

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

**San Diego, CA, USA
August 28th, 2010**

August 28th Meeting

Location

Hotel La Jolla, San Diego, CA, USA

Time

14:00-17:20

Agenda

1. Introduction, meeting and attendees
2. IO reports (highlights), ongoing operational issues and expedition implementation FY10-11
3. CDEX presentation of CPP Shimokita implementation
4. OTF discussion of Shimokita implementation plan including logging program and costs
5. ESO report on MSP planning for remaining part of IODP
6. USIO and CDEX: Scoping and planning for FY12
7. Discussion of FY12 drilling schedule (all IOs)
8. Conclusion of FY12 schedule for SPC discussion
9. Others

Attendees

David Divins

David McInroy

Früh-Green Gretchen

Gabe Filippelli

Hans Christian Larsen

John Barbara

Junzo Kasahara

Masaoki Yamao

Mitch Malone

Nao Ohkouchi

Nobuhisa Eguchi

USIO

ESO

Science Planning Committee

Chair, Science Planning Committee

IODP Management International (Chair)

Science Planning Committee

Vice-chair, Science Planning Committee

CDEX

TAMU, USIO

Science Planning Committee

CDEX

Observers

Alberto Malinverno

Hiroshi Kawamura

Issa Kagaya

Jamie Allan

Michiko Yamamoto

Ruediger Stein

LDEO, USIO

IODP Management International

IODP Management International

NSF, USA

IODP Management International

ESSAC

PREFACE

This report provides a summary of the IODP-MI Operations Task Force (OTF) meeting in San Diego on 28th August 2010. This meeting focused on scheduling option of *Chikyu*, *JOIDES Resolution*, MSPs for late FY11 through FY12.

At the beginning of the August 2010 meeting, Hans Christian Larsen (Meeting Chair) explained the draft agenda and report that there is a new Addendum for 745-CPP (Complementary Project Proposal) Deep Coalbed Biosphere off Shimokita and will provide to the OTF member later on the meeting. The Addendum was not discussed because of its late arrival (day before meeting).

1. IO reports (highlights), ongoing operational issues and expedition implementation FY10-11

ESO

ESO (David McInroy) presented the ESO report and their future plans for FY11-13 *Mission Specific Platform* operations. In the report ESO gave a summary of Exp. 325 Great Barrier Reef Environmental Changes (GBREC), started on 11 February and completed on 6 April 2010 (65 days at sea). The expedition cored 34 holes at 29 sites and cores were recovered from 42 to 127 mbsf in various water depths situated on four transects in three different geographic areas along the GBR. The average core recovery was approximately 30%. Onshore Science Party was held at IODP Bremen Core Repository on 2 - 16 July 2010 and Preliminary Report due to be published online within a few days after the meeting. IODP-MI is planning to hold Operations Review Task Force meeting for Expedition 325 in late Feb/early March 2011.

USIO

USIO (Mitch Malone) presented schedule update for late FY10 through FY11 (Figure-OTF-1). FY10 *JOIDES Resolution* IODP operation has been started from Exp. 327 Juan de Fuca Hydrogeology on 5th July, 2010 and will end on 4th June, 2011 at Exp. 335 Superfast Spreading Rate Crust 4. USIO explained that they are examining alternate portcall for the start of Exp. 335 Superfast due of logistic problems in Balboa, Panama Also there are several schedule changes in Exp. 335 Superfast, Exp. 336 Mid-Atlantic Ridge Microbiology and Non-IODP operation. USIO is waiting for the final approval from NSF to extend Exp. 335 Superfast for two weeks to achieve more science targets in the expedition.

Alberto Malinverno (LDEO, USIO) explained LWD operation options of upcoming Exp. 334 CRISP. The option include: Run LWD at first hole at each site. Real-time data monitoring for downhole pressure for gas Porosity, density, natural gamma ray, and resistivity. Take 360° images of resistivity, density, natural gamma ray. Cost will be ~\$550K. He also explained SonicVISION (P-velocity) is next priority and is being priced. Larsen asked operation priority of when the LWD operation time runs out. USIO answered if time runs out, stop LWD operation and continue drilling to the target depth.

USIO presented summary of Exp. 327 Juan de Fuca. Hole U1362A was drilled to 528 mbsf with 150 m cored and core recovery was 32%. A CORK was successfully installed with 475 m string with thermistors, osmosamplers, and microbiology substrates. At Hole U1301B, part of old instrument string with 5 temperature loggers ~375 m were recovered and deployed replacement instrument string with 3 temperature probes. The Hole 1027C CORK could not be recovered. Hole U1362B was drilled to 359 mbsf and CORK installation is under going. They also explained Grizzly Bare APL will have APC/XCB coring and temperature measurements if time allows at alternate sites. Masaoki Yamao (CDEX) expresses appreciation on behalf of CDEX for allowing two CDEX staff to participant the Exp. 327 Juan de Fuca. Larsen asked about EPSP response for bacterial releasing at unsealed Hole U1301B and USIO respond there was no comments from EPSP but Canadian authority accepted that.

USIO reported on scoping for Cascadia CORKs for FY12 schedule consideration. Focus will be 3 CORKS (geochemistry, microbiology, T, P, electrodes), one at Site 889 (paired with Exp. 328 ACORK) and two at Site U1328. CAS-04B reference site will be APC/XCB cored up to 400 mbsf with temperature measurement, \pm PCS and wireline logging. USIO explained 3 observatories cost estimate are ~\$3M. Junzo Kasahara (SPC Vice-chair) asked possibility of monitoring observatory data by cable connection to land side. USIO answered there is a plan to connect the observatories to the NEPTUNE Scientific Submarine Cable System. Jamie Allan (NSF) explained budget situation of the NEPTUNE project is difficult and extra fund is necessary to connect with the IODP observatory.

USIO reported current situation of SCIMPI engineering development project. They are exploring possibility of SCIMPI engineering test for 2-3 days at transit time during non-IODP window and SCIMPI proponents are searching for possible suitable sites in the region.

USIO reported Exp. 335 Superfast Co-Chiefs are requesting contingency options with their proposed area of drilling, rather than moving to the CRISP transect, should Hole 1256D prove impossible to deepening.

Expedition	Exp #	Port	Dates
Juan de Fuca	327	Victoria	5 July–5 Sept. 10
Cascadia CORK	328	Victoria	5–19 Sept. 10
Transit		Victoria	19 Sept–9 Oct. 10
S. Pacific Gyre	329	Papeete, Tahiti	9 Oct.–13 Dec. 10
Louisville	330	Auckland	13 Dec. 10–12 Feb. 11
Transit		Auckland	12 Feb–15 March 11
CRISP	334	Puntarenas, Costa Rica	15 March–14 April 11
Superfast	335	Balboa, Panama	14 April–4 June 11
Non-IODP			4 June–20 Nov. 11
Mid-Atlantic Microbiology	336	Barbados	17 Sept.–20 Nov. 11

Figure OTF-1 The *JOIDES Resolution* schedule plan (FY10 – 11). Aug 28, 2010.

CDEX

CDEX (Nobu Eguchi) presented schedule update for late FY10 through FY11 (Figure-OTF-2). First CDEX reported there is no major schedule change in the FY10 – FY11. CDEX continued reporting that the first FY10 *Chikyu* IODP operation Exp. 326 NanTroSEIZE Stage 3 Plate Boundary Deep Riser 1 has been started from on 15th July, 2010 and ended on 8th August, 2010 with Drilling and Casing pipe down to 850 mbsf. The expedition completion was delayed 12 days from original plan due of loss of Casing pipes during operation. CDEX explained that rapidly increased current speed which was 1knt to 2.5knts caused the incident and lost 900m of Casing pipes, and this delay might affect other expedition schedule.

From 1st September, 2010 *Chikyu* will start Exp.331 Deep Hot Biosphere at Iheya North field near Okinawa islands to 3rd October, 2010. This will be first deep biosphere expedition for *Chikyu* and to drill directly on hydrothermal vents with using industrial coring.

After Okinawa, *Chikyu* continues NanTroSEIZE Stage 2 operation from 25th October, 2010 and conduct three expeditions (Exp. 332 Riserless Observatory, Exp. 333 Subduction Inputs 2 and Heat Flow, 738-APL Nankai Trough Submarine Landslides) to 10th January, 2011. These three expeditions include Hole C0010 observatory sensors replacement, C0002 drilling (-1000mbsf) with casing and LTBO installation, and C0012 coring up to basement (-740mbsf). CDEX explained that there was request from the PMT to do wireline logging on C00012 basement coring, but unable to include in plan due of budget limit. Larsen asked a 12 days sensor replacement operation might be excessively long. CDEX answered that these 12 days are a conservative estimate. Issa Kagaya (IODP-MI) reported that NanTroSEIZE PMT is requesting OTF and SPC to consider possibility to allot half of Exp. 333 (include NanTroSLIDE APL) ship time to Exp. 332, because PMT recognized the importance of permanent observatory installation (Exp.332) is higher than in-plan site coring etc

(Exp.333). Larsen and Gabe Filippelli (SPC Chair) commented that the APL ship time should be planned separately from other two expeditions and not be used as contingency time. But they also commented if the APL finished earlier than planned, remaining time could be shifted after operations after consultation with IODP-MI.

Expedition Name (Number)	Dates	Days	Co-chief Scientists	EPM (LSS)
Riser Top Hole (#326)	15 July- 8 Aug	25	H. Tobin M. Kinoshita	N. Eguchi S. Nielsen
Okinawa Hot Biosphere (#331)	1 Sept- 3 Oct	33	K. Takai M. Mottl	S. Nielsen
Riserless Observatory (#332)	25 Oct- 12 Dec	49	A. Kopf E. Araki	S. Toczko (Y. Kido)
Subduction Inputs & Heat Flow (#333)	13 Dec- 10 Jan	29	P. Henry T. Kanamatsu	K. T. Moe

Figure OTF-2 *Chikyu* schedule plan (FY10 – 11)

2. CPP Shimokita implementation

CDEX reported current status of IODP first CPP expedition Deep Coalbed Biosphere off Shimokita planning. CDEX explained expeditions schedule is not fixed at the moment, but will take place in spring 2011. Operation will start with re-entering to hole which was drilled in *Chikyu*'s shakedown cruise (511 mbsf with Casing), and drill and coring up to 2,150 mbsf. CDEX reported that proposals PI have submitted proposal addendum to IODP-MI which include extra coring operations (pressure core) close next to original hole. Larsen commented the addendum will be discussed in this SPC meeting. Kasahara asked if EPSP review is necessary and CDEX answered that they are going to contact EPSP after the SPC meeting. Filippelli asked level of the CPP budget contribution for this expedition and Yamao answered \$20M from Japanese government fund (JSPS) and about \$2M is requested from IODP funds. Larsen explained that CPP requires 70% of POC from external funding source, and for this CPP, IODP-MI's information is that 100% of POC is covered by CDEX, and IODP provide SOC.

3. ESO report on MSP planning for remaining part of IODP

ESO reported their future operation plans of *Mission Specific Platform*, that ESO has been directed by ECORD to aim to implement at least one *Mission Specific Platform Expedition* before the end of the program in 2013 (Figure-OTF-3). ESO is currently scoping 3 OTF proposals in parallel: 1) 548-Full 3 Chixculub K-T Impact Crater, 2) 716-Full 2 Hawaiian Drowned Reefs, 3) 581-Full 2 Late Pleistocene Coralgal Banks. For Hawaii and Coralgal Banks, ESO is exploring the use of sea-bed rock drills, with logging capability which is under development. If sea bed rock drilling and logging is feasible, more than one expedition may be possible before 2013. ESO also explained that they already started to contact each countries authorities and organizing project scoping meetings with proponents for all three expeditions: 548-Full 3 Chixculub K-T Impact Crater, 12th October, Edinburgh. 716-Full 2 Hawaiian Drowned Reefs, 15th November, Edinburgh. 581-Full 2 Late Pleistocene Coralgal Banks, at AGU or early January, 2011 (TBC).

Larsen asked hazard survey plan for Chixculub and ESO answered that ESO applied survey budget for FY11. Hiroshi Kawamura (IODP-MI) informed there is another potential *Mission Specific Platform* proposal by Früh-Green Gretchen in SSEP.

The OTF recommended the following *Mission Specific Platform* FY11 - 13 long range plan to the SPC for discussion.

	Option L	Option M	Option N
FY11	Hawaii	Hazard site survey for Chixculub	Coralgal Banks
FY12	Hazard site survey for Chixculub	Chixculub	Hazard site survey for Chixculub
FY13	Chixculub OR Coralgal Banks OR Other	Hawaii OR Coralgal Banks OR Other	Chixculub OR Hawaii OR Other
Pros	<ul style="list-style-type: none"> • Ambitious end to program if Chixculub in FY13 	<ul style="list-style-type: none"> • Will allow time for MSP funds to build for FY12 Expedition • Leaves choice of Expeditions (of varying expense) for FY13 • More time to explore coring method, inc. seabed drills, for Hawaii if chosen for FY13 	<ul style="list-style-type: none"> • May be cheapest option by committing to Coralgal Banks •
Cons	<ul style="list-style-type: none"> • Not much time for appraisal of coring technique in light of GBR if Hawaii done in FY11 • Possibly too expensive to do both Hawaii and then Chixculub in FY13 (decision needed in FY11 for hazard survey) 	<ul style="list-style-type: none"> • No flexibility if platform unavailable in FY12 	<ul style="list-style-type: none"> • May be least ambitious option by committing to Coralgal Banks

Figure OTF-3 The *Mission Specific Platform* long range schedule plan (FY11 – 13)

4. Scoping and planning for FY12 (USIO and CDEX)

USIO

USIO presented *JOIDES Resolution* FY12-13 long range plan which was discussed at April OTF meeting and approved at June 2010 SASEC meeting (Figure-OTF-4). USIO reported there is no major schedule change on the plan since last April OTF meeting. USIO explained that the FY12 operation will start from September 2011 from 677-Full Mid-Atlantic Ridge Microbiology, 644-Full 2 Mediterranean Outflow (include 763-APP Iberian Margin Paleoclimate) from mid November 2011, Non-IODP operation and transit from mid January 2012, 553-Full 2 Cascadia Margin Hydrates from end of May 2012 and 686-Full Southern Alaska Margin 1 from first of August to end of September 2012.

Larsen asked contingency plan for 553-Full 2 Cascadia and David Divins (USIO) answered the contingency will be selected from Atlantic, 681-Full2 Lesser Antilles Volcanic Landslides and 551-Full Hess Deep Plutonic Crust. Ruediger Stein asked reason of the 659-Full Newfoundland Rifted Margin is out of consideration in the plan and Larsen and Malone answered it is out due to the Gulf of Alaska's weather window.

USIO reported preferred FY13 plan which was also approved at SASEC. The operation plan include Non-IODP operation and transit from first of January 2012, 695-Full 2 Izu-Bonin-Mariana (IBM) Pre-Arc Crust from end of January 2012, 605-Full 2 Asian Monsoon from first of April 2012, 552-Add Bengal Fan from first of June 2012. From first of August 2012, *JOIDES Resolution* will be working in Indian Ocean for her final IODP expedition (TBD).

The OTF confirmed to report to SPC that there is no change on *JOIDES Resolution* FY12-13 long range plan at this OTF meeting.

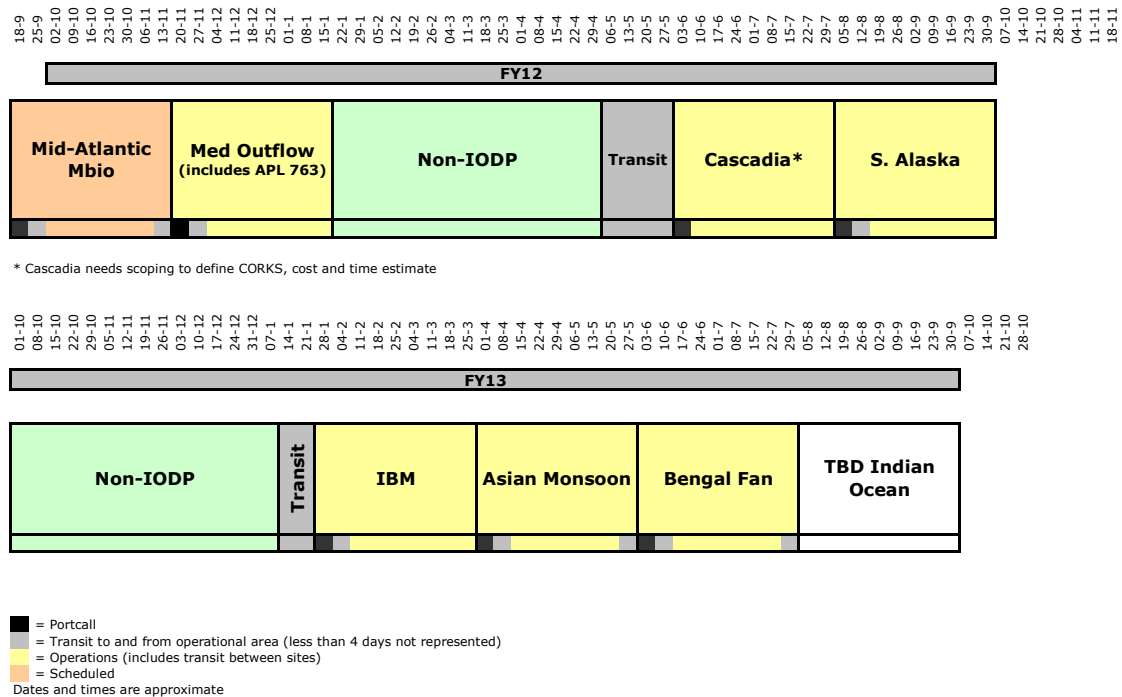


Figure OTF-4 The *JOIDES Resolution* long range schedule plan (FY12 – 13) that were approved at June 2010 SASEC

CDEX

CDEX presented FY12 - 13 long range plan (Figure-OTF-5). First CDEX reported there is no principal schedule change in the long range plan for FY12 - 13. However, insignificant amount of drills time may not allow reaching the seismic zone at the plate boulder by the end of IODP in 2013.

CDEX presented four different 3 year operation options for Hole C0002 deep riser hole which was discussed in the June PMT meeting (Figure-OTF-6). CDEX reported the PMT agreed the best operation plan is Plan A+ (TD 7,000m), but PMT also made Plan A'' (TD 6,200m) as consensus if *Chikyu*'s budget level was difficult to do Plan A+. Plan A'' includes drill through mega-spray fault (approx 5,000m) up to 6,200mbsf and suspend hole for future operation. This plan needs *Chikyu* to return to site in post 2013 program to continue drilling to plate boundary (approx 7,000mbsf). Lasen asked to CDEX and they confirmed this plan mean that during IODP it can reach only below mega-splay Fault but not plate boundary. John Barbara (SPC) asked whether plate boundary is highlighted as target in the new science plane and Larsen answered that it will be. CDEX reported there is no industrial operation for *Chikyu* planed in FY12 at this moment.

Issa Kagaya (IODP-MI) presented a PMT statement from last PMT meeting in Mar.2010. Kagaya reported that the PMT understands that budget, schedule, and engineering constraints unfortunately make it unlikely to complete by the end of IODP in 2013. It is a PMT consensus that PMT interim milestone goal for 2013 is drilling and sampling across the mega-spray fault (~5000 mbsf) intermediate target at C0002 and installation of the three shallow observatories. The PMT strongly agreed the New Science Plan for the IODP successor program should explicitly confirms an international community consensus to finish NanTroSEIZE after 2013 by completing the deep riser hole across the plate boundary and installing long term borehole observatories that can be linked to DONET.

The OTF recommended the following *Chikyu* FY12 - 13 long range plan and hole C0002 deep riser hole operation plan to the SPC for discussion.

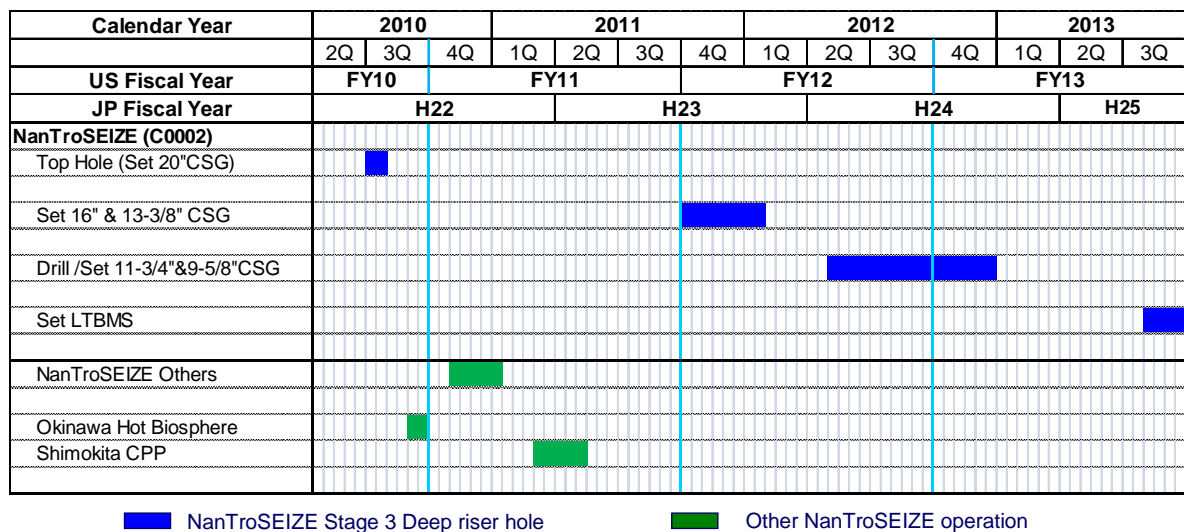


Figure OTF-5 *Chikyu* long range schedule plan (FY11 – 13)

Year	PMT Plan (5x5x5) TD around 5200m	Plan A+ (5x5x10) TD 7000m	Plan A' (5x5x7) TD 6200m	Plan A''(5x5x5) TD 6200m
2010	20days20" csg @ 850m	20days20" csg @ 850m	20days20" csg @ 850m	20days20" csg @ 850m
2011	116days(3.9mth) 16" csg @ 2100m (as deep as possible) (LWD, No Core) 13-3/8" @ 3300m (as deep as possible) (LWD, Core 100m, Wireline logging, VSP)	116days(3.9mth) 16" csg @ 2100m (as deep as possible) (LWD, No Core) 13-3/8" @ 3300m (as deep as possible) (LWD, Core 100m, Wireline logging, VSP)	116days(3.9mth) 16" csg @ 2100m (as deep as possible) (LWD, No Core) 13-3/8" @ 3300m (as deep as possible) (LWD, Core 100m, Wireline logging, VSP)	116days(3.9mth) 16" csg @ 2100m (as deep as possible) (LWD, No Core) 13-3/8" @ 3300m (as deep as possible) (LWD, Core 100m, Wireline logging, VSP)
2012	99days(3.3mth) 11-3/4" @ 4700m Core 100m Wireline logging.	99days(3.3mth) 11-3/4" @ 4700m Core 100m Wireline logging.	99days(3.3mth) 11-3/4" @ 4700m Core 100m Wireline logging.	99days(3.3mth) 11-3/4" @ 4700m Core 100m Wireline logging.
2013	94days(3.1mth) Drill 8-1/2"(LWD) to confirm Mega-splay fault. Sidetrack 8-1/2" hole and Core 200m (minimum). Wireline Logging. No need to set 9-5/8" csg.	298days(9.8mth) Drill 8-1/2"(LWD) to confirm fault ST 8-1/2" hole and Core 200m Continue drlg to 6000m. U-ream & set 9-5/8" csg. Drill 8-1/2"(LWD) below Plate Sidetrack and drill to 6900m. Core from 6900m to 7000m Wireline logging. Plug back & Suspend	205days(6.8mth) Drill 8-1/2"(LWD) to confirm fault ST 8-1/2" hole and Core 200m(minimum). Continue drlg to 6100m. Core from 6100m to 6200m. Wireline Log U/ream and set 9-5/8" csg @6000m Plug back & Suspend	150days(5mth) Drill 8-1/2"(LWD) to confirm fault ST 8-1/2" hole and Core 200m (minimum). Continue drlg to 6100m. Core from 6100m to 6200m. Wireline Logging Plug back & Suspend
TTL	329 days (11mth)	533days(17.8 mth)	440 days(14.7mth)	385days(12.8mth)

Figure OTF-6 Chikyu 3 year option plans of NanTroSEIZE Deep Riser Hole (C0002)