02‡	5 May 03**				1	0	0

Notes: * = estimated number of papers at second postcruise meeting. Submitted data = number of papers received (and in peer review) as of 30 April 2002. = number of published papers ODP has received from authors or has identified in journals . = date of second postcruise meeting. ** = deadline when initial submissions are due (28 months postcruise).

Table 6. Number of "nonproceedings" publications contributed to by authors from each country.

Country	Number of publications	Country	Number of publications	Country	Number of publications
Argentina	28	Greece	9	Peru	2
Australia	261	Hungary	5	Philippines	4
Austria	18	Iceland	4	Poland	10
Barbados	2	India	91	Portugal	3
Belgium	47	Indonesia	2	Puerto Rico	7
Botswana	1	Ireland	3	Romania	1
Brazil	19	Israel	18	Saudi Arabia	1
Bulgaria	1	Italy	242	Senegal	1
Canada	658	Jamaica	6	Seychelles	1
Chile	6	Japan	577	Slovak Rep.	1
Chinese Taipei	11	Korea	14	Solomon Is.	2
Colombia	5	Lebanon	1	So. Africa	19
Costa Rica	3	Malaysia	1	Spain	65
Cuba	2	Malta	2	Sri Lanka	1
Cyprus	6	Mexico	43	Sweden	120
Czech Republic	3	Morocco	2	Switzerland	179
Denmark	71	Namibia	1	Tanzania	2
Dominican Rep.	1	Netherlands	177	Tonga	2
Ecuador	1	N. Caledonia	3	Trinidad/Tobago	2
Egypt	1	New Zealand	104	Tunisia	4
Estonia	1	Nigeria	4	Turkey	8
Fiji	1	Norway	180	Venezuela	2
Finland	9	Oman	3	UK	1,080
France	936	Pakistan	2	Un. Arab Em.	1
Fr. Polynesia	2	P. New Guinea	3	USA	5,628
Germany	1,008	PR China	71	USSR*	235

Notes: These figures only account for citations with author affiliation data (see "Database Parameters"). Numbers include serial publications, meetings, and miscellaneous publications (see "Publication Categories"). * = USSR includes USSR, Russian Federation, and Ukraine totals.

Table 7. Number of "nonproceedings" publications based on country affiliation of first author.

	Publication Type			
	Serial	Meeting	Misc.	**Total**
Australia	53	79	1	**133**
Belgium	3	8	0	**11**
Canada	153	251	2	**406**
PR China	26	7	0	**33**
Denmark	14	14	0	**28**
Finland	2	4	0	**6**
France	270	275	14	**559**
Germany	278	368	14	**660**
Greece*	3	4	0	**7**
Iceland	1	0	0	**1**
Ireland	2	1	0	**3**
Italy	56	50	1	**107**
Japan	217	133	27	**377**

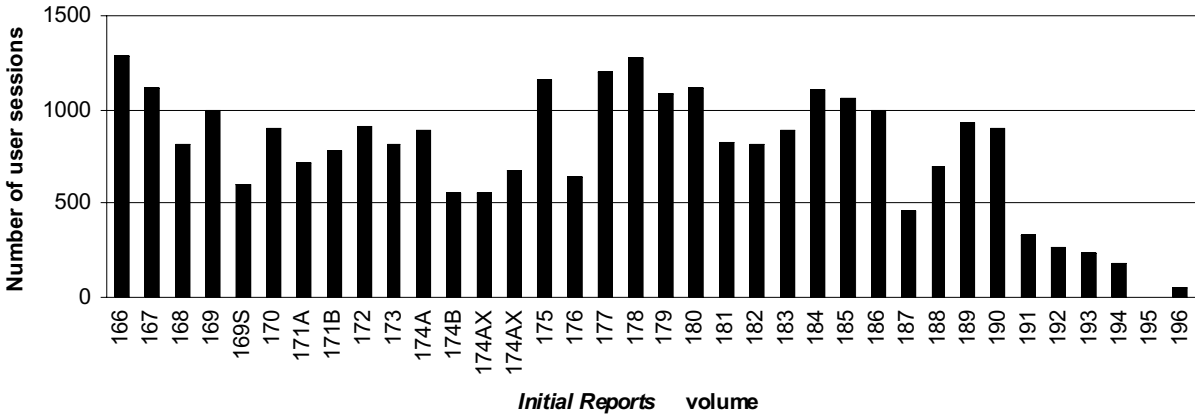
	Publication Type			
	Serial	Meeting	Misc.	**Total**
S. Korea	7	4	0	**11**
Netherlands	61	31	0	**92**
Norway	59	40	0	**99**
Portugal	1	1	0	**2**
Spain	20	12	0	**32**
Sweden	47	30	0	**77**
Switzerland	41	51	0	**92**
C. Taipei	5	2	0	**7**
Turkey*	2	1	0	**3**
UK	335	279	9	**623**
USA	2,017	2,810	103	**4,930**
USSR*, †	117	50	5	**172**
Total	**3,790**	**4,505**	**176**	**8,471**

Notes: Serial = serial publication; Meeting = meeting publication, Misc. = books, maps, etc. * = no longer member countries. † = USSR includes USSR, Russian Federation, and Ukraine totals.

Table 8. Serial publications with 35 or more DSDP- and ODP-related citations, 1969—2001

Serial Title	Total
EOS	1,469
Abs/prog GSA	868
AAPG Bulletin	296
Earth & Planetary Sci Letters	248
J Geophysical Research	226
Nature (London)	221
Marine Geology	218
Geology (Boulder)	206
Geotimes	193
Intl Geological Congr, Abs (Congres Geolog Intl, Resumes)	159
Geol Soc Special Publ (London)	152
Paleoceanography	143
Terra Nostra (Bonn)	139
Marine Micropaleontology	138
Prog/Abs - Geol Assoc Canada; Mineral Assoc of Canada; Canadian Geophys Union, Joint Ann Mtg (GAC/MAC/CGU)	138
Palaeogeogr, Climatol, Ecology	116
Geochim et Cosmochim Acta	100
Science	98
Annual Mtg [Ext] Abs - AAPG/SEPM	83
GSA Bull	80
Terra Abstracts	78
Geophysical Research Letters	72
Micropaleontology	71
Comptes-Rendus Seances de l'Acad Sci, Ser 2: Mecanique-Physique, Chimie, Sci de l'Univers, Sci de la Terre (several vol title changes)	70
Bull Soc Geologique de France [Huitieme Ser.]	67
Chemical Geology	67
JOIDES Journal	59
AAPG Memoir	52
Prelim Rpt - Ocean Res Inst, Univ Tokyo	52
Organic Geochemistry	51
Palynology	49
USGS Open File Report	49
Geophysical Monograph	48
Maurice Ewing Series	47
J Conference Abs	45
J Foraminiferal Research	43
Spec Publ - Soc Econ Paleon Mineralogists (SEPM) [Soc Sedimentary Geol] [3 titles]	43
Sedimentary Geology	41
Canadian J Earth Sci - J Canadien des Sciences de la Terre	39
Spec Paper - GSA	36
Tectonophysics	36
Abs Geol Soc Australia	35
Trudy - Geol Inst, Akad Nauk SSSR	35

Figure 1. Number of user sessions per *Proceedings* volume (January 2000—April 2002).



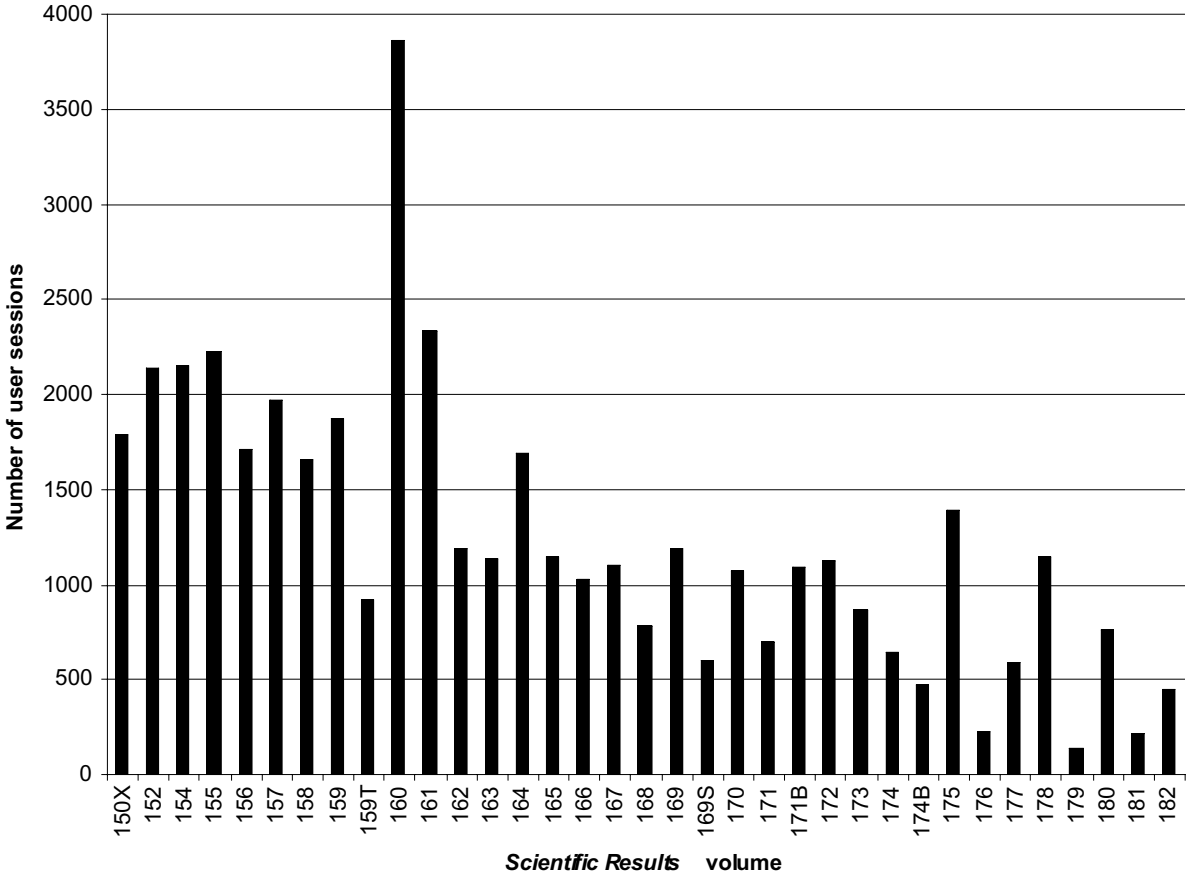
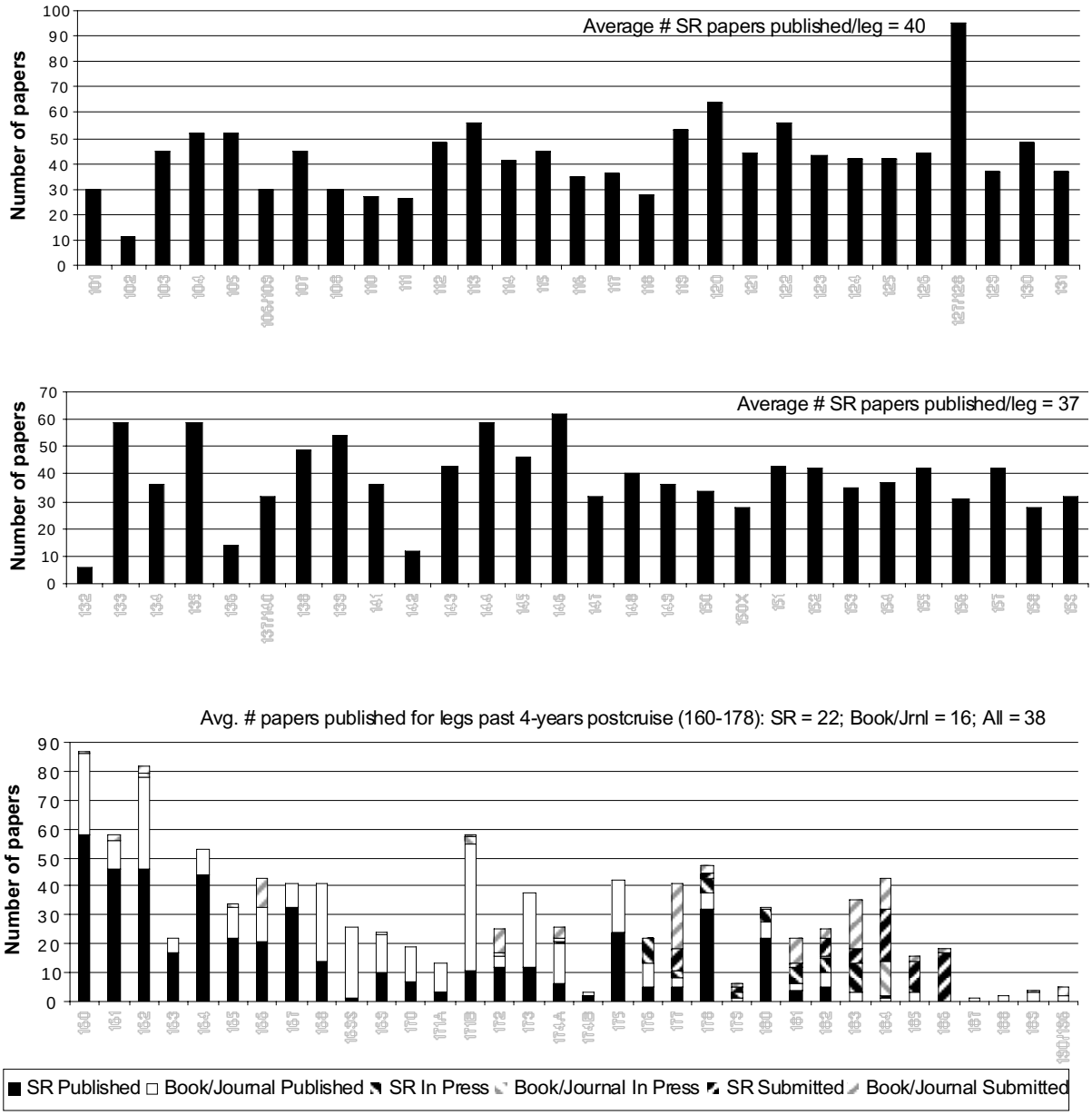
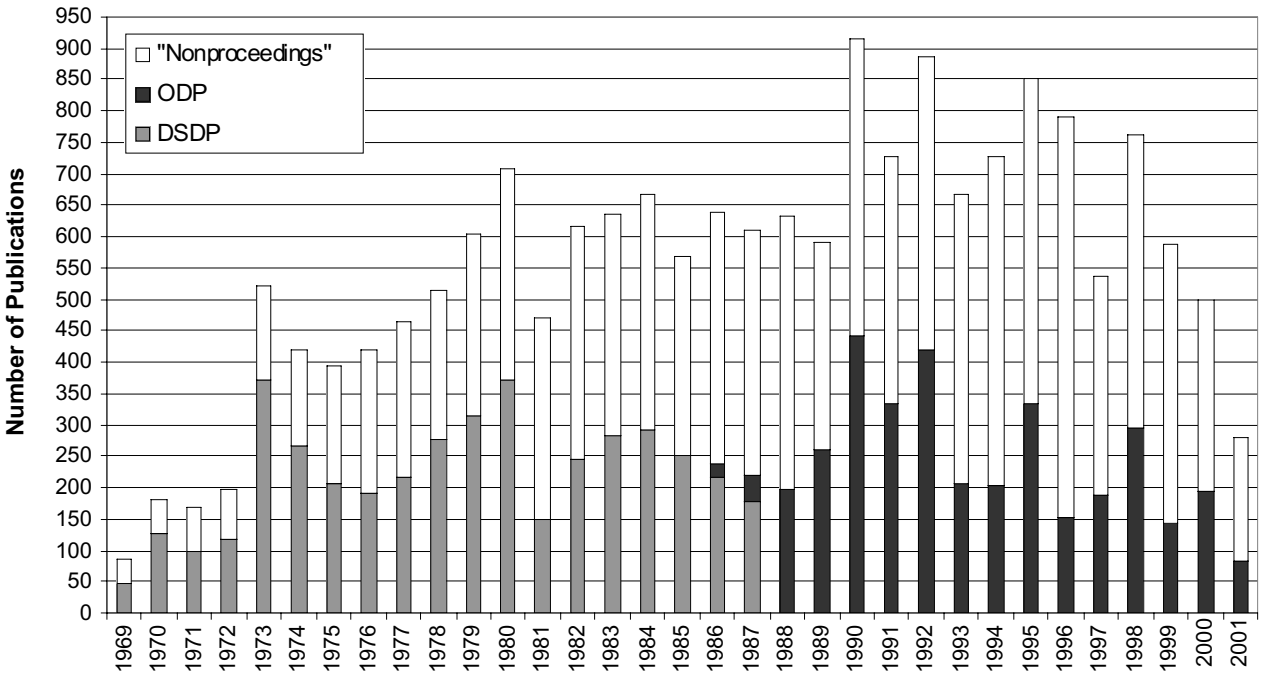


Figure 2. Number of published and in press papers on record per leg.



Note: Data on papers submitted, in press, or published in books/journals is provided by authors and may not be complete or up-to-date.

Figure 3. Number of "proceedings" and "nonproceedings" citations per year.



Public Information

Port Call Activities:
At the San Diego port call at the end of January we did not engage in extensive activities because a programmatic decision was made to target the next San Diego port call (Leg 204/205); September 2002) as a major event. We did, however, host five visitors from NASA's Extraterrestrial Life research group who were interested in familiarizing themselves with the ODP microbiological initiative. Dr. Steve D'Hondt, along with Steve Bohlen and Jeff Fox, gave the NASA visitors an extensive tour of the ship. A journalist from Nature joined this tour and he later filed a report in Nature about ODP and plans for IODP. In addition, Steve Bohlen and Jeff Fox gave a tour of the labstack and a review of ODP operations to visitors from NSF – Drs. Bruce Malfait and Jim Yoder from Ocean Sciences and Dr. Christine Boesz, the Inspector General for the NSF.

No port call activities for the public were carried out in Valparaiso (Leg 201/202), nor are any planned for Balboa (Leg 202/203).

Public Information Requests:
During the last six months, ODP/TAMU has responded to 34 requests for scientists, news media, television producers, universities, K-12 schools, government administrators and publishers. The material distributed includes: general PR packages, slide sets, B-roll footage, ODP video Planet in Motion, and the Cretacious-Tertiary Impact Poster.