

**IODP-MI
Operations Task Force
Meeting Report**

**Kiel, Germany
August 25th, 2009**

Draft Version 0.4

August 26th Meeting

Location:

Kunsthalle, Christian Albrechts University of Kiel, Kiel, Germany

Time

16:30-19:30

Attendees

Jan Behrmann	Science Planning Committee
David Divins	USIO
Dan Evans	ESO
Gabe Filippelli	Vice-chair, Science Planning Committee
Jun Fukutomi	CDEX, JAMSTEC
Shinichi Kuramoto	CDEX, JAMSTEC
Hans Christian Larsen	IODP Management International (Chair)
Mitch Malone	TAMU, USIO
Jim Mori	Chair, Science Planning Committee
Nao Ohkouchi	Science Planning Committee
Carolyn Ruppel	Science Planning Committee

Observers

Jamie Allan	NSF, USA
Hiroshi Kawamura	IODP Management International
Alberto Malinverno	LDEO, USIO
Catharine Mevel	ECORD Managing Agency
Greg Myers	IODP Management International
Takeshi Nakagawa	MEXT Japan
Heiko Paelike	National Oceanography Centre, Southampton, UK
Barry Zelt	IODP Management International

PREFACE

This report provides a summary of the IODP-MI Operations Task Force (OTF) meeting in Kiel on 25th August 2009. This meeting focused on scheduling options for *Chikyu*, *JOIDES Resolution*, MSPs for late FY2010 through FY2011. The meeting was the first OTF meeting within the new structure of IODP-MI. New OTF chair is Vice President of IODP-MI, Hans Christian Larsen. The meeting was called at rather short notice, and only limited time was available for discussion, and none for reviewing conclusion before being presented to SPC the following day. A scheduling decision (Juan de Fuca) was made by e-mail in advance of the meeting because of the need for the USIO to order long-lead items.

A memo by the incoming SPC chair Gabe Filippelli addressing potential options to compress different science projects in to typically expedition length (i.e., 2 months) windows was briefly discussed, but deferred to SPC for further discussion and comments before impacting OTF work.

USIO

Options for late FY2010 through FY2011 *JOIDES Resolution* schedule

The USIO presented to the OTF three scheduling options for late FY2010 through FY2011 (see Figure-OTF-1). All options are described in detail in Appendix B. Because of the previous decision by the OTF to firmly schedule Juan de Fuca (see Appendix A), Option 1 immediately became the focus of discussion (later discussions actually proved that Option 2 starting with Asian Monsoon for several sites would conflict with tuna fishing moratorium period in the Sea of Japan). A quick survey of alternative options to place Juan de Fuca different in the schedule resulted in no feasible options. It was also noted that the earliest possible installation of observatories in Juan de Fuca in itself was a plus. To the question from the chair why the USIO had not considered proposal 601-Full3 Okinawa Trough Biosphere in their scheduling efforts, the USIO responded that: (1) developments of high temperature tools are necessary for the USIO to conduct Proposal 601-Full3 in a reliable fashion; and (2) that EPSP had requested the use of an ROV for this project. The latter would not be available on JR. Based on this, the OTF concluded Option 1 to be the preferred option and recommended this option to the SPC. OTF discussed in quite some detail the issue of Superfast and CRISP. The OTF suggested that OTF should accept the contingency sites included in Superfast, should the deep Site 1256 not be accessible for deeping (prime target). Instead, because of the short distance, JR should proceed with CRISP. On the other hand, the OTF chair also made the comment for discussion that leaving the deep Hole 1256D prematurely based on a pre-expedition defined partitioning of time between the two projects could be difficult, and might result in two failures instead of two successes. OTF agreed by consensus that Superfast should be given a fair chance to reach its objective.

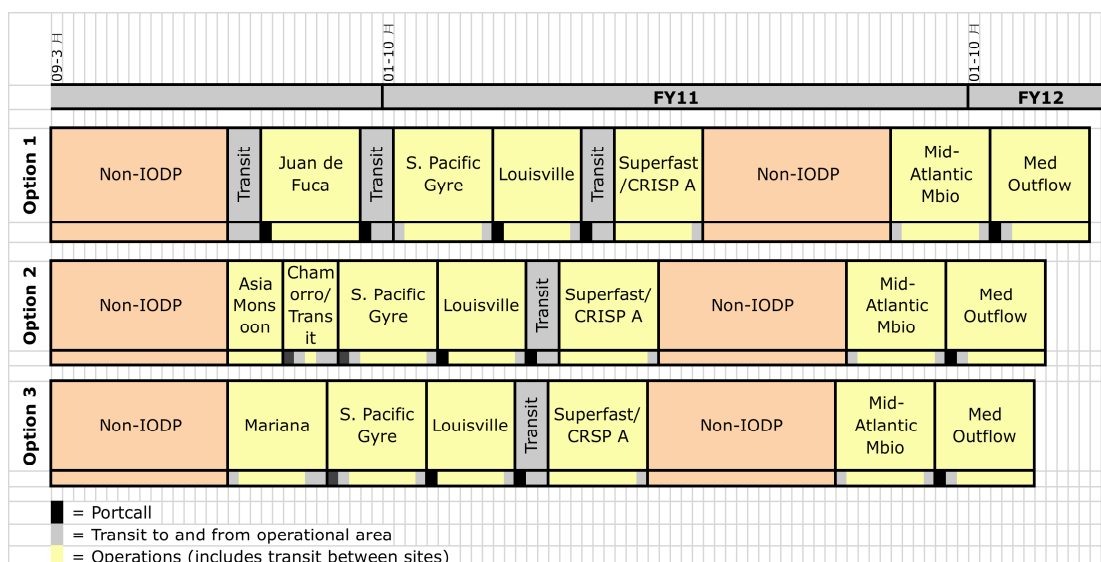


Figure OTF-1 The *JOIDES Resolution* schedule options that were presented to the August 2009 SPC. Option 1 became the OTF option of choice with details of Superfast/CRISP A to be worked out.

CDEX

Availability and constraints of IODP *Chikyu* operation for FY2010-2011

CDEX reported that *Chikyu* will be available for IODP for five months for FY2010-2011, however timing of *Chikyu* availability will not be known until January 2010 when details of non-IODP work become available. The chair of OTF pointed out the significant problems this will cause, and pressed upon CDEX to make this information available asap. CDEX acknowledged the issue, but is currently not able to be more precise. CDEX also explained that the predictive modeling of the Kuroshio Current will determine whether riser drilling is feasible at NanTroSEIZE Site NT3-01. The final decision will be made 3 months prior to the beginning of expeditions. The OTF chair asked CDEX to further evaluate, based on experiences made in 2009, the benefits of using riser fairings, and possibly re-assess what would be acceptable operational conditions.

NanTroSEIZE Riser contingency

CDEX presented a status summary of riser proposals at OTF (see Figure-OTF-2, For details, see Appendix B).

- 603: NanTroSEIZE - ongoing
- 537: CRISP - not a NanTroSEIZE NT3-01 contingency
- 595: Indus Fan - not permitted by Ministry of Foreign Affairs, Japan
- 618: E Asian Margin - not permitted by Ministry of Foreign Affairs, Japan

Options for end FY2010-early FY2011 *Chikyu* schedule

CDEX presented five scheduling options and a priority order that were formulated by the NanTroSEIZE Project management Team (PMT). The priority order of the options was as follows:

1. Case 1: including NanTroSEIZE riser drilling (recommended by the PMT)
2. Case 2: including NanTroSEIZE riser drilling
3. Case 3: non riser NanTroSEIZE plus approximately four weeks of Tier 1 OTF proposal 601-Full3 Okinawa Trough Biosphere
4. Case 4: non riser NanTroSEIZE plus approximately two-times 4-5 weeks of Tier 1 OTF proposal 601-Full3 Okinawa Trough Biosphere
5. Case 5: Proposal 698-Full2 IBM Arc Middle Crust

Month	1				2				3				4				5				
Week	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Case 1	NT2-01				NT3-01 Riser												NT3-01 Observatory				
	Observatory				36" Conductor + 20" + 16" CSG, TD=2100mbs												LWD=1000m, CSG, Observatory				
Case 2	NT3-01 Riser																				
	36" Conductor + 20" + 16" + 13-3/8" CSG, TD=3300mbs (depend on coring, wireline, etc.)																				
Case 3	NT2-01				NT3-01 Observatory				NT3-01 Riser Top Hole				Port Call	601 Okinawa							
	Observatory				LWD=1000m, CSG, Observatory				36" Conductor + 20" CSG					High priority sites only							
Case 4	NT2-01				NT3-01 Riserless				Port Call	601 Okinawa (4~5week opr * 2times)											
	Observatory				LWD=1000m, CSG, Observatory					All sites proposed except 9A&10A (Reference sites/lower priority)											
Case 5	698 Izu-Bonin-Mariana Arc Middle Crust																				
	TD = 4000 mbsf (depend on coring requirements)																				

Figure OTF-2 *Chikyu* scheduling options presented by CDEX.

The OTF first discussed Case 5 and concluded that this case is not an option, simply because Proposal 698-Full2 IBM Arc Middle Crust has not been forwarded by SPC to OTF because of low scientific ranking. In addition, CDEX has informed that this site also may have Kuroshio CURRENT problems (to be mapped). OTF refrained from considering this proposal further. The OTF also discussed the feasibility of Proposal 738-APL NanTroSLIDE. CDEX reported that implementation of Proposal 738-APL exceeds the time allowed for a normal APL (approximately 3 days). The OTF refrained from considering this proposal as a possible APL proposal for the NanTroSEIZE project.

The OTF next discussed the technical/safety feasibility of Proposal 601-Full3 Okinawa Trough Biosphere. Concerns about high-temperature hazards associated with Proposal 601-Full3 Okinawa Trough Biosphere were raised by the OTF. CDEX replied that the observed temperature is below *Chikyu*'s operational limits, and that *Chikyu* according to a preliminary in-house review can drill high temperature sites without significant development of new high temperature tool. Higher pumping capacity by *Chikyu* is an advantage. *Chikyu* can also provide the ROV requested by the EPSP. OTF requested CDEX to scope in more detail how and what could be drilled by *Chikyu* in the different options, in particular Case 3.

The OTF discussed whether Tier 1 OTF Proposal 505-Full5 Mariana Convergent

Margin is an alternate option for Tier 1 OTF Proposal 601-Full3 Okinawa Trough Biosphere. CDEX replied that Proposal 601-Full3 Okinawa Trough Biosphere needed unique high temperature capability of *Chikyu* and that there might be a possible conflict with *Chikyu*'s IODP operational window; only the early start of *Chikyu* IODP operations in 2010, and with Marianna as the first operation would be within the preferred weather window. The OTF nevertheless requested CDEX to include Proposal 505-Full5 Mariana Convergent Margin as one possible option to be explored, given the fairly small difference in transit time to the two locations (*CDEX - please fill in details*). The OTF eventually recommended the following scheduling options to the SPC for discussion (see Figure-OTF-3).

Month	1				2				3				4				5				
Week	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Case 1	NT2-01				NT3-01 Riser												NT3-01RL Observatory				
	Observatory				36" Conductor + 20" + 16" CSG, TD=2100mbs												LWD=1000m, CSG, Observatory				
Case 2	NT3-01 Riser																				
	36" Conductor + 20" + 16" + 13-3/8" CSG, TD=3300mbs (depend on coring, wireline, etc.)																				
Case 3	NT2-01				NT3-01RL Observatory				NT3-01 Riser Top Hole				Port Call	601 Okinawa							
	Observatory				LWD=1000m, CSG, Observatory				36" Conductor + 20" CSG					High priority sites only							
Case 4	NT2-01				NT3-01RL Observatory				Port Call	601 Okinawa (4~5week opr * 2times)											
	Observatory				LWD=1000m, CSG, Observatory					All sites proposed except 9A&10A (Reference sites/lower priority)											
Case 5	NT2-01				NT3-01RL Observatory				Port Call	505 Mariana Convergent Margin (Possible conflict with Chikyu's IODP window)											
	Observatory				LWD=1000m, CSG, Observatory					Riserless, CSG & CORK											

Figure OTF-3 The OTF recommended *Chikyu* scheduling options that were presented to the August 2009 SPC.

ESO

ESO reported that to date no expedition funds are available for FY2011. Scoping of Proposal 637-Full2 New England Shelf Hydrogeology and Proposal 716-Full2 Hawaiian Drowned Reefs will be initiated following the GBR drilling, and that ESO will have the capacity to scope of MSP proposals which potentially could be forwarded to the OTF at the March 2010 SPC meeting. For details, please see APPENDIX B.

The meeting adjourned at 19:30 at the request of the building management.

APPENDIX A: Inclusion of the JdF in the FY10-11 schedule

Subject: Inclusion of the JdF in the FY10-11 schedule
Date: Mon, 27 Jul 2009 21:00:42 +0900
From: hclarsen@iodp-mi-sapporo.org
Reply-To: hclarsen@iodp-mi-sapporo.org
To: David Divins <ddivins@oceanleadership.org>, Yoshi Kawamura <kawamuray@jamstec.go.jp>, Dan Evans <devans@bgs.ac.uk>, Jim Mori <mori@eqh.dpri.kyoto-u.ac.jp>, Jan Behrmann <jbehrmann@ifm-geomar.de>, Carolyn Ruppel <cruppel@usgs.gov>, Naohiko Ohkouchi <nohkouchi@jamstec.go.jp>, "Filippelli, Gabriel M." <gfilippe@iupui.edu>
CC: Mitch Malone <malone@iodp.tamu.edu>, Mary Reagan <mreagan@ldeo.columbia.edu>, "Shin'ichi Kuramoto" <s.kuramoto@jamstec.go.jp>, Jun Fukutomi <jfukutomi@jamstec.go.jp>, Thomas Janecek <tjanecek@iodp.org>, Nobu Eguchi <neguchi@jamstec.go.jp>, Greg Myers <gmyers@iodp.org>, Sean Higgins <shiggins@oceanleadership.org>, "science@iodp-mi-sapporo.org" <science@iodp-mi-sapporo.org>, hclarsen@iodp-mi-sapporo.org

Dear David,

FYI, the OTF has approved inclusion of the second part of Proposal 545- Full3 Juan de Fuca Hydrogeology in the FY2010-2011 JOIDES Resolution schedule. 7 were in favor (Evans, Behrmann, Mori, Ohkouchi, Kawamura, Filippelli, Ruppel), 1 did not vote (Divins). Tom Janecek did not formally vote, but from the very start recommended inclusion of JdF.

As pointed out to the SPC chair and vice chair, in this case, the OTF approval can't be reverted at the upcoming SPC where the entire schedule will be discussed.

Based on this OTF process, IODP-MI kindly ask the USIO to start preparing for inclusion of JdF in the FY10-11 schedule.

Obviously, SPC in August may have preference for a particular schedule, so the exact timing of the JdF within the FY10-11 schedule is therefore yet settled. Let us know if this will cause you any problems.

Best regards,

Hans Christian

August 2009 OTF meeting report

Appendix B

A) Introduction

Over the next month OTF will need to develop schedule options for SPC approval for the *JOIDES Resolution* beyond the currently scheduled expeditions in FY2010 and for all platforms in FY2011. As some FY2010 USIO options are time sensitive in terms of lead-time planning, OTF (via its executive SPC members) may need to formally approve the FY10 portion of the USIO schedule prior to the SPC meeting in August. To remind everyone where we stand at this point, I have provided (below) the current FY2010 schedule (Figure OTF-1) and the programs currently residing at OTF and in the SPC holding bin (Table OTF-1).

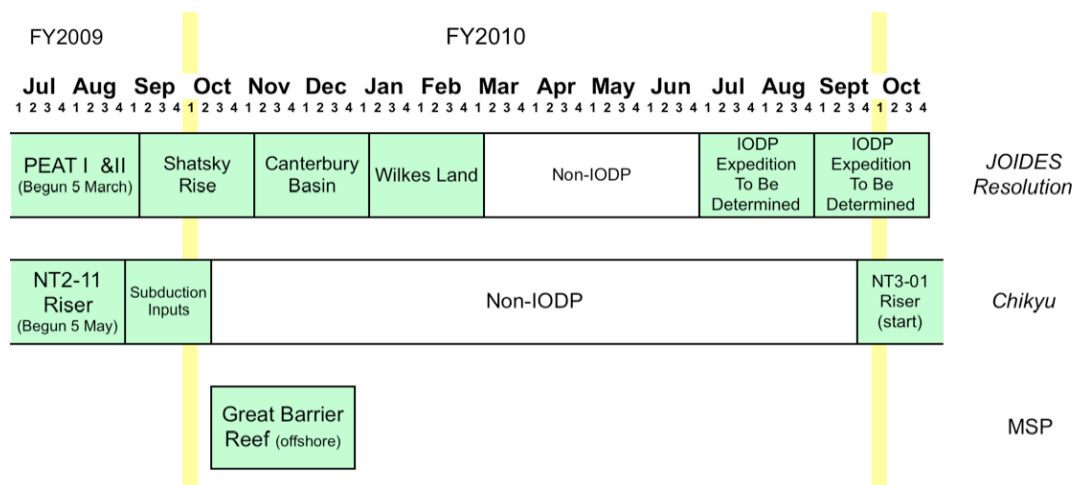


Figure OTF-1. FY2010 IODP Platform schedule submitted in FY2010 Annual Program Plan

Proposal ID	Proposal Name	Ranking Session	Rank	Tier	Ocean	Status
519-Full2	South Pacific Sea Level (Tahiti and GBR)	Sep 03; Sapporo	1		PAC	Tahiti comp GBR scheduled
545-Full	Juan de Fuca Hydro	Sep 03; Sapporo	3		PAC	Partially Completed -TBS
564-Full	New Jersey Sea Level	Sep 03; Sapporo	4		ATL	Scheduled
603A-Full2	NanTroSEIZE Phase I	Jun 04; Yokohama	2		PAC	Scheduled
603B-Full2	NanTroSEIZE Phase II	Jun 04; Yokohama	3		PAC	Scheduled
477-Full4	Okhotsk/Bering Pliocene/Pleistocene	Jun 04; Yokohama	4		PAC	Bering Scheduled / Okhotsk TBS
482-Full3	Wilkes Land	Jun 04; Yokohama	5		PAC	Scheduled
600-Full	Canterbury Basin	Jun 04; Yokohama	7		PAC	Scheduled
603C-Full	NanTroSEIZE Phase III	Mar 05; Lisbon	1		PAC	Scheduled
595-Full3	Indus Fan and Murray Ridge	Mar 05; Lisbon	2		IND	TBS
626-Full2	Pacific Equatorial Age Transect	Mar 05; Lisbon	3		PAC	Parially Completed/Scheduled
677-Full	Mid Atlantic Ridge Microbiology	Mar 06; St Petersburg	1	1	ATL	TBS
603D-F2	NanTroSEIZE Observatories	Mar 06; St Petersburg	2		PAC	Scheduled
605-Full2	Asian Monsoon	Mar 06; St Petersburg	4		PAC	TBS
505-Full5	Mariana Convergent Margin	Mar 07; Osaka	1	1	PAC	TBS
724-Full	Gulf of Aden Faunal Evolution	Mar 08; Barcelona	1	1	IND	TBS
601-Full3	Okinawa Trough Deep Biosphere	Mar 08; Barcelona	2	1	PAC	TBS
644-Full2	Mediterranean Outflow	Mar 08; Barcelona	3	1	ATL	TBS
537B-Full4	Costa Rica Seismogenesis Project Phase B	Mar 08; Barcelona	7	1	PAC	TBS
654-Full2	Shatsky Rise Origin	Mar 08; Barcelona	12		PAC	Scheduled
636-Full3	Louisville Seamount	Mar 09; Miami	1	1	PAC	TBS
662-Full3	South Pacific Gyre Microbiology	Mar 09; Miami	2	1	PAC	TBS
522-Full5	Superfast Spreading Crust	Mar 09; Miami	8		PAC	TBS
537A-Full5	Costa Rica Seismogenesis Phase A	Mar 09; Miami	9		PAC	TBS
HOLDING BOX						
705-Full2	Santa Barbara Basin Climate Change	Mar 09; Miami	3		PAC	In Holding Box
637-Full2	New England Hydrogeology	Mar 09; Miami	4		ATL	In Holding Box
552-Full3	Bengal Fan	Mar 09; Miami	5	1	IND	In Holding Box
716-Full2	Hawaiian Drowned Reefs	Mar 09; Miami	6		PAC	In Holding Box
549-Full6	Northern Arabian Sea Monsoon	Mar 09; Miami	7		IND	In Holding Box
618-Full3	East Asia Margin	Mar 09; Miami	10		PAC	In Holding Box

Table OTF-1 Programs currently residing at OTF, including scheduled and to-be-scheduled programs. Programs in the "holding bin" are not formally with OTF.

Table OTF-2 (below) is a subset of Table OTF-1 (above) and includes only those programs ready to be scheduled. Table OTF-2 provides the basis for discussion of *JOIDES Resolution* and *Chikyu* scheduling. MSP scheduling, as you will see, is a bit more complicated.

A major consideration for FY2010/2011 scheduling options is that these programs can be included in the list of accomplishments that feed into a renewal process for IODP beyond 2013.

Proposal ID	Proposal Name	Rank	Tier	Ocean
677-Full	Mid Atlantic Ridge Microbiology	1	1	ATL
644-Full2	Mediterranean Outflow	3	1	ATL
595-Full3	Indus Fan and Murray Ridge	2		IND
724-Full	Gulf of Aden Faunal Evolution	1	1	IND
545-Full	Juan de Fuca Hydro	3		PAC
477-Full4	Okhotsk portion of Bering Sea/Okhotsk	4		PAC
603	NanTroSEIZE Riser and Observatories	1		PAC
605-Full2	Asian Monsoon	4		PAC
505-Full5	Mariana Convergent Margin	1	1	PAC
601-Full3	Okinawa Trough Deep Biosphere	2	1	PAC
537B-Full4	Costa Rica Seismogenesis Project Phase B	7	1	PAC
636-Full3	Louisville Seamount	1	1	PAC
662-Full3	South Pacific Gyre Microbiology	2	1	PAC
522-Full5	Superfast Spreading Crust	8		PAC
537A-Full5	Costa Rica Seismogenesis Phase A	9		PAC

Table OTF-2. Programs ready OTF to be scheduled. Note that all NanTroSEIZE programs are combined into one remaining program, which essentially consists of the deep riser hole (NT3-01) and the installation of the observatories (riser and riserless).

B) FY2010/2011 Schedule Discussion

1) *JOIDES Resolution*

Upon completion of the Wilkes Land expedition, the USIO is currently planning to conduct non-IODP work for ~ four months (Mar – Jun 2010). Following this work, the preference by the USIO is to schedule two more expeditions in FY2010 in keeping with ~8 months of IODP work and four months non-IODP work for each fiscal year. The USIO has put forth a similar partition of operations for FY2011.

A close examination of Table 2 shows that some of the 15 programs are not viable options for the *JOIDES Resolution* in late FY2010 and FY2011. Three of the programs (Indus Fan, CRISP B, and NanTroSEIZE) are riser programs and can be eliminated immediately. The Gulf of Aden program, though highly ranked, is simply not an option at this point due to security/clearance issues. Similarly, the Sea of Okhotsk portion of Proposal 477 suffers from clearance issues that would be difficult, if not impossible, to resolve in time for FY2010/2011 operations. Finally, The Okinawa Trough Deep Biosphere program requires development of high-temperature tools. This technology could not be proposed, designed, developed and tested in the time frame available for FY2011 scheduling.

Thus the remaining programs for potential scheduling on the *JOIDES Resolution* during late FY2010 and FY2011 are shown below in Table OTF-3:

Proposal ID	Proposal Name	Rank	Tier	Ocean
677-Full	Mid Atlantic Ridge Microbiology	1	1	ATL
644-Full2	Mediterranean Outflow	3	1	ATL
545-Full	Juan de Fuca Hydro	3		PAC
605-Full2	Asian Monsoon	4		PAC
505-Full5	Mariana Convergent Margin	1	1	PAC
636-Full3	Louisville Seamount	1	1	PAC
662-Full3	South Pacific Gyre Microbiology	2	1	PAC
522-Full5	Superfast Spreading Crust	8		PAC
537A-Full5	Costa Rica Seismogenesis Phase A	9		PAC

Table OTF-3. Programs for consideration by *JOIDES Resolution* for late FY2010 and FY2011.

In examining the options for the *JOIDES Resolution* there are several primary considerations.

First, the expedition sequence for late FY2010/FY2011 will be mobilized from the northwest Pacific in the late June/early July time frame following non-IODP with the Koreans (**Note:** *This discussion assumes that the FY2010 Non-IODP work will be off Korea. If this changes, then a discussion of USIO options for FY2010/2011 is probably beyond the scope of email discussion and will need to await discussion at SPC in August*).

Second, to capitalize on this mobilization, the most viable options in the North Pacific for this July-August weather window are Juan de Fuca, Asian Monsoon and Marianna (**See Appendix A**). Following the implementation of one these operations the ship must move to equatorial or southern latitudes where environmental (weather/wave) conditions are more amenable during the September-March time frame.

Third, a period of non-IODP work for FY2011 must be incorporated into any long-term plan.

Fourth, previous SPC consensus statements have indicated a desire to move the *JOIDES Resolution* into the Atlantic where two Tier 1 programs await implementation (Mid-Atlantic Ridge Microbiology and Mediterranean outflow).

Finally, only nine viable programs are available for the six slots in this late FY2010/FY2011 time frame. This fact severely limits our options when taking into account environmental conditions, making long transits a necessity.

Given the above, the USIO has developed several options for OTF to consider (see Figure OTF-2 below).

FY2011

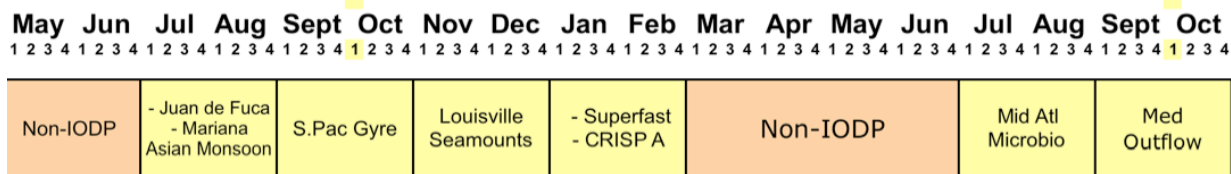


Figure OTF-2. Summary of options for late FY2010 and FY2011 for OTF/SPC consideration.

Figure OTF-2 shows a scenario that implements one North Pacific program (e.g., Juan de Fuca, Asian Monsoon, or Marianna) following the FY2010 non-IODP work off Korea, followed by the implementation of two southern hemisphere Tier 1 programs (S. Pac Gyre and Louisville Seamounts) and then either Superfast or CRISP A (the location of either of these latter two equatorial programs facilitate a move to the Atlantic). *Should funding be procured, the DeepStar riserless mud-recovery trial in the Gulf of Mexico would be a prime candidate for the non-IODP FY2011 work. This would also minimize the transit penalty from moving from the Pacific into the Atlantic (However, OTF does not officially comment on such work and this is only mentioned as an “informational item”).*

Clearly, the options are limited, with the only major decisions appearing to be what do we schedule in the first and fourth slots in the late FY2010 and early FY2011 period. The remaining programs are driven by (1) weather window considerations associated with the Sept-Mar time frame where only four programs are essentially viable (South Pacific Gyre, Louisville Seamounts, Superfast and CRISP – See **Appendix A**) and (2) the fact that only two viable programs are currently available for Atlantic work.

The options are broken down into more detail in Figure OTF-3 (below) with a discussion following:

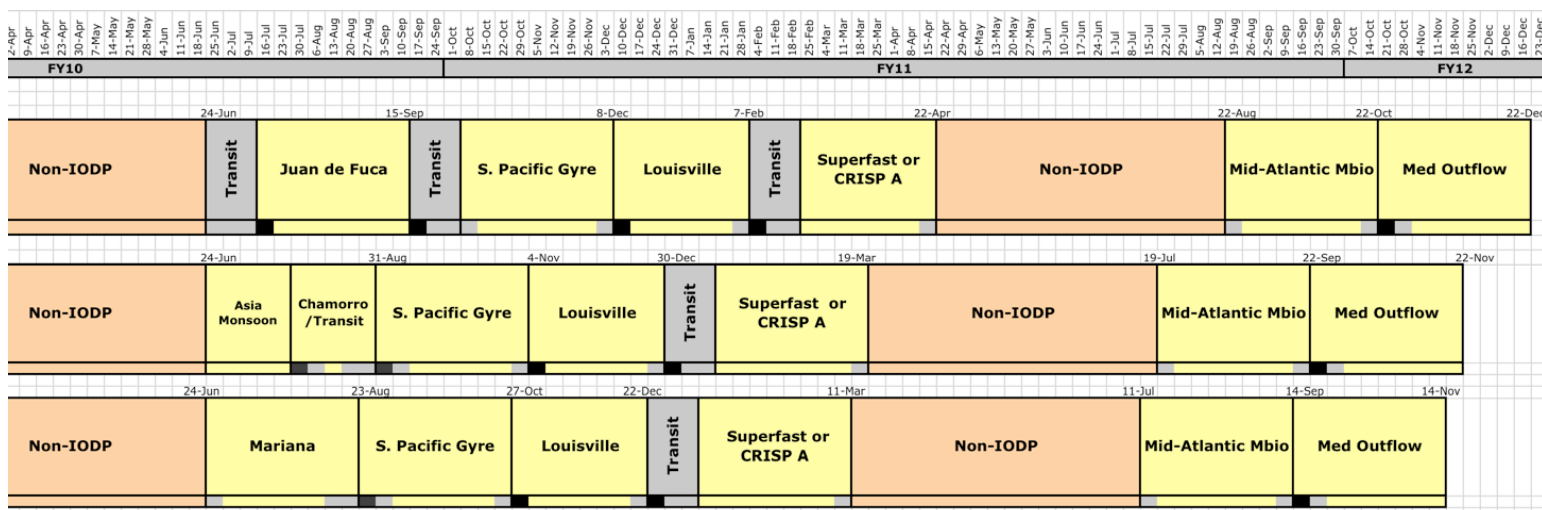


Figure OTF-3. Late FY2010/2011 options for the JOIDES Resolution. Areas denoted with “Transit” imply transit time to move to operational areas (above and beyond the normal 1-5 days associated with transit to/from port). Black boxes indicate port calls and gray boxes on same line indicate transit from/to port from operational areas. Options 2 and 3 would have initial options (Asian Monsoon or Marianna close to Busan that allow a better transition to the Southern Ocean programs and thus have less transit than Option 1.

Option 1: “Juan de Fuca Option”

Option 1 clearly has the most transit. However, it contains five Tier 1 expeditions (assuming Juan de Fuca is a Tier 1--- although it has not been explicitly labeled as such). At this time, NSF has indicated that the POC funds required for the CORK installations would be made available to the program if this option were to be selected. The Juan de Fuca proponents also have indicated that they could be ready for a July/August 2010 program. It is important to note that the recently completed Juan de Fuca cementing operations appears to have been successful (See short note from Andy Fisher- **Appendix B**).

Implementation of this option would mean that three IODP programs would have established observatories (Juan de Fuca, Mid-Atlantic Microbiology, and NanTroSEIZE) by the end of FY2011.

Option 2: “Asian Monsoon Option”

This option contains four Tier 1 programs. It uses a portion of Asian Monsoon paired with the Chamorro CORK APL to maximize science while transiting southward. With the exception of the East China Sea site, the Japan Sea location for Asian Monsoon offers low risk for typhoons. However, the TAMU safety panel had substantive issues with three sites (one of which is in Russian waters and has difficult, if not impossible, clearance issues). Consequently, only six of nine sites have been put in this schedule option.

The Chamorro CORK replacement operation (~3 days + 2 days contingency) would be located during the height of typhoon season. However, the proximity of this operation to a southward transit path suggests this attempt could be worth the risk, rather than simply conducting a “deadhead” transit with no science.

The South Pacific Gyre program in this option starts in a marginal weather window (and will need to start on northern part of transect, which is more forgiving). It is noted that Leg 181 started in mid-August and had some downtime for weather, but was able to accomplish its objectives. The Leg 181 experience is consistent with the weather analysis for the southern South Pacific Gyre sites.

Option 3: “Marianna Option”

This Option contains five Tier 1 expeditions. However it places Mariana in the middle of typhoon season with considerable risk of downtime and loss of sites.

Superfast vs CRISP

All options could implement either Superfast or CRISP A in the fourth slot. Both options could be implemented if a Tier 1 Pacific program was removed (e.g., Louisville or S.Pac Gyre). However, if only one option is implemented in the FY2010/2011 time frame (as proposed), the remaining program is perfectly situated to take advantage of future transits between the Atlantic and Pacific Ocean.

OTF Recommendation for *JOIDES Resolution* schedule?

Based upon the above options for the FY2010 and FY2011 schedule for the JOIDES Resolution, OTF will need to (1) discuss which option it prefers (if any) and (2) determine the priority of Superfast vs.

CRISP A. If the Juan de Fuca option is chosen, OTF will need to formally approve the FY2010 portion of this option immediately, as there is extensive lead-time planning associated with the Juan de Fuca program and planning must begin soon (i.e., this month...actually NOW!).

2) Chikyu schedule

Recommending *Chikyu's* FY2011 schedule is both easy and hard. While there are three riser programs at OTF (NanTroSEIZE, Indus Fan, and CRISP B), I believe all would agree that beginning (and making good progress on) the deep riser hole (NT3-01) at NanTroSEIZE is paramount. Thus my suggestion is that OTF recommend that SPC endorse the scheduling of the NanTroSEIZE riser site (NT3-01) for *Chikyu* FY2011 operations. This operation would begin at the end of FY2010 (mid September 2010) and continue for ~ 5 months (the time allocated by CDEX for IODP operations in FY2011).

The major unknown at this time, however, is whether the location and strength of the Kuroshio current will prohibit the initiation of operations at this NanTroSEIZE riser site. Predictive capability for determining the location of the Kuroshio is on the order of three months or so. Thus IODP and CDEX will need to have a contingency operation ready in the event that *Chikyu* cannot work at the NanTroSEIZE location. Until recently, OTF (via the NanTroSEIZE Project Management Team [PMT]) had developed a series of non-riser contingencies. However, over the past year or so, the community (via SAS and the funding agencies) have strongly asserted the need to maximize *Chikyu* riser operations and thus a riser site contingency is now required.

Along these lines, SPC and IODP-MI requested initial scoping efforts by CDEX on four potential riser contingency options, including Indus Fan, CRISP B, East Asian Monsoon, and IBM. The result of this effort (See SPC 0903 draft minutes – for full discussion) was that:

- (1) Proposal 698-Full2 IBM Arc Middle Crust is viable as a contingency operation, but requires a current monitoring survey;
- (2) Proposal 618-Full3 East Asia Margin has proposed sites located in disputed waters where national boundaries are not clear and safety is a concern;
- (3) Proposal 537B-Full4 CRISP-B would have a large budgetary impact because of difficulties with logistics; and
- (4) Proposal 595-Full3 Indus Fan would be very difficult to implement, primarily because the Japan Ministry of Foreign Affairs does not favor *Chikyu* operating in Pakistan's EEZ.

Given (1) the budgetary and logistical impact of CRISP B, (2) the Japan Ministry of Foreign Affairs concerns with Indus Fan, and (3) the fact that Proposal 698-Full2 (IBM Middle Arc) did not get forwarded to OTF after the 0903 SPC ranking meeting, SPC passed the following motion:

SPC Motion 0903-16: The SPC asks IODP-MI to begin scoping of Proposal 618-Full3 East Asia Margin as a contingency for NanTroSEIZE.

As part of this scoping effort, EPSP provided a preliminary review of the East Asia Margin sites at

their 0906 meeting in Golden, CO. The review went well and EPSP provided the proponents with a set of action items to address before a more formal review of the sites could be undertaken. An ad hoc EPSP meeting is tentatively scheduled for September 11, 2009 in Yokohama for formal review of the sites.

In addition, CDEX is now examining the issue of clearances for the East Asia Margin program, which revolve primarily around disputed territory between China and Vietnam. CDEX consulted with MEXT on the issue with the following outcomes:

1. MEXT has contacted the Ministry of Foreign Affairs of Japan, which has not provided a formal response as of this date.
2. While MEXT has some concerns about this territorial issue, it has no objection to CDEX further pursuing the clearance issues on the SE Asian margin program.
3. Along with clearance, CDEX needs to conduct further site surveys for identifying shallow hazard is required for this drilling. However, JAMSTEC, has no ship time for the surveys in this Japanese fiscal year.

Based upon the above information (in particular, item #3) I was concerned that even if CDEX received the proper clearances to drill the East Asia Margin program, they may not be able to complete the necessary pre-drilling tasks (i.e., site and hazard surveys, geotechnical assessment, lead-time acquisitions, casing set point calculations, etc) in time to be ready to drill in the event NanTroSEIZE was deferred. To assess this situation, I asked CDEX (via Shin'ichi Kuramoto) to provide OTF with a list of the standard milestones CDEX uses to prepare for a riser site (along with the time prior to spud-in required for each of these milestones). In this manner, OTF can formally assess whether the East Asia Margin or any of the riser options (including the IBM Middle Arc) are even possible to implement in the 15 or so months remaining before potential spud-in.

Further discussion will be required of OTF, SPC, and perhaps SASEC this summer should East Asia Margin not be possible to implement in 15 months. A decision may need to be made regarding implementation of one of the other riser options or perhaps not incorporating a riser option as a contingency. Such decisions would probably occur well above the level of OTF.

For now, my suggestion is that OTF recommend that SPC endorse the scheduling of the NanTroSEIZE riser site (NT3-01) for Chikyu FY2011 operations (see Figure OTF-4, below) and that OTF/SPC continue to monitor and evaluate the contingency option(s) as they unfold.

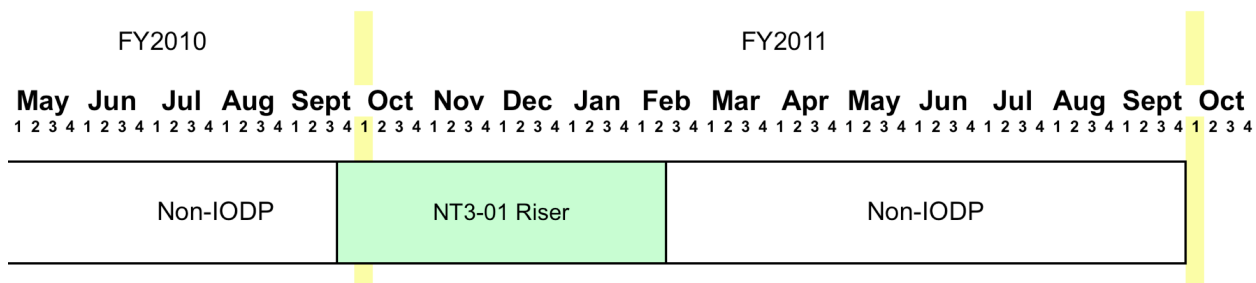


Figure OTF-4. *Potential Chikyu operations schedule for FY2011.*

3) MSP Schedule

As seen in Table OTF-2, there are no MSP programs residing at OTF for consideration for FY2011 scheduling. There are, however, two programs (New England Hydrogeology and Hawaii Drowned Reefs) that are in the “Holding Bin” (see Table OTF-1). Both have site-survey readiness issues and need approvals by both SSP and EPSP before being forwarded to OTF.

Equally, important are funding issues associated with these MSP operations. While ECORD has indicated a desire to conduct MSP operations in all the out-years of this phase of IODP (FY2011, 2012 and 2013), it is not clear whether ESO (ECORD) have the necessary funds to conduct either New England Hydrogeology or Hawaii Drowned Reefs solely with FY2011 POC funds. Either there would need to be a change in the POC/SOC allocation currently in effect with the funding agencies (i.e., to move more of ECORD’s total SOC/POC contribution into POCs) or additional funding would need to be found by ECORD. Both solutions are being investigated by ECORD. Should neither of those solutions come to fruition, the only other options are (1) run no MSP program in FY11 and combine FY2011/2012 funds to conduct one of the operations in FY2012, or (2) wait to see if a lower-cost (but highly-ranked) MSP program is forwarded to OTF after the March 2010 SPC global ranking meeting and run that program in FY2011.

While no decision needs to be made before you all gather at the SPC meeting this summer, I believe OTF (and SPC) should discuss what to do with the New England Hydrogeology and Hawaii Drowned Reefs programs between now and 2013. That is, does IODP want to make a commitment to conduct one of these operations before the end of the program? With the current funding structure, I don’t think both are possible within the remaining 3 years (FY2011, 2012 and 2013).

New England Hydrogeology proponents will conduct a site survey this summer (2009) and could have their results reviewed by EPSP next year. This program could easily be ready for 2012 (at least from the site survey standpoint). The program does have some technical issues to be resolved with respect to coring procedures, packer deployment, etc. But a commitment to this program in an out-year (say FY2012 or 2013) would result in formal scoping to resolve these issues in timely manner.

Similarly, Hawaiian Drowned Reefs will probably need extensive and time-consuming environmental assessment. If that program is to be run before the end of 2013, it is not too early to begin formal scoping to assess the extent of environmental concerns and address these concerns.

APPENDIX A JOIDES RESOLUTION ENVIRONMENTAL OPERATING WINDOWS

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Complexity (cost)
PACIFIC OCEAN												
						Mariana (1)						Coring only
								Juan de Fuca (3)				3 CORKS, Hydrotesting (packers)
	Louisville (1)											
	S. Pacific Gyre (2)											
						Asian Monsoon (4)						Clearance on some sites challenging
Superfast Spreading Crust (13)												
Costa Rica Seismogenesis Project Phase A (11)												Casing, CORKS , LWD
ATLANTIC OCEAN												
						Mid-Atlantic Microbiology (1)						Outside funding obtained; ; 3 CORKS
							Mediterranean Outflow (3)					
COLOR KEY												
Low cost												
high cost implications												
Tier 1												

Summary of environmental operating windows for the nine JOIDES Resolution programs currently considered viable for late FY2010/FY2011 operations. Blue or white windows indicate prime operating windows. Light grey indicates less preferable windows. Dark grey are windows that should be avoided.

Numbers in parentheses after each program indicated the ranking level for each program at a particular SPC ranking session. As the programs represent a compilation from many ranking sessions the numbers are not directly comparable.

The Complexity key provides a qualitative assessment of the cost of each program.

APPENDIX B INFORMAL UPDATE ON JUAN DE FUCA CEMENTING OPERATIONS

Hi, Folks,

Cementing operations during IODP Expedition 321T went remarkably smoothly.

Seas were relatively calm and swells were 3- 4 feet throughout operations. We reentered the platform and cone at 1301B first, through the slot in the ROV platform, took about 90 minutes for reentry. We pumped ~ 50- 60 bbls of cement with cellotape LCM, chased with 20 bbls of fresh water, pulling out as the last few bbls drained into the cone. There was a large cloud of cement and mud, so we did not wait for it to settle, offset to 1301A. Reentry there took about 2.5 hrs, punched through one of the holes on the platform, then pumped about 100 bbls of the same cement mixture. Cement was visibly pouring up and out of the other holes on the platform, indicating that the 1301A cone is completely filled. We returned to 1301B for a better look, preparing to pump additional cement there if needed, but found that the cone was also completely full and overflowing. All operations required about 36 hours, including the pipe trip.

We are now pulling pipe and operations/logistics staff are investigating how soon we can go into port. John Beck is putting together a brief highlights tape of operations (using scavanged VCR tapes), which can be edited to QuickTime. It will be interesting to see how things look at the cones and CORKs later this summer with Alvin, and to determine if these observatories are sealed as intended.

There was excellent planning, coordination, and running of operations by the Transocean and TAMU folks, and it was very helpful to have a cementing specialist to run the mixing and pumping operations. These activities tested the limits of the DP system and the passive heave compensator, which seems to have worked extremely well. When we had the pipe set down in the cones, there was virtually no motion on the Martin Decker load gauge - the pipe moved up and down through the rig floor, but the weight hardly budged.

Take care, Andy