EUROPEAN CONSORTIUM FOR
OCEAN RESEARCH DRILLING

ECORD Facility Board Meeting #5

8th and 9th March, 2017

BGR - Federal Institute for Geosciences and Natural Resources

Hannover, Germany

MINUTES

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* *Apologies*

March 8th, 2017

1. Introduction

1.1 Welcome, opening remarks and rules of engagement (G. Lericolais)

(9:00)

G. Lericolais opened the meeting and presented the rules of engagement:

Confidentiality:

- All participants agree to follow the IODP *Confidentiality Policy* on all discussion items and information from meeting and related communication

Conflict of Interest:

- Any COI must be announced by participants before proposals are discussed
- Direct COI (proponent/co-proponent): participants have to leave room
- Indirect COI (institution/colleague): participants can stay in room, but do not enter discussion unless asked

Decisions:

- Vote by hand or nodding of EFB members
- Reaching consensus on actions and decisions (avoiding formal motions)
- In case of dissent, only Science Board members vote
- In case of dissent of Science Board members, Chair makes decision

1.2 Welcome and meeting logistics (B. Stribrny/J. Erbacher)

(9:04)

B. Stribrny welcomed the participants and presented an overview of the Federal Institute for Geosciences and Natural Resources.

(9:14)

J. Erbacher presented the logistical information.

1.4 Meeting agenda approval (G. Lericolais)

(9:16)

G. Lericolais presented the agenda and the EFB approved the agenda.

ECORD FB Consensus 17-03-01:
The ECORD Facility Board approves the agenda of the ECORD FB Meeting #5.

1.3 Introduction of participants (All)

(9:22)

G. Lericolais let all the participants begin self-introductions.

2. Brief reports of ECORD Facility Board (EFB) and other ECORD entities

Reports were presented for the EFB (G. Lericolais), EMA (G. Camoin), ESO (D. McInroy), the BCR (U. Röhl), the EPC (S. Morgan), ESO outreach (C. Cotteril/U. Prange) and ESSAC (J. Behrmann).

2.1 EFB: report on main activities since last meeting (G. Lericolais)

(9:25)

G. Lericolais gave an update on the EFB activities. The EFB members with voting rights are 1) the six Science Board members: EFB Chair Gilles Lericolais (FRA), Gretchen Früh-Green (CHE), Ellen Thomas (USA), Stephen Gallagher (AUS), Gabriele Uenzelmann-Neben (GER) and Fumio Inagaki (JPN); 2) the ten members of the ECORD Executive Bureau: ECORD Council core members, EMA, ESO, ESSAC and E-ILP; and 3) NSF and MEXT with one representative each. Dominique Weis (CAN), Gerald R. Dickens (USA) and Karsten Gohl (GER) rotated off the Science Board in 2016.

G. Lericolais gave an overview of the MSP proposals at the EFB (Table 1):

Expedition #357 'Atlantis Massif': The offshore phase was accomplished in October/November 2015. Ten sites were drilled with the MeBo70 and the RD2 on the *RRS James Cook*. The expedition was reviewed in Bremen on 24th-25th October 2016. The review committee was composed of two external reviewers (Bo Barker Jørgensen, Christopher MacLeod) and three EFB Science Board members (G. Lericolais, S. Gallagher, K. Gohl).

Expedition #364 'Chicxulub Crater': The offshore phase was accomplished in April/May 2016. One hole was drilled down to 1335 m using a lift boat. The ECORD budget limit was $8.5 M USD (plus $1 M USD from ICDP). The OSP was held for four weeks starting on 21 September 2016. The expedition will be reviewed on 20 June 2017 in Lisbon, Portugal.

Table 1: Six MSP proposals at the EFB (status March 2017).

Proposal	type	Short_Title	PI	Country	Stage	Expedition
637	Full2	New England Shelf Hydrogeology	Person	USA	EFB	
708	Full	Central Arctic Paleoceanography	Stein	ECORD: Germany	EFB	377
716	Full2	Hawaiian Drowned Reefs	Webster	ANZIC: Australia	EFB	
730	Full2	Sabine Bank Sea Level	Taylor	USA	EFB	
813	Full	Antarctic Cenozoic Paleoclimate	Williams	USA	EFB	373
879	Full	Corinth Active Rift Development	McNeill	ECORD: UK	EFB	381

708-Full 'Arctic Paleoceanography': Expedition 377 is scheduled for the Arctic summer 2018.*

* See confidential annex.

813-Full 'Antarctic Paleoclimate': Expedition 373 was initially scheduled in early 2018 and has been postponed to 2020.*

581-Full2 'Late Pleistocene Coralgal Banks': was deactivated in June 2016.

637-Full2 'New England Shelf Hydrogeology': in the EFB waiting room. The proponents will organize a workshop.

716-Full2 'Hawaiian Drowned Reefs': in the EFB waiting room

730-Full2 'Sabine Bank Sea-Level': forwarded from SEP in January 2016; has been reviewed by the EFB in June 2016.

879-Full 'Corinth Active Rift Development': forwarded from SEP in January 2016; has been reviewed by the EFB in June 2016.

G. Lericolais summarized MSP proposals at SEP (Table 2).

Table 2: Six MSP proposals at SEP (status March 2017).

Proposal#	type	Short_Title	PI	Country	Stage
796	ADP	NADIR: Nice Amphibious Drilling	Kopf	ECORD: Germany	SEP
797	Pre	Alaska Beaufort Margin	Ruppel	USA	SEP
806	Pre	Beaufort Gas Hydrate	Paull	USA	SEP
812	Pre	Ross Sea Glacial History	Wilson	USA	SEP
863	MDP	ISOLAT Southern Ocean Paleoclimate	Peterson	USA	SEP
866	Pre	Japan Trench Paleoseismology	Strasser	ECORD: Switzerland	SEP

2.2 ECORD News and Budget (G. Camoin)

(9:36)

G. Camoin presented the ECORD news, the timeline for ECORD's renewal post FY18 (Figure 1), the budget situation for FY17 (Tables 4 and 5) and the budget projections for FY17 to FY20 (Table 6).

There are following changes in the ECORD structure:

1) M. Webb is the new ECORD Council Chair since 1st January 2017. M. Friberg (SWE) is the outgoing ECORD Council Vice-Chair until June 2017.
2) M. Sacchi (ITA) is a new member of the ECORD Executive Bureau.

* See confidential annex.

3) G. Früh-Green (CHE), G. Uenzelmann-Neben (GER) and E. Thomas (USA) are the new EFB Science Board members.

G. Camoin summarized the ECORD membership (Table 3) :

Table 3: FY17 ECORD member countries.

Germany	>FY18
France	>FY18
UK	>FY18
Norway	>FY18
Switzerland	>FY18
Sweden	>FY18
Netherlands	>FY18
Italy	>FY18
Spain	>FY18
Denmark	>FY18
Ireland	>FY18
Austria	>FY18
Portugal	>FY18
Finland	>FY18
Canada	>FY17

At the moment ECORD has 15 member countries. Since 2014 ECORD lost four member countries: Iceland, Belgium, Israel and Poland. Potential newcomers are encouraged to form a national consortium before joining ECORD. ECORD is negotiating with Turkey and discussing with Russia concerning a potential membership.

Spain is back in ECORD since 1st January 2016. Currently, Canada is trying to identify new funding sources in order to continue its membership with ECORD. Besides Canada, all ECORD member countries are committed until the end of FY18.

ECORD renewal post FY18:
ECORD's renewal will mostly rely on 1) science results measured against the Science Plan over the first phase of IODP, 2) the success of ECORD's financial model for all IODP platforms during the first phase of IODP, and 3) the operational plans for all IODP platforms during the second phase of IODP.
An external ECORD Evaluation Committee (EEC) was set up. The eight EEC members will review documents until June 2017. A 3-days general meeting will be held on 6-8 June 2017. The EEC members will send a final report to EMA in June 2017. This report will be distributed to the ECORD funding agencies.
Mandate of the EEC: The EEC mandate will primarily concern the production of a high-level review focused on 1) the achievements of ECORD within IODP, 2) the impact of MSPs in particular, and 3) the effectiveness/efficiency of the ECORD entities.

Following ECORD's evaluation, the ECORD MoU will be updated during the second half of FY17 (Figure 1). The funding agencies will agree during the first half of FY18. At the end of FY18 until the beginning of FY19 the IODP MoUs will be reviewed and they will be signed in summer 2019 (Figure 1).

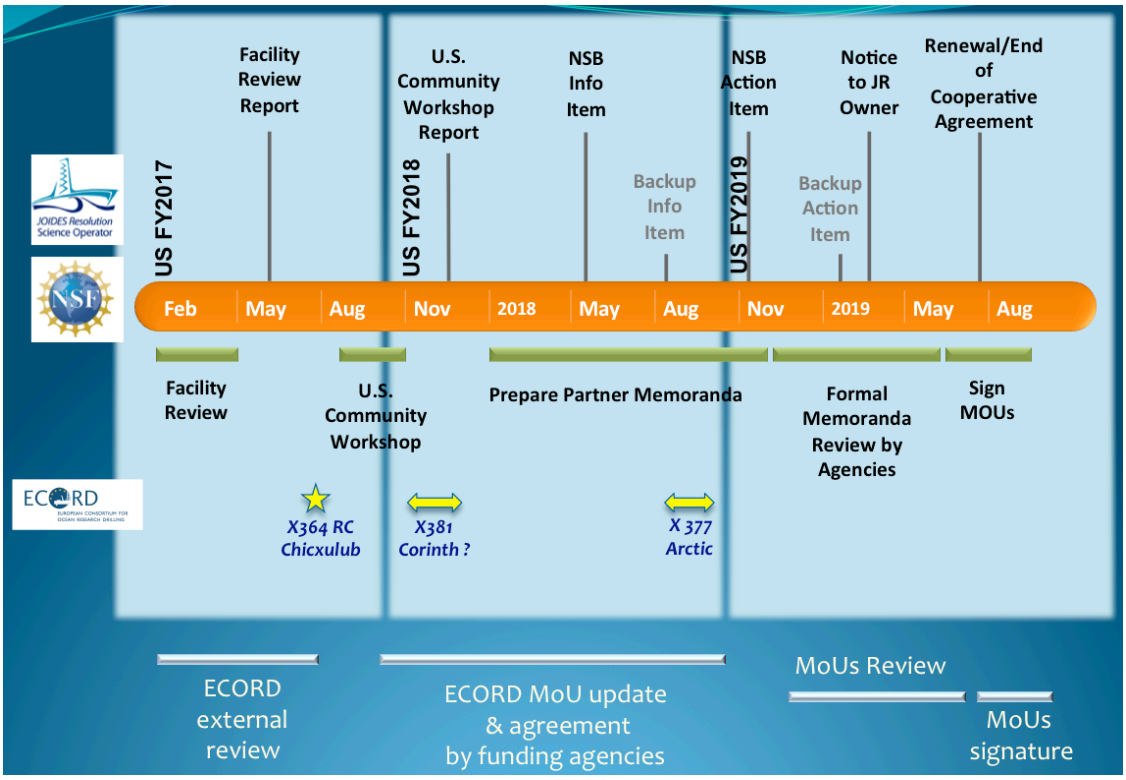


Figure 1: Timeline for ECORD's renewal post FY18

Table 4: ECORD FY17 budget

	FY17 Income	FY17 Expenses
FY 16 balance	10,002,265	
FY 17 contributions	16,855,000	
ECORD-NSF MoU		7,000,000
ECORD-JAMSTEC MoU		1,000,000
ESO		TBD
EMA		274,400
MagellanPlus		78,400
ECORD Outreach		63,300
ESSAC		276,783
BCR		313,642
TOTAL	26,857,265	9,006,525
FY 17 balance without ESO costs	17,850,740	

* Exchange rates : February 27th, 2017 (1€=1.06$)

G. Camoin continued to summarize the ECORD budget situation for FY17 (Table 4). FY16 ended with a positive balance of $10.0 M USD, which was carried over to FY17. Together with the FY17 member contributions of $16.85 M USD, the FY17 income yields $26.85 M USD. The expenses are of $9.0 M USD excluding ESO costs. FY17 should finish with a positive balance of $17.85 M USD without taking ESO costs into account. Potential additional contributions (cash, IKCs) are not considered in this calculation.

Table 5: ECORD FY17 budget

FY17 Contributions (US$)		FY16-15 loss (US$)
Germany	5,600,000	
France *	4,090,000	305,000
UK *	3,226,000	524,000
Norway	1,100,000	
Switzerland	600,000	
Sweden	528,000	
Italy	500,000	
Netherlands	500,000	
Spain *	162,000	6,000
Denmark *	143,000	8,000
Ireland *	106,000	5,000
Austria	100,000	
Portugal	90,000	
Finland	80,000	
Canada	30,000	
TOTAL	16,855,000	848,000
* = Contributions in other currencies Exchange rates : 1€=1.06$		

Germany, France and the UK represent 80% of the ECORD budget. The annual contributions from the other countries range from $30,000 to $1.1 M USD (Table 5).

Due to changes in the currency exchange rates, ECORD lost about $850,000 USD in FY15-FY16, because not all countries are paying in dollars. France, Ireland and Spain are paying in euros, Denmark in krones and the UK in pounds. The FY14-FY17 loss is $2.12 M USD.

G. Camoin continued to present the predictions for the FY17 to FY20 budgets (Table 6*).

COMMENTs on ECORD budget projections:
The Arctic MSP Expedition depends very much on IKCs (J. Austin), specifically icebreakers. FY19 could be used to save money if no MSP expedition is implemented (J. Allan). A low-cost expedition could be implemented in FY19, or ECORD will bank the money if no expedition will be implemented (G. Camoin).

The DEDI-2 (Distributed European Drilling Infrastructure) proposal will be submitted in March 2017. The aim is to build a sustainable European distributed infrastructure associated with research drilling, logging, while-drilling monitoring, core curation and data management. DEDI-2 will foster collaboration between geothermal drilling, ice coring, continental and ocean drilling communities. ECORD will be a user of this infrastructure. This allows ECORD to deal with existing technologies like seabed drills and long piston coring, but also to develop new tools like borehole observatories, pressure sampling and high-temperature tools.

Resources: The ECORD Annual Report 2016 was published in March 2017. The ECORD website was relaunched in September 2016.

* See confidential annex.

The MagellanPlus Workshop Series Programme concerns all IODP platforms and ICDP. A maximum of 15,000 € is provided for each workshop. Since 2014 14 workshops were organized and 11 drilling proposals were initiated. Five MagellanPlus workshops will be organized in 2017.

QUESTION about the EEC meeting:
Will the outcome of the EEC meeting be publically available (H. Given)? A summary will be distributed and available on the ECORD website (G. Camoin).

QUESTION about DEDI-2:
Could a successful DEDI-2 proposal reduce the fixed costs for MSP operations (H. Given)? If ECORD is a user of DEDI-2, ECORD can access the facilities and could save some money (D. McInroy). For the European Commission, ECORD is still a starting community (G. Camoin).

2.3 ESO report and updates on scheduled MSP expeditions (D. McInroy)

(10:02)
D. McInroy presented an update on Expedition 364 'Chicxulub Impact Crater' (2016) and the three planned Expeditions 373 'Antarctic Cenozoic Paleoclimate', 381 'Corinth Active Rift Development' and 377 'Central Arctic Paleoceanography'.

Expedition 364 'Chicxulub Impact Crater'
The offshore phase took place in April/May 2016. The open-hole section extended down to 505 mbsf and the coring was done from 505 to 1335 mbsf, with a total core length of about 838 m. The peak ring target was reached and the core recovery was 100%. In June 2016 the cores were sent to Weatherford Labs (Houston, USA) for CT scanning. Then they were shipped to Bremen for the OSP that was held for four weeks starting on the 21st September 2016. The moratorium is until October 2017. A *Science* paper was published soon after the OSP in November 2016. A special session will be held at the Lunar Planetary Science Conference in March 2017 and a keynote symposium will take place at the GSA Annual Meeting. To date, 37 abstracts have been submitted to various international and local meetings.

Expedition 373 'Antarctic Cenozoic Paleoclimate'
ESO continued its discussions with the Division of Polar Programs about accessing the *RVIB Nathaniel B. Palmer* from the US Antarctic Program (NSF) to carry the BGS RD2 for this expedition. Since the Atlantis Massif expedition in 2015, improvements have been made on the RD2. In summer 2016 the RD2 was used in the EU Blue Mining project. In 2015 and 2016 the RD2 did not support sustained coring down to 50 mbsf, and only 20 mbsf could be drilled. However, the rock types drilled during the Atlantis Massif expedition and the EU Blue Mining project are different from those that will be drilled during the Antarctic expedition. During the second half of 2016 ESO planned to test RD2

drilling in sediments, however, a permission from local water authorities was not given. Therefore, ESO recommended in October 2016 to postpone Expedition 373.

Expedition 381 'Corinth Active Rift Development'

D. McInroy presented the scientific objectives and the cost estimate history of this expedition.* ESO made progress with the drilling service procurement and started to discuss with the proponents the option to de-scope the proposal. At the moment there is no de-scoping, but the 3-hole option is considered. Drilling contractor bid returns were received on 1 March. The bid responses looked positive as to costs, because of benefits from a drop in the market (vessel availability) and low fuel prices. Discussions with the contractors will be done in March 2017.* The cost estimate is based on drilling two deep holes and one half hole. A single hole will be cored at each site. Drilling will be done up to 750 mbsf and in water depths of up to 862 m. The drilling strategy may be modified at sea depending on the progress.

One Co-chief is Lead Proponent L. McNeill and the second Co-chief is still under discussion. A Webinar was held on 14 February and the call for scientists closed on 3 March. Nominations are expected by 20 March. Two Science Party places are reserved for Greece. The permitting procedure was identified and there is assistance from the Greek proponents. A report was sent to EPSP.

DISCUSSION on Expedition 381:

There are difficulties in generating interest in the US in terms of response to the call of application (C. Brenner). It could be difficult to get the usual number of US participants for this expedition. The application period was already extended (C. Brenner). The European response has been quite good (D. McInroy). More people signed up for the Expedition 381 Webinar than for any other MSP expedition.

The ECORD Council has to find a solution concerning the implementation of Expedition 381 in 2017 within one month (G. Camoin). ECORD should not de-scope this proposal otherwise the science is compromised (J. Austin). This has already been taken into account at the last EFB meeting in Brussels in 2016. The proposal is not de-scoped (S. Gulick/D. McInroy).

Expedition 377 'Central Arctic Paleoceanography'

ACEX-2 will be a three-ship operation similar to the ACEX-1 expedition and is provisionally scheduled for 12 August to 4 October 2018. Compared to ACEX-1, the sites are further south and the proposed penetration is deeper during the ACEX-2 expedition, but the final drill sites are not yet decided. The German *RV Polarstern* is already secured. A second icebreaker is needed. A Russian involvement may lead to additional drilling of a basement site.

In January 2017 ESO met Oleg Petrov (Russian Geological Research Institute) and

* See confidential annex.

Andrey Morosov (Russian Federal Agency of Mineral Resources) to discuss possible IKCs like an icebreaker and passage fees. ESO was asked to formally write to Sergey Donskoy (Ministry of Natural Resources and Environment). The value of the IKCs will be evaluated by ESO and then ECORD will negotiate the final berth allocation. ESO is still seeking for an ice management IKC. Canada will not provide ice management but Sweden could possibly provide such a service. The ice management team for ACEX-1 was composed of 8-9 people. This could represent significant costs.
A call for scientists is planned for late spring to early summer. The vessel/drilling services procurement is planned for spring 2017. The make-up of the drill ship and the *RV Polarstern* still has to be decided.

DISCUSSION on Expedition 377:
A transit through the Northern Sea Rid, Russian territory, is needed. Russia charges a fee to access this Rid and for this fee ECORD would get ice breaker assistance and emergency support (D. McInroy). This fee was not paid for ACEX-1 because the vessels did not go into this area (D. McInroy). For the Arctic Council there are some statements about opening free access for science (M. Friberg).
Russian geoscientists are interested in the basement of the Lomonosov Ridge and they identified two sites nearby that could be drilled at the end of the expedition to get basement (D. McInroy). Drilling basement would become part of the expedition, and the material would be an IODP core (D. McInroy). Drilling basement would change the operation significantly (J. Austin). ECORD should not guarantee drilling basement because it is unsure whether time will allow additional drilling (R. Stein). Adding basement drilling may take more than two days. The palaeo-aspect has the highest priority, i.e. getting a complete section down to the Eocene, reaching the Paleocene/Eocene with a 2 km drill string (R. Stein). For the palaeo-objectives two holes need to be drilled. Second priority is the Pleistocene, and if time allows basement may be drilled for two days (R. Stein). Drilling basement with the MeBo or RD2 where it is close to the water surface could be a separate expedition (R. Stein), but Russian participation is needed to make this expedition happen (D. McInroy). Drilling of the basement has to be negotiated with the Russians (D. McInroy). The duration of the expedition will be primarily controlled by the fuel capacity of the drill ship (D. McInroy).

(10:46)
coffee break
(11:05)

2.4 ESO: Curation activities and update on policies (U. Röhl)

(11:05)
U. Röhl gave an update on the Bremen Core Repository (BCR). The BCR currently archives 154 km of cores from the Atlantic Ocean, Arctic Ocean, Mediterranean Sea, Black Sea and Baltic Sea. A map on the BCR webpage shows the location of the drill sites.

Since 1969 more than 1.6 M samples have been taken from BCR cores.

Staff changes: In August 2016 Holger Kuhlmann replaced BCR Superintendent Walter Hale. Since June 2016 Patrizia Geprägs is the new Assistant Curation & Lab Manager. Vera Bender is the new ESO/BCR Data Manager and will replace Hans Wallrabe-Adams at the beginning of 2018.

Curation and sampling: Since June 2016 36,561 samples have been taken. The Expedition 364 OSP was hosted in September-October 2016. A new project was started to provide digital overview scans of the BCR thin section collection. More than 3 km of Expedition 363 cores arrived at the BCR on 3rd March. These cores will stay temporarily for XRF scanning at MARUM and Kiel University.

Data management: The new Repository Database 'CurationDIS' version is routinely used. IGSN numbers are generated for previous MSP expeditions. The CoreWall System was upgraded and a new cloud system is used for expedition data. The Online Curational Data Access (XDIS) system was revised. The Scientific Earth Drilling Information Service (SEDIS) is continuously maintained at the MARUM.

Education & Outreach: This year is the 11th year of the Bremen ECORD Summer School. In 2017 the topic of the Summer School is 'Current-controlled Sea Floor Archives: Coral Mounds & Contourites'. The Summer School combines lectures and interactive discussions on the main themes of IODP with practical 'shipboard' methodologies. In March 2017 the third ECORD Training Course was held at the MARUM with 30 participants from 12 different countries. The participants were prepared for future IODP expeditions. Recently, filming was done at the IODP repositories for an "IODP: Open Data for Global Research" video, which can be found on the IODP website and on YouTube.

There is an IODP Curatorial Advisory Board (CAB) related to the IODP Sample, Data, and Obligations Policy. The CAB consists of five members of the scientific community who serve in overlapping terms. Since October 2016 there are two new CAB members: Richard Arculus and Beth Christensen who will serve for three years until 30th September 2019.

QUESTION about ECORD education:
J. Austin asked for evidence of ECORD Summer School participants who got involved in IODP as sailing scientists. In Germany there are ten Summer School participants who sailed on IODP expeditions (J. Erbacher).

QUESTION about BCR capacity:

J. Austin asked about the BCR core storage capacity. There is still some capacity, but the university is already thinking about constructing a new building at the beginning of the next decade (U. Röhl).

2.5 ESO: Downhole logging data and core petrophysic measurements (S. Davies)

(11:21)

S. Morgan presented the activities of the European Petrophysics Consortium (EPC): equipment & measurements, preparation for upcoming expeditions, post-expedition activities, education and outreach.

Recent staff changes: A. Fehr left the EPC and J. Inwood will return in May 2017.

Equipment & Measurements: Existing equipment includes a suite of core physical properties technologies. The equipment is principally based at the University of Leicester. The thermal conductivity devices are based in Aachen. A suite of downhole logging instruments is hosted at the University of Montpellier.

EPC has undertaken a scoping of XCT scanning in collaboration with ESO-BGS. The options include commercial full services similar to those in Weatherford Labs (Houston, Texas), but also equipment hire.

For the first time, natural gamma radiation measurements were taken offshore during Expedition 364. Usually these measurements would have been done at the BCR just before the OSP. The multi-core XYZ system will be re-purposed to perform other measurements that could be of interest for future operations.

Expedition 381 'Corinth Active Rift Development': At the moment, EPC is working together with ESO-BGS on the source permitting for gamma density measurements using a radioactive source in Greek territorial waters. The scientific prospectus and the logging plan have to be developed. The logging is going to be undertaken in-house, using the tools at the University of Montpellier. A pre-OSP is planned, which will probably take one month, to undertake thermal conductivity measurements. At the moment, scoping is done to undertake *in situ* temperature measurements.

Expedition 377 'Central Arctic Paleoceanography': In-house logging tools will be used and at the moment EPC is looking for a 10' logging container.

Expedition 373 'Antarctic Cenozoic Paleoclimate': EPC is working on source permitting.

Expedition 357 'Atlantis Massif': A second post-cruise meeting is planned for September 2017.

Expedition 364 'Chicxulub Impact Crater': Demobilization took place in Louisiana. There was no pre-OSP because the natural gamma radiation measurements were done offshore and the thermal conductivity measurements were undertaken on the split cores. The editorial meeting will be held soon, and the expedition will be reviewed in June 2017.

Education & Outreach: EPC participates in the ECORD Summer School and Training Course in Bremen. In 2016, EPC hosted the first ECORD Petrophysics Summer School in Leicester. The second ECORD Summer School in petrophysics will be held from 2 to 7 July 2017. The deadline for applications was extended and so far 29 applications were received.
EPC participated in various outreach activities for Expedition 364.

2.6 ESO: Outreach activities on MSP expeditions (C. Cotteril/U. Prange)

(11:33)
C. Cotteril presented post-June 2016 and proposed 2017 outreach activities.

International conferences/meetings:
AGU 2016 in San Francisco: A joint booth was organized with ICDP, IODP, USSSP and CDEX. A media conference on Expedition 364 was held.
IGC 2016 in Cape Town: A joint booth with ICDP and an IODP session were organized.
EGU 2017 in Vienna: A joint booth with ICDP and a Townhall Meeting are planned. Mentoring sessions and lunchtime sessions for educators will be organized.
IESO 2017 in Valbonne: An ECORD presentation is planned for the International Earth Science Olympiad.
Goldschmidt 2017 in Paris: ECORD plans to sponsor a session.
AGU 2017 in New Orleans: A joint booth with ICDP, IODP, USSSP and CDEX is planned.

Expedition 364 OSP:
A media day and documentary filming were part of the Expedition 364 OSP. There was significant, worldwide media interest. Barcroft productions filmed onshore and offshore. This documentary will be released by Nova in the US and by BBC in the UK in April 2017**. Rights have also been sold to France and Japan. A series of offshore GoPro "shorts" was produced. Lara Jacobi (MARUM) did offshore and OSP filming for "Unravelling the life of a core".
Two educators were involved in Expedition 364: Barbara Matyssek (Germany) and Kevin Kurtz (USA).

***Update (May 2017): BBC version is now expected in May/June and Nova version is now October.*

Expedition 364 - ongoing outreach:
Core replicas will be produced and displayed in museums. Kevin Kurtz is re-designing the "Blast from the Past" poster, and he is writing a proposal for a crowd-funded production of a children's e-book on Expedition 364. Ongoing outreach activities include a virtual field trip, documentaries/movies and interactive games.

Future outreach activities:
ECORD needs to maximise outreach activities. The idea with USSSP is to use transit time on the *JR* for running training courses. Planning for *JR* port-calls when the vessel is in the Atlantic and Mediterranean has to be done. Consistency is needed when dealing with multiple nationalities and languages. Public visits and open ship days have to be planned.

Expedition 381 'Corinth Active Rift Development':
The design of the expedition logo is still in progress. The call for the science party closed on 3 March. A call for educators will be designed and the expedition communication plan will be finalized. Various media production companies will be contacted regarding an expedition-specific documentary.

Future - Social Media:
Guidelines for the use of social media will be set up to better promote ECORD activities. The aim is to have a very regular presence on social media. The E-OETF will work closely with the EPM and Co-chief Scientists to ensure an expedition-specific outreach strategy. A consistent approach to social media usage has to be ensured.

Future - Education:
The effective engagement of educators has to be ensured. ECORD has to overcome language barriers across Europe. One objective is to reach school children. For example, 'Our Dynamic Earth' in Edinburgh runs educational workshops with a yearly attendance of about 80,000 school children.

IODP Film:
A 3-4 minute film is planned to show ECORD and its unique position within IODP. Plans will be sharpened at the next ECORD Outreach and Education Task Force meeting in October 2017.

DISCUSSION on education officers:
The JR is struggling with the position of science officer (J. Allan). There are strong recommendations from the last Facility Board review on what to do with these positions (J. Allan). Guidelines have to be set up stating specific expectations for educators (C. Cotteril). A specific call for educators has to be published at the same time as the call for scientists (C. Cotteril). Priorities have to be set, and an outreach or education section should be

included in the IODP proposal (J. Allan). Non-US science officer positions in the US cost $400,000 USD per expedition (J. Allan), per berth. Education officers have to be considered in the new MoU (J. Allan). It is important to start identifying the goals for the individuals in these positions. A programme-wide workshop has been suggested and the PMO meeting at the IODP Forum could be a start (J. Allan). In preparation for the JRSO review, the US E&O group developed a White Paper and USSSP wants to collaborate with ECORD to document the effectiveness of the E&O programme (C. Brenner). A long-term prospective study would take time but could be valuable (C. Brenner).

COMMENT on outreach:
"Ask Me Anything" reaches more people quicker (S. Gulick). An AMA has been done for every expedition except for Exp 363 (C. Brenner).

2.7 ESSAC: Staffing, courses and other activities (J. Behrmann)

(11:55)
J. Behrmann gave an overview of the staffing, the ECORD Summer Schools scholarships and the ECORD Research Grants.

Staffing:
Expedition 367 (South China Sea): Under way with five ECORD scientists on board (2 from France, 2 from Italy and 1 from Switzerland). One scientist came in as a Special Call.
Expedition 368 (South China Sea) is fully staffed. Seven ECORD scientists are ready to sail including one Danish Co-chief Scientist (3 from Germany, 1 from France, 1 from Italy and 1 from the UK). Two scientists came in as a Special Call.
Expedition 369 (Australian Cretaceous Climate and Tectonics) is fully staffed. Ten ECORD scientists are ready to sail including one UK Co-chief Scientist (2 from Germany, 1 from France, 1 from Italy, 1 from Denmark, 1 from Austria and 3 from the UK) .
Expedition 371 (Tasman Frontier) is fully staffed. Nine ECORD scientists are ready to sail (2 from Germany, 3 from France, 1 from Italy, 1 from Spain, 1 from the Netherlands and 1 from the UK). One scientist came in as a Special Call.
Expedition 372 (Hikurangi) is almost fully staffed. All invitations have been issued and seven positive responses were received.
Expedition 373 (Antarctic Cenozoic Paleoclimate): Staffing is postponed.
Expedition 374 (Ross Sea W Antartic Ice Sheet History): Staffing is still in progress. Five scientists have already accepted.
Expedition 375 (Hikurangi Subduction Margin): Staffing is finished. Eight ECORD scientists are ready to sail.
Expedition 376 (Brothers Arc Flux): An open call was issued with a deadline of 1st April.
Expedition 381 (Corinth Active Rift Development): An open call was issued and the

deadline was extended until 3rd March. By 3rd March 26 applications from ECORD member countries and four applications from Greek scientists were received.

ECORD Summer Schools - Scholarships:

The ECORD Training Course 2017 "Virtual Drillship Experience" that was held at MARUM in March 2017 received a direct support of 6,500 €.

The 2017 ECORD Urbino Summer School in Paleoclimatology receives a direct support of 10,000 € plus scholarships to be determined and awarded.

The ECORD Bremen Summer School 2017 with the topic 'Current-controlled Sea Floor Archives: Coral Mounds & Contourites' will be held from 21 August to 1 September 2017 and receives a direct support of 10,000 € plus scholarships to be determined and awarded.

The ECORD Petrophysics Summer School will be held in Leicester from 2 to 7 July 2017 and receives a direct support of 10,000 € plus scholarships to be determined and awarded.

The awards will be announced shortly after the ESSAC meeting that will be held in Graz in May 2017.

ECORD Research Grants:

Fourteen high-quality proposals were received from all sciences and topics relevant for IODP and from a large spread of ECORD member countries. The total budget is 18,000 € and top-ranked research grants will be funded with up to 3,000 €. The selection process is still under way and the awards will be announced mid-May 2017, shortly after the ESSAC meeting in Graz.

ECORD Distinguished Lecturer Programme:

Mark Alexander Lever (Switzerland), Bridget Wade (UK), Marianne Conin (France) and Gretchen Früh-Green (Switzerland) cover the four themes of the IODP Science Plan.

DISCUSSION on staffing:

J. Austin asked if an increase from four to five JR expeditions per year would be problematic for ECORD regarding the staffing with ECORD scientists. ECORD is continuously generating more demand from ECORD scientists than can be fulfilled (J. Behrmann). ECORD has the lowest rate of success for a scientists to sail on an expedition (J. Behrmann). ECORD's supply of berths to JR and MSP expeditions is working well (J. Austin).

3. Brief reports of other IODP facility boards and entities on recent activities

There were reports on the *JR*-FB (A. Koppers), the renewal process for the JRSO Cooperative Agreement in 2018 and the long-term strategy for future *JR* implementation (J. Allan), the CIB (N. Eguchi), the Science Support Office (H. Given), the Science Evaluation Panel (S. Gulick) and the IODP Forum (J. Austin).

3.1 *JOIDES Resolution* Facility Board (A. Koppers)

(12:12)

A. Koppers presented the *JR* schedule for FY17-19, the long-term *JR* track, Non-Disclosure Agreements (NDA) and updates from the *JOIDES Resolution* Facility Board (*JR*-FB).

JR expeditions scheduled FY17-19:

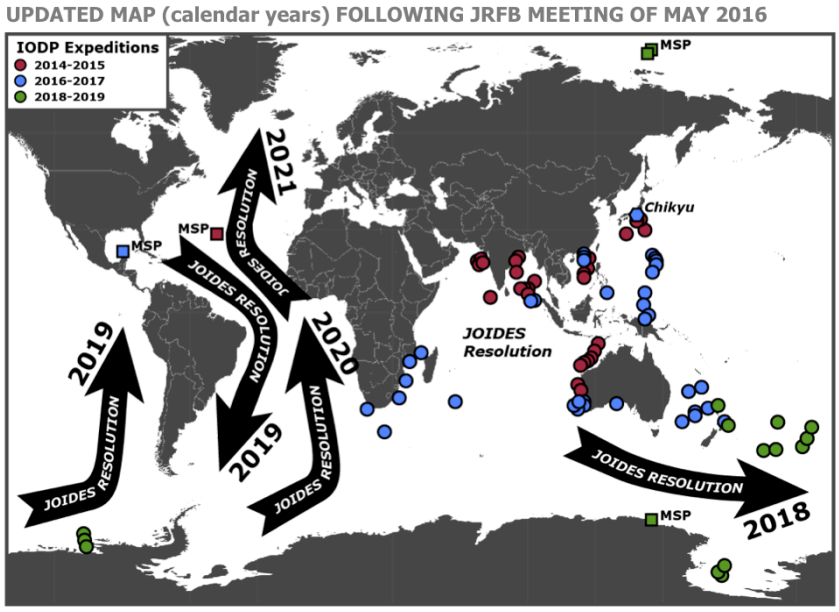
A. Koppers presented the *JR* expedition schedule for FY17-19 (Table 7). This schedule is subject to funding for ship operations in FY18-19. Five *JR* expeditions will be implemented in FY18 and FY19, i.e., one extra expedition was added each year. Two Antarctic expeditions are part of the schedule (P751 'West Antarctic Ice Sheet Climate' and P839 'Amundsen Sea Ice Sheet History'), and they are subject to the availability of ice-breaker support.

Table 7: *JR* expedition schedule for FY17-19.

Fiscal Year 1 Oct - 30 Sept	Proposal Expedition	Title
FY' 17	P832	Tasman Frontier Subduction
FY' 18	E369 + 897-APL	Australia Cretaceous Climate and Tectonics and OAE2 Black Shales
FY' 18	P841-APL + P781A (1 of 2)	Combined Expedition Creeping Gas Hydrate Slides and LWD portion of Hikurangi Observatory
FY' 18	P751 **	West Antarctic Ice Sheet Climate (Ross Sea)
FY' 18	P781A (2 of 2)	Hikurangi Observatory (CORK installations)
FY' 18	P818	Brothers Arc Flux
FY' 18	Non-IODP	Mandatory 5-year Inspection JOIDES Resolution
FY' 19	P567	South Pacific Paleogene
FY' 19	Non-IODP, JR100	Short 2-4 weeks (move from Tahiti to Punta Arenas, Chile)
FY' 19	P839 **	Amundsen Sea Ice Sheet History

The long-term *JR* cruise track will follow a path from the Southern Ocean along the west coast of South America to the Caribbean in order to implement one CPP and probably further proposals (Figure 2). Then the *JR* will go back south along the east coast of South America reaching the South Atlantic in 2019, and implementing another Antarctic expedition. Finally, the *JR* will go north again in 2020 along the West African Coast to reach the North Atlantic in 2021.

Figure 2: Long-term *JR* cruise track until FY21.



Most of the proposal pressure is now in the South and North Atlantic. At the moment there are 16 pre-proposals and 20 full proposals at SEP, seven proposals are at the *JR*-FB and two APLs can be considered for scheduling. In the South Atlantic, the vast majority are now in the Full1 (not revised yet) stage. Those could develop into an expedition by > April 2019 at the earliest. At the January 2017 SEP meeting 15 *JR* proposals were considered and none was forwarded to the *JR*-FB. Two proposals were moved into the holding bin, three were sent to external review, four full proposals will be revised, three pre-proposals will become full proposals and three proposals were deactivated. Five proposals will be potentially ready by May 2017.

Non-Disclosure Agreements (NDA):

A small group of proponents needs to work with industry data. In this case an NDA has to be signed between the company providing the data and people reviewing the proposal and the data. Proponents are responsible to bring the need for an NDA to the attention of the SSO/SEP. They also need to show that the standard IODP Proposal Confidentiality Policy is not adequate for their proposal. The proponents need to engage the company legal department and provide a template for the NDA. So far, this successfully worked with three proponent teams, who required NDAs to use industry data in their IODP proposals.

Updates from the *JR*-FB:

Looking ahead to FY22-23: There is the need to keep stimulating timely submission of Full/Revised proposals for drilling in the South Atlantic. The science community has to be encouraged to continue submitting proposals for the North Atlantic, Arctic and adjacent seas. In 2013, the *JR*-FB decided that the *JR* will do a single circumnavigation of

the Earth during 10-years of operation. This requires new Indo-Pacific proposals for 2022-23.
The JRSO FY15 review panel met in February 2016 and the JRSO FY16 "mid-term" review panel met at the end of February 2017.
Staff changes: Sean Gulick replaced D. Mallinson as SEP Co-chair for site characterization. Wolfgang Bach (Germany) and Liping Zhou (China) are new *JR*-FB science members. Beth Christensen (USA) and Richard Arculus (ANZIC) are new Curatorial Advisory Board (CAB) members. Mike Lovell (UK) is the new CAB chair.

(12:30)
lunch break
(13:31)

3.2 Renewal process for JRSO Cooperative Agreement in 2018 and long-term strategy for future *JOIDES Resolution* implementation (M. Malone/T. Janecek/J. Allan)

(13:31)
J. Allan presented the FY17 budget, the JR100 Program, *JR* staffing and the timeline for the renewal.

FY17 budget: Due to low fuel prices, efficient operations, external funds from CPPs and funds from the US federal government the financial situation is extremely positive. For FY17, 10.5 months operations over five expeditions are planned at $62.7 M USD. The expected FY17 international contributions to *JR* operations are $14.8 M USD base contributions and $12 M USD CPP contributions. $6 M USD of the CPP contributions is available for the support of future *JR* operations. The NSF goal is to have 10 months *JR* operations per year through FY19.

The JR100 Program was announced in an NSF Dear Colleague Letter on August 24th, 2016. This program uses non-IODP NSF funds to conduct coring up to 100 mbsf for two to four weeks during *JR* tie-up periods. This takes into consideration the needs by the US community for deep scientific piston coring. The 100 m limit is set by environmental assessment issues. The coring period is determined after the *JR*-FB sets the schedule. Non-IODP funding includes NSF Ship Operations Program and Science Programs. Science staffing would be similar to a typical UNOLS cruise.

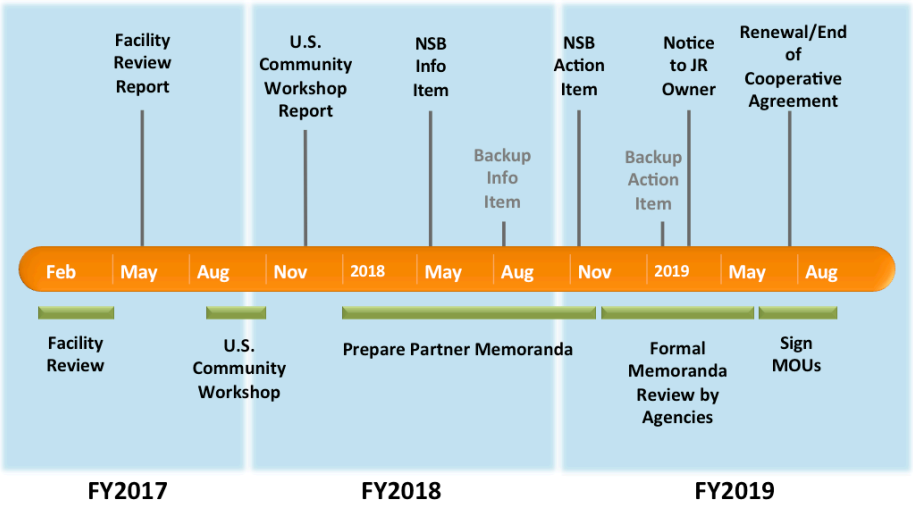
Definition of "Expedition Data": Traditionally, these are data acquired during the actual expedition. Science sometimes greatly benefited from obtaining post-cruise, additional data to achieve expedition goals, such as whole-core XRF scanning for splicing, whole-core CT-scanning and stable isotope analysis. The unaddressed question is who pays for this data acquisition. This issue has to be considered in the next Memoranda.

Next phase of IODP 2019-2023: The NSF goal is to keep at least 10 months of *JR* operations per year for FY19-23. NSF expects an increase in partner contributions to one third of the *JR* operation expenses. CPP costs will most certainly increase. JR100 operations will likely be implemented during tie-up periods.

JR staffing: In response to the Sea Change recommendations, NSF instructed the JRSO to increase the number of U.S. Science Party Members from 8 to 10 for upcoming *JR* expeditions. Those staffed under the Onboard Outreach Programme are considered as members of the Expedition Science Party, with publishing responsibilities. Post 2019 all Onboard Outreach Program participants will be considered within partner shipboard staffing quotas.

J. Allan presented the timeline for the renewal (Figure 3). A Facility Review was done in February 2017 and a report will be produced in May 2017. A U.S. Community Workshop is planned for September 2017. The goals of the U.S. Community Workshop are to evaluate the effectiveness of the *JR* toward achieving the Science Plan Challenges. In 2018 the Partner Memoranda will be prepared. A formal Memoranda review by the agencies and the signing of the MoUs will be done in 2019.

Figure 3: Timeline for the *JR* Facility Renewal.



The 5-year Cooperative Agreement for *JR* operation requires annual and mid-award reviews. Reviews are used to determine renewal or re-competition of the Cooperative Agreement, and for mid-course corrections. An NSF Panel met at JRSO on 24-26 February 2016 for the FY15 Review. The NSF response to this first *JR* Facility Review was positive. NSF accepted all panel recommendations and asked JRSO to implement or consider them. An NSF Panel met at JRSO on 1-3 March 2017 to review the FY16 operations. European, Japanese, Chinese and Canadian scientists were invited as panel members for this second *JR* Facility Review.

An NSF Dear Colleague Letter regarding Provision of Seismic Capabilities to the U.S. Research Community was published on October 19th, 2016.

COMMENT on the U.S. Community Workshop:
In preparation for this US workshop, USSSP is collaborating with the workshop steering committee to prepare a community survey, which was kicked off at the AGU 2016 Fall Meeting. The response from the ECORD community was very good. Between 35 and 40% of the received responses came from ECORD scientists.

(14:03)

SCIENCE TALK: Expedition #373 - Antarctic Cenozoic Paleoclimate (C. Escutia)

(14:49)

3.3 *Chikyu* IODP Board (N. Eguchi)

3.4 Long-term strategy for future *Chikyu* implementation (N. Eguchi)

(14:49)
N. Eguchi summarized the JPFY16 *Chikyu* operations. Two IODP Expeditions were implemented in JPFY16: 1) #365 NanTroSEIZE during which a shallow Megasplay LTBMS was installed and 2) #370 'Temperature Limit of the Deep Biosphere off Muroto'. Furthermore, commercial work was done: Japan Methane Hydrates. A scientific non-IODP expedition was implemented from 16 November to 15 December: Expedition 909 SIP Okinawa HOT III.

The next CIB meeting will be held on 15-16 March, 2017. There are three new CIB members: Hiroshi Kitazato, Benoit Ildefonse and Keir Becker.
One important agenda item will be the *Chikyu* proposals. At the moment there are four riser and two riserless proposals at the CIB. The CIB held a videoconference and decided to implement Expedition 380, a NanTroSEIZE operation, where a shallow LTBMS will be installed at site C6 in October-December 2017. A workshop is planned on board during Expedition 380. The Lord Howe Rise CPP project is an IODP operation, but at the same time a Geoscience Australia-JAMSTEC collaborative project. The first site survey was already done and the second site survey will be done later in 2017.
Another important agenda item will be the long-term strategy for *Chikyu* implementation. From October to December 2017 IODP Expedition 380 will be implemented. Japan commercial work will be done in April-June 2017 and in January 2018. For February and March 2018, a commercial window was set and an IODP window will be from November 2018 to March 2019. The mid-term period will end on 31 March 2019. No funds can be carried over to the next term and therefore the new

mid-term will start with a commercial operation window which will last until February 2020. Another potential IODP window will range from August 2020 to January 2021.
A third important agenda item will be the *Chikyu*/IODP performance review. The CIB will review the *Chikyu* activity including operations, engineering developments, education and outreach and future IODP operations.

Chikyu IODP Expedition 370 was implemented from 10 September to 10 November 2016 and focused on the T-limit of the deep biosphere. The drilling took place in a subduction zone off Muroto where ODP Leg 190 had been implemented in the past, but at that time, the detection limit for cells was at 600 mbsf and 70°C. However, since then the detection limit for cells has been drastically improved. The aim of this expedition was to drill down to the sediment/basement interface at 1210 mbsf where temperatures of up to 130°C are expected. The core recovery was about 76%. A temperature observatory was installed.

3.5 Science Support Office (H. Given)

(15:16)
The tasks of the IODP Science Support Office (SSO) are: 1) to support the *JR*-FB and its advisory panels; 2) to manage the IODP proposal submission/review process; 3) to manage the Site Survey Data Bank (SSDB); and 4) to maintain the IODP website.

Proposal submission history: Since the start of the International Ocean Discovery Program 82 new proposals have been received. Of those, 48% have been deactivated, 36% are still under active review and 16% were forwarded to the Facility Boards.

H. Given summarized the proposal outcomes since the last two SEP meetings. Five proposals were sent to the Facility Boards; five proposals were sent to external review; one proposal is in the holding bin; six revisions were requested; seven were invited to develop full proposals and ten proposals were deactivated. Four of the deactivated proposals were MSP proposals (907, 852, 896, 863A).

At the moment there are 87 active IODP proposals in the system: 58 *JR*, 11 *Chikyu*, 11 MSP and 7 Multiple proposals. Of those, 43 are at the Facility Boards and 40 are at SEP. ECORD and the US are nearly equal in the number of lead proponents (ECORD: 31, US: 35, Others: 21). ECORD has the highest number of unique proponents (ECORD: 410, US: 340, Others: 318).

Action Item 1: EFB
to revise the language in the call for proposals for Scientific Ocean Drilling

COMMENTS on the SSO report:
A Postdoc position on marine seismic imaging was added (H. Given).
Initially, the Site Survey Data Bank was a separate contract and not integrated in the proposal process. SSO helped the SSDB people to see how proponents and reviewers work with the SSDB (H. Given).
Outreach and education is a big functionality issue in the programme (J. Austin). There are no outreach and education people at the SSO and there is no budget available (H. Given). Funds for education should come primarily from outside (J. Allan). The Ocean Sciences Division needs to add tasks somewhere (J. Allan).

3.6 Science Evaluation Panel (S. Gulick)

(15:30)
S. Gulick gave a panel update. SEP reports to the *JR*-FB and services the EFB and the CIB. There are good communications with SSO, the *JR*-FB and the IODP Forum. SEP has been operating as a single panel for seven meetings. In January 2017 SEP met at the Scripps Institution of Oceanography in San Diego, USA and the next meeting will be held in June in Lisbon, Portugal. It is extremely effective and efficient to have both types of expertise, science and data, in the same room along with the operators (5 watchdogs).

SEP Terms of Reference: SEP is responsible for the selection of the best and most relevant proposals for forwarding to the Facility Boards. SEP also advises the Facility Boards and the IODP Forum on any shortcomings of the proposal pool. Proposal pressure has dropped by about 15%, but the MSP proposal pressure has dropped even more. No new MSP proposals were forwarded to the EFB. More MSP proposals need to be submitted.

Characterizing the Site Survey Data: SEP advises proponents about data that are deemed necessary, reviews all data in the SSDB, advises the proponents on the adequacy of the drill site characterisation package and provides an assessment of whether or not the scientific objectives can be accomplished based on the proposal and data package.

S. Gulick presented the proposal classification system.

Since the last two SEP meetings four new/revised MSP proposals have been submitted (3 in June 2016 and 1 in January 2017). Five MSP proposals are active at SEP (none of which have had activity on them for a year) and six are at the EFB. Three MSP proposals have been deactivated at the June 2016 SEP meeting: 852-CPP2 'North Sea GlaciStore', 896-Pre 'North Atlantic Fjord Sediment Archives' and 863A-Pre 'ISOLAT: Indian Antarctic Paleoceanography' (Table 8).

Table 8: Outcomes from the June 2016 SEP meeting. Green: back from external review, orange: revised, blue: new.

Proposal#	Type	Title	PI	Platform	Theme	Result
835	Full2	Japan Trench Tsunamigenesis	Shuichi Kodaira	NR-Chikyu	EM	CIB -Excellent
852	CPP2	North Sea GlaciStore	Heather Stewart	MSP	CO	Deactivate
853	Full	South Atlantic Transect	Rosalind Coggon	JR	CO	Revise
859	Full	Amazon Margin Drilling	Paul Baker	JR	CO	Revise
871	CPP2	Lord Howe Rise Continental Ribbon	Ron Hackney	Chikyu	EC	External Review
887	Add (CPP2)	Gulf of Mexico Methane Hydrate	Peter Flemings	JR	EM	JRFB - Excellent
895	Pre(ADP)	Mediterranean-Atlantic Gateway Exchange	Rachel Flecker	JR	CO	Full
896	Pre	North Atlantic Fjord Sediment Archives	Jacques Giraudeau	MSP	CO	Deactivate
897	APL	Southern Ocean Cretaceous Anoxia	Simon Holford	JR	CO	JRFB - Exp369
898	Pre	Fore Arc Mohole-to-Mantle	Katsuyoshi Michibayashi	JR-Chikyu	EC	Full
899	Pre	Tyrrhenian Continent-Ocean Transition	Nevio Zitellini	JR	EC	Deactivate
900	Pre	Rainbow Massif Hydrothermalism	Muriel Andreani	JR	BF	Full
901	APL	Taiwan Arc-Continent Collision	Tim Byrne	JR	EC	Deactivate
902	Full	Iceberg Alley Paleoceanography	Michael E. Weber	JR	CO	External Review
903	Pre	Argentine Margin Seaward Dipping Reflectors	Denise K. Kulhanek	JR	EC	Full
904	Pre	Sao Paulo Plateau Continental Rifting	Julio Almeida	JR	EC	Deactivate
905	APL	Goodenough Basin Subduction System	Roger Buck	JR	EC	Deactivate
863A	Pre	ISOLAT: Indian Antarctic Paleoceanography	Xavier Crosta	MSP	CO	Deactivate

At the January 2017 SEP meeting MSP proposal 907-Pre 'Sunda Shelf Sea Level' has been deactivated (Table 9).

Table 9: Outcomes from the January 2017 SEP meeting. Green: back from external review, orange: revised, blue: new.

Proposal#	Type	Title	PI	Platform	Theme	Result
833	Full2	Guaymas Basin Activity	Andreas Teske	JR	EM	External Review
853	Full2	South Atlantic Transect	Rosalind Coggon	JR	CO	External Review
864	Full	Equatorial Atlantic Gateway	Tom Dunkley Jones	JR	CO	Revise
871	CPP2	Lord Howe Rise Continental Ribbon	Ron Hackney	Chikyu	EC	Forward to CIB
874	Full	Newfoundland Neogene Sediment Drifts	Oliver Friedrich	JR	CO	Revise
875	Full	Brazilian Equatorial Margin Paleoceanography	Luigi Jovane	JR	CO	Deactivate
882	Full	Brazilian Equatorial Margin Tectonics	Paola Vannucchi	JR	EC	Revise
890	Full	Walvis Ridge Hotspot	Will Sager	JR	EC	Revise
902	Full	Iceberg Alley Paleoceanography	Michael Weber	JR	CO	Holding Bin
906	Pre	Rio Grande Rise Formation	Christian Lacasse	JR	EC	Deactivate
907	Pre	Sunda Shelf Sea Level	Karl Stattegger	MSP	CO	Deactivate
908	APL	Costa Rica Megathrust Fluid-Pressure	Nathan Bangs	JR	EM	Addendum
909	Pre	NW Greenland Glaciated Margin	Paul Knutz	JR	CO	Develop Full
910	Pre	Continental Margin Methane Cycling: Rio Grande	Alberto Malinverno	JR	EM	Develop Full
911	Pre	Argentine Margin Paleoceanographic Transects	James Wright	JR	CO	Develop Full
912	Full	Drake Passage Paleoceanography	Frank Lamy	JR	CO	External Review

Reasons for deactivation:

852-CPP2: The science plan required a continuous record to examine the history of the Northern Hemisphere glaciation, but the drilling plan and the site survey as presented did not address this need adequately. The carbon capture and sequestration goals were unrealistic and there was no CPP funding.

896-Pre: There were a lack of testable hypotheses, the difficulty of studying paleoclimate in a mass wasting dominated setting, and not enough cores planned to achieve the objectives. The proponents were encouraged to resubmit a new pre-

proposal.
863A-Pre: There was a mismatch of sites, depths and objectives with the science objectives. Testable hypotheses were missing. The proponents were encouraged to resubmit a new pre-proposal.
907-Pre: There are concerns over obtaining a sea-level record in a deltaic environment with significant tectonic changes and climate driven sediment flux. The drilling plan was unrealistic (126 days). Another concern was drilling in Indonesian waters. The proponents were encouraged to consider other nearby margins and to address the complexities in a new pre-proposal.

Four pre-proposals and one full proposal are currently at SEP:

797-pre 'Alaska Beaufort Margin'
806-pre 'Beaufort Gas Hydrate'
812-pre 'Ross Sea Glacial History'
866-pre 'Japan Trench Paleoseismology'
796-ADP 'NADIR - Nice Amphibious Drilling'

Six proposals are currently at the EFB:

637 'New England Shelf Hydrogeology'
708 'Central Arctic Paleoceanography' (scheduled)
716 'Hawaiian Drowned Reefs'
730 'Sabine Bank Sea Level'
813 'Antarctic Cenozoic Paleoclimate' (scheduled)
879 'Corinth Active Rift Development' (scheduled)

3.7 IODP Forum (J. Austin)

(15:43)
J. Austin presented the general purpose of the IODP Forum. It's a venue for exchanging ideas and views on the scientific progress of the program. The IODP Forum meets once a year and the participation is open to everybody. The most recent meeting took place in September 2016 in Búzios, Brazil.
The IODP Forum Chair maintains a document on the progress of IODP towards fulfillment of the 2013-2023 Science Plan (www.iodp.org/iodp-forum).

J. Austin presented the progress on both 2015 and 2016 consensus items (see agenda book pages 72-75).

COMMENT on the IODP Forum report:
C. Brenner will run the PMO meeting at the next IODP Forum meeting in September 2017 in Shanghai, China.

(15:59)
coffee break
(16:22)

4. Reviews of recent MSP Expeditions

G. Lericolais summarized the review of MSP Expedition 357 'Atlantis Massif' and announced the review of MSP Expedition 364 'Chicxulub Impact Crater'.

4.1 357 - Atlantis Massif (G. Lericolais)

(16:22)

The offshore phase was accomplished in October-December 2015. Ten sites were drilled with the MeBo70 and the RD2 on the *RRS James Cook*. The expedition was reviewed in Bremen on October 24-25, 2016. The review committee was composed of two external reviewers (Bo Barker Jørgensen and Christopher MacLeod) and three EFB Science Board members (G. Lericolais, S. Gallagher, K. Gohl). The panel acknowledged the extraordinary complexity of this expedition compared to previous expeditions, and congratulated all parties for achieving this remarkable success despite exceptionally difficult circumstances. The expedition was successful in the main objective to obtain hard rock material from the different sites distributed across the Atlantis Massif. The target depth was not reached, but the cores were generally of good quality with a recovery of up to 75%.

The following issues were raised by ESO and the Co-chiefs: 1) the performance of the seafloor drills, 2) concerns that the provision and ordering equipment, supplies and consumables was poorly handled and communicated, 3) concerns regarding the validity of offshore pH and alkalinity measurements and 4) issues about the organization, facilities, management and structure of the OSP. The review panel made recommendations concerning the communication and other raised issues.

The EFB will prepare guidelines including recommendations on communication and pre-cruise meetings to better prepare MSP expeditions. Recommendations for the offshore phase of Expedition 357 include the seafloor drilling, 3rd party equipment, laboratories/facilities and the Digital Information System (DIS). Onshore phase recommendations concern information flow, participation at the OSP, facilities at the MARUM and management of expectations.

4.2 364 - Chicxulub Impact Crater (G. Lericolais)

(16:35)

The offshore phase was accomplished in April/May 2016. One hole was drilled down to 1335 m using a lift boat. The ECORD budget limit was $8.5 M USD (plus $1 M USD from ICDP). The OSP was held for four weeks, starting on 21 September 2016. The expedition will be reviewed on 20 June 2017 in Lisbon, Portugal.

COMMENT on Expedition 364:
The CT-scanning of the Chicxulub cores at Weatherford Labs (Houston, USA) brought a tremendous addition to the science (J. Allan).

5. Review of MSP proposals @ EFB

Four MSP proposals that are currently at the ECORD Facility Board were reviewed and discussed: 1) #637 New England Shelf Hydrogeology; 2) #716 Hawaiian Drowned Reefs; 3) #730 Sabine Bank Sea Level and 4) #879 Corinth Active Rift Development.

5.1 637-Full2+Add6 New England Shelf Hydrogeology (holding bin)

5.1.1 Summary of objectives, SSD and previous EFB decision (F. Inagaki)

(16:39)

F. Inagaki summarized the scientific objectives and the drilling plan. Originally, ten drill sites were proposed. F. Inagaki continued to present the general history of proposal #637 that was submitted in April 2005. In March 2014 the EFB decided to keep the proposal in the holding bin because it was considered as too expensive to be implemented. In April 2015, the EFB reviewed the revised drilling plan and asked for further efforts and discussions between the PIs and ESO. In 2016 the EFB encouraged the proponents to reconsider various options and make it possible under the budgetary constrain.

The proponents will organize a workshop co-funded by USSSP and ICDP on 22-23 May 2017 to discuss the options and the achievable scientific objectives. The proponents collected marine electromagnetic and magnetotelluric data. They also completed a 3D fluid flow model based on the high-resolution seismic data.

The proponents provided following anticipated timeline. In summer 2017 a workshop report will be provided summarizing the key results. In summer and fall 2017 the proponents plan to develop an amphibious drilling plan, with 1-2 onshore and 2-3 offshore wells. They plan to submit a full proposal to ICDP and an addendum to IODP in January 2018 to support the new drilling sites (and their number) and how they address the science objectives. Additional funding sources will be pursued, following the outcomes of the workshop.

5.1.2 Drilling operations and costs (D. McInroy)

(16:50)

There were no significant updates since June 2016. Currently, the proposal includes ten holes in total, i.e. one cored hole and one logging while drilling hole (LWD) at each of the five sites at water depths of 33-79 m. A large liftboat, jack-up or industry-style semi-submersible rig could be used depending on the size of the platform that is needed to accommodate the LWD tools. The current proposal is feasible, but costly. After the last EFB meeting the proponents were encouraged by the EFB to consider wireline logging

instead of logging while drilling, and to reduce the number of holes. In June 2016, the proponents accepted to use wireline logging instead of LWD and to reduce the number of sites from five to three. ESO will attend the workshop in May 2017 to prepare a revised proposal.* The costs will be revised after the workshop.

DISCUSSION on proposal #637:
Is it still the same proposal if the land component is added and fewer offshore sites will be drilled (E. Thomas)? This depends on the results of the workshop, but if the proposal is changed materially it has to go back to SEP (G. Lericolais). The proposal probably will have to be reviewed again (G. Camoin). The proposal is active and the proponents are moving forward, e.g. by reducing the costs and by finding external funding (G. Lericolais). The SEP review of the descoped version can happen in a single SEP meeting, because it will have the same basic science objectives (S. Gulick). The proposal could be descoped to three drill sites, but the number of drill sites should not be reduced to two (J. Behrmann). The science objectives will be pretty much the same, just the drilling strategy will be different, i.e. it will be an addendum (A. Koppers). They could have a larger microbiology component (E. Thomas).

5.2 716-Full2 Hawaiian Drowned Reefs (holding bin)

5.2.1 Summary of objectives, SSD and previous EFB decision (E. Thomas)

(16:57)
E. Thomas summarized the scientific objectives, the drilling plan and the proposal history. This proposal was submitted for the first time in 2007. A revised full proposal was submitted in 2008. In 2014 the proposal was reviewed by the EFB and placed in the EFB waiting room. In 2016 the proposal was ranked as a high-priority, mid-cost proposal. An addendum was submitted in early March, 2017. In the addendum, the proponents added new high resolution multi-beam bathymetric data for some of the proposed sites, updated references specific to the four main scientific objects, and showed results of PROD drilling from NW Australia, to document the high quality of the recovered reef core. The PIs said that both MeBo200 and PROD have the capability to drill to the required depth (150 m; at 10 sites). The weather conditions and the presence of whales allow drilling only in March-April and September-October time windows. A number of local stakeholders are involved in the proposal and they started discussing permitting.

5.2.2 Drilling operations and costs (D. McInroy)

(17:14)
There are no significant updates since June 2016. The water depths range from 134 to 1154 m. The proposal is technically feasible using a geotechnical ship with a coring rig

* See confidential annex.

or a research vessel with a seafloor drill. No development is needed if a vessel-based rig is used. The deepest proposed penetration is 180 mbsf. This is beyond the reach of the current seafloor drills, but it is potentially reachable with the MeBo 200. The Mebo200 is potentially three years away from being available to IODP. The commercial seafloor drill PROD could be used, which drilled successfully on an Australian reef with a penetration of 30 m and a recovery of 80%. ESO will have a look at the PROD as part of ongoing scoping. However, no downhole logging could be done with the PROD as possible with the RD2 and the MeBo. In addition, the use of the PROD would probably not be much cheaper than using a geotechnical vessel.* The proponents are willing to wait for either drilling option.

DISCUSSION on proposal #716:
G. Camoin asked if the proponents mention in the addendum if they plan to model the Glacial Isostatic Adjustment (GIA) effect. There is some circular reasoning because on the one hand sea level shall be reconstructed assuming a constant subsidence rate of Hawaii and on the other hand the results shall be used to reconstruct the subsidence history of Hawaii (E. Thomas), but the circular reasoning was addressed in a Proponent Response Letter (PRL), but not in the addendum (E. Thomas).
A special template on the seafloor, a newly available technology, could be used in order to get high-quality cores (D. Smith). This was never done for the JR (M. Malone). This would mean high costs and a long development time (J. Allan).
The PROD core was cored in 2006 and since that the system has probably been improved (S. Gallagher).
The MeBo is pre-reserved for 2020 and 2022 (G. Camoin).

The meeting was closed at 17:24.

March 9th, 2017

(8:59)
G. Lericolais opened the meeting.

5.3 730-Full2 Sabine Bank Sea Level

J. Austin announced an institutional conflict of interest.

5.3.1 Summary of objectives, SSD and previous EFB decision (S. Gallagher)

(9:02)
S. Gallagher presented the scientific objectives, the drilling plan and the history of proposal #730. It includes 11 primary sites at water depths of 26-1400 m with a

* See confidential annex.

penetration depth of 150 m. The pre-proposal was submitted in 2009 and the full proposal was submitted in 2014. This proposal was forwarded to the EFB in 2016 and since then it has been in the waiting room. It was ranked secondary priority for the sea-level studies (EFB consensus 16-06-03). There are some queries related to MeBo200 engineering developments and high-resolution bathymetric data are required.

5.3.2 Drilling operations and costs (D. McInroy)

(9:10)

There are no significant updates since June 2016.* 150 mbsf is beyond the current reach of the BGS RD2 and the MeBo. It is potentially reachable using MeBo200. The Mebo200 is potentially three years away from being available to IODP. Assuming a coring rate of 10-20 m per day the expedition prediction is very long (93-175 days). The number of sites could be reduced. The Bougainville sites are too deep (beyond 600 m water depth) for an Expedition 310-style 'piggy back' coring from a geotechnical vessel.

DISCUSSION on proposal #730:

E. Thomas asked if the PROD would be a potential option for this proposal. The PROD could be considered (D. McInroy). E. Thomas also asked whether the shallow water sites could be drilled using a cheaper technology. The proposal could be split into two parts, i.e. drilling the deeper sites with the JR or another geotechnical vessel and the shallow sites with a seafloor drill (D. McInroy).

G. Camoin asked how sea-level change can be reconstructed at high-resolution given this very complex tectonic setting. The correct corals have to be obtained for the sea-level estimates (S. Gallagher). The lagoon in Sabine Banks is a mixture of sediments leading to a high complexity of this proposal (S. Gallagher). There is no guarantee to get a record of the sea-level history from the deeper waters in Bougainville (S. Gallagher). The subsidence story is more complex than in Hawaii (E. Thomas). In contrast to Hawaii, the subsidence rates cannot be assumed to have been constant (E. Thomas/G. Camoin). Furthermore, in Hawaii more dives and dredges have been done than in Sabine Bank to make sure to get the correct corals (E. Thomas). This proposal received very good and excellent reviews (S. Gallagher). SEP gave sufficient merit to be considered for drilling (S. Gallagher). A Proponent Response Letter was sent on 16 November 2015 (S. Gulick). In this letter the proponents addressed the issue of finding Porites and reconstructing sea level (S. Gallagher). Their message was that any coral can be used. At ODP Site 831 one coral was intersected, which was like a window into the Pleistocene climate. The proponents are optimistic that they will intersect various corals, mollusks, sponges, etc. to help getting the sea-level history (S. Gallagher), but the palaeodepth may be very uncertain (E. Thomas).

* See confidential annex.

5.4 879-Full Corinth Active Rift Development

5.4.1 Summary of objectives, SSD and previous EFB decision (G. Früh-Green)

(9:23)

G. Früh-Green presented the scientific objectives and the drilling plan of proposal #879. This proposal was submitted in 2014, and has been forwarded to the EFB on 1 June 2016 where it was ranked excellent, and passed on to ESO for scoping/implementation. The deadline for the call for applications was on 3 March 2017.

5.4.2 Drilling operations and costs (D. McInroy)

(9:32)

See agenda item 2.3 ESO report and updates on scheduled MSP expeditions.

<u>COMMENT on proposal #879:</u>

It is planned to drill two deep holes and one half-depth hole in order to stay in the budget limit (D. McInroy).

The final decision on the implementation of the Corinth Expedition will be done next week (G. Camoin).

5.5 Other proposal(s) that could be potentially forwarded by SEP in the future

5.5.1 & 5.5.2 Summary of scientific objectives and Site Survey Data (S. Gulick)
5.5.3 Drilling operations and costs (D. McInroy)

(9:35)

S. Gulick gave an overview of the MSP proposals at SEP. Currently, four pre-proposals and one full proposal are at SEP (Table 10).

ADP/796-Full: Ligurian Landslide/ADP: Nice Amphibious Drilling

The proponents proposed four primary and four alternate sites at water depths of 20-104 m and with 60-150 m penetration depths. Good site survey data exist but a few items are missing and there are some inconsistent interpretations. The proposal was submitted to ICDP in January 2015. In July 2015 the proponents were asked for a revision.

866-Pre: Japan Trench Paleoseismology

The drilling plan includes 25 sites plus two *Chikyu* sites at water depths of 6800-8000 m and with a penetration depth of 50 m. This is a long-piston coring proposal. The proponents were asked to produce bathymetric maps. SEP asked the proponents in January 2014 to submit a full proposal.

Table 10: MSP proposals at SEP. Order is according to relative maturity (top is more mature than bottom). Status: March 2017

Proposal	Short Title	Proponent	Country	Ocean	Drill Platform	Status
ADP / 796-Full	NADIR Nice Amphib. Drilling Ligurian Landslide	Kopf	Germany	Mediterr.	geotech rig; MeBo	01/15: subm. to ICDP 07/15: revise
866-Pre	Japan Trench Paleoseismology	Strasser	Switzerl.	Pacific	long-piston coring	01/15: submit full prop.
797-Pre	Alaska Beaufort Margin	Ruppel	USA	Arctic	drill rig (or JR)	05/12: submit full prop. or MDP with 806
806-Pre	Beaufort Gas Hydrate	Paull	USA	Arctic	geotech rig	05/12: submit full prop. or MDP with 797
812-Pre	Ross Sea Glacial History	Wilson	USA	Southern	seabed drill	12/12: submit full prop.

797-Pre: Alaska Beaufort Margin

The drilling plan includes three primary sites at water depths of 20-80 m and with a penetration depth of 600 m. In May 2012 the proponents were asked to submit a full proposal or to merge with proposal #806 to a MDP. There are plenty of site survey data but they are not in the data bank, i.e. they were not reviewed by SEP.

806-Pre: Beaufort Gas Hydrate

Proposal #806 is in the same situation as proposal #797. The drilling plan includes five primary sites at water depths of 50-300 m and with 100-300 m penetration depths. In May 2012 the proponents were asked to submit a full proposal or to merge with proposal #797 to a MDP. There are no site survey data in the data bank.

812-Pre: Ross Sea Glacial History

The proponents proposed eight primary sites at water depths of 566-698 m and with 60-80 m penetration depths. There are no site survey data in the data bank. In December 2012 SEP suggested to submit a full proposal.

DISCUSSION on MSP proposals:

Two years ago, the JRFB started to look at inactive proposals and decided to get in contact with proponents whose proposals were inactive for more than five years, and to ask them about the status (A. Koppers). The majority was not interested to continue. However, this is not an automatic procedure (H. Given). A letter for clarification should be sent to the proponents (J. Austin). There is no information for these three older MSP proposals concerning the provided data since the pre-proposal stage (S. Gulick). Some pre-proposals are already submitted with an almost complete data package but this is not a requirement (S. Gulick).

In 2012 or 2013, a workshop was organized for people with Arctic proposals in the system (R. Stein). All of them planned to submit a full proposal. Proposal #797 should be a JR

proposal and not an MSP proposal (R. Stein). In summer this area is ice-free and therefore the JR might be used (R. Stein). This proposal has to be revisited at the next JR-FB meeting in May 207 (G. Camoin).
MSP proposal #680 was deactivated due to a lack of response (S. Gulick).

6. Discussion of the FY 2019 - 2023 MSP operation schedule (G. Lericolais/All)

(9:53)
G. Lericolais presented the long-term schedule of MSP operations and MSP proposals at the EFB (Tables 11 and 12). Only three proposals are in the waiting room and none was forwarded by SEP after the January 2017 meeting. The implementation of Expedition 373 'Corinth Active Rift Development' in 2017 depends on the costs. The Arctic expedition is scheduled for 2018 and the Antarctic expedition was postponed to 2020 due to technical reasons (Table 11). A low-cost expedition could be implemented in 2019.

Table 11: FY19 - FY23 MSP operation schedule.

2016	2017	2018	2019	2020	2021	2022	2023
548 (Exp. 364) Chicxulub jack-up MC	**879 Corinth (Exp. 373 ?)** Jack-up or Drill ship MC-HC	**708 Arctic (Exp. 377)** drill ship HC	**N.N.** LC	**813 Antarctic** RD-II LC-MC	**N.N.** LC	**N.N.** LC seabed drill	**N.N.** MC-HC

LC = low-cost (< $8 M USD), MC = mid-cost ($8-15 M USD), HC = high-cost (> $15 M USD)

MeBo70 and MeBo200 are reserved for 2020 and 2022. The RD2 has to be tested by the BGS and a reservation has been requested.

ECORD FB Consensus 17-03-02:
The ECORD Facility Board agrees with the decision of the ECORD Council to postpone the IODP Antarctic Expedition 373 to 2020.

Table 12: MSP proposals at the EFB.*

Expedition	Comments
708-Full (Exp. 377) Central Arctic Paleoceanography (Stein et al.)	Revised proposal is feasible if shallow penetrations are used. IKCs uncertain. Site strategy still to be decided.
813-Full-Add (Exp. 373) Antarctic Paleoclimate (Williams et al.)	8 sites with RockDrill-2 on RV N/B Palmer Postponed awaiting test of Rock Drill 2.
879-Full (Exp. 381) Corinth Active Rift Development (McNeil et al.) Forwarded to EFB June 2016	Scheduled for Oct-Nov 2017
Proposal	**Comments**
637-Full2 Add 6 New England Hydrogeology (Person et al.)	Proponents open to using wireline logging in lieu of LWD. Also open to reducing from 5 to 3 sites. Workshop 22-23 May, ESO will attend. Possible future ADP.
716-Full2 Hawaii Drowned Reefs (Webster et al.)	Awaiting development of MeBo200, 2020 for IODP?
730-Full Sabine Bank (Taylor et al.) Forwarded to EFB Jan 2016	Awaiting development of MeBo200.

DISCUSSION on the FY19 - FY23 MSP operation schedule:

Next week, the budget for the Corinth expedition will be known (G. Camoin). In 2019 a low-cost expedition could be implemented or, if the budget does not allow, no expedition will be implemented (G. Camoin). ECORD will await the results of the workshop on proposal #637 (G. Camoin). It is likely that the proponents re-submit a doable and mature proposal (G. Camoin).

ECORD should try to secure every four years a high-latitude geotechnical operation using a vessel with a geotechnical rig for 2000 m of drill string (D. Smith). The implementation of a high-latitude expedition every four years would be a similar approach as for the JR (G. Lericolais). Different regions could be planned and this would encourage proponents to submit proposals (G. Lericolais). At the moment, the JR is implementing several high-latitude expeditions in the Southern Hemisphere before continuing in the Northern Hemisphere (A. Koppers). A regional focus on the High Latitudes would be a great success for the programme (A. Koppers).

The Polarstern II would be the first European research platform that can have a geotechnical or mining drilling rig temporarily installed on it (D. Smith). The new Polarstern would allow medium-cost high-latitude expeditions (R. Stein). There will be a huge moon pool where the MeBo could be used and this would be cheaper than the drill rig option (R. Stein). This vessel will be for oceanography, biology and geosciences, i.e.,

* See confidential annex.

probably every third year the Polarstern II could be available for geosciences (R. Stein). The interest from IODP has to be discussed as soon as possible (R. Stein). The ship is available but the costs for installing a derrick have to be paid by IODP (R. Stein). Once a year the Polarstern will go to Antarctica (R. Stein). It is important to inform the community about existing capabilities (J. Austin). There will be an Antarctic meeting in August 2017 where this could be done (S. Gulick).

(10:10)
coffee break
(10:29)

SCIENCE TALK: Expedition #377 - Central Arctic Paleoceanography (R. Stein)

(11:30)
Breakout meeting of the EFB Science Board members. MSP proposals that are currently at the EFB were discussed during this breakout meeting.
(12:13)

7. Procedures and issues regarding EFB activities and MSP operations

7.1 Amphibious Drilling Proposals: Improved Preproposal Stage, Workshop Funding Guidelines and Implementation Plans (D. McInroy)

(12:13)
In June 2016 the joint ADP Review Guidelines have been agreed upon.

In summer 2015 an ADP Implementation Task Force composed of two ECORD (G. Camoin, D. McInroy) and two ICDP members (C. Koeberl, U. Harms) was formed. A single implementation plan is not possible for ADPs. A joint IODP-ICDP operator team should be formed for each ADP on a case-by-case basis. ADPs will take many different forms and coordinated ADP management is essential (joint IODP-ICDP operator team). ADPs can include MSP-, *JR*- and *Chikyu*-type operations.

Scientific management: A joint IODP-ICDP mixed structure for the scientific management should be implemented including: 1) a joint ICDP PI – IODP Co-chief – IODP EPM leadership structure, 2) a single ADP-specific policy on a case-by-case basis, 3) the ADP Scientific Prospectus as the central planning document and 4) the first ADP will serve as a benchmark for future ADP policies.

The funding will be discussed on a case-by-case basis.

Joint staffing: ADPs shall be led by two Co-chiefs (representing IODP), two principal investigators (representing ICDP) and the IODP EPM. There should be two calls for participation, but one combined Science Party.

Samples, data, publications: Samples and data acquired during the ADP will be open to all members of the combined Science Party. IODP's sample and data policy will be the general guideline for ADP's. Access to samples during the moratorium period shall be given according to IODP and ICDP rules.

Timing of operations must be kept flexible. Post-cruise activities must be held jointly between the IODP and ICDP members of the Science Party.

DISCUSSION on ADPs:
The operator has to be involved much more in the review of the proposals (J. Allan). The implementation phase is platform-specific but data, sample and publication policies are common across all the platforms and that part could be agreed upon as a universal policy (D. McInroy). All IODP Facility Boards already discussed the proposal guidelines for ADPs but the implementation of ADPs is different, because it is facility-specific (A. Koppers). ECORD and ICDP operations are similar, and tools or money can be shared. In contrast, for the JR the implementation of ADPs would be different (A. Koppers). There was a CIB consensus on endorsing the ADP implementation guidelines with ADPs following the IODP sample and data policies and guidelines (N. Eguchi). The use of data and samples could be a common policy for all platform providers, however, resources, equipment, etc. are platform-specific (A. Koppers). That is why the implementation guidelines have to be flexible (G. Camoin). There is a difference in how IODP and ICDP handle the cores (S. Gulick). Especially for MSPs, it has to be made sure that IODP measurement procedures are used for the cores (S. Gulick). This particular part of the implementation is difficult to handle for the Chikyu and the JR (S. Gulick). The New Jersey onshore legs were treated as IODP and the cores are accessible to everybody, the data are in the database, etc. (E. Thomas). This is not the same situation, as the funding for the New Jersey onshore drilling was more complicated than ICDP and the decision was made to treat the material as IODP cores (J. Austin). According to the ADP implementation guidelines, ICDP will follow the IODP rules (G. Lericolais). The implementation of ADPs will be easier for MSPs as ECORD is used to operate different platforms (G. Lericolais). Some policies are common to the entire programme and others are specific to the IODP Facility Boards and platforms. The tendency is to make these policies as similar as possible and to have the same philosophy behind them (A. Koppers). For the ADPs the main philosophy could be to follow the same sample and data policies and the rest is more specific to the platforms (A. Koppers). The EFB should finalize the policy for MSPs based on the ADP implementation guidelines

document, then CIB and JR-FB can slightly modify this policy for their platform (A. Koppers).

Action Item 2: EFB
to complete the ADP implementation document with guidelines and policies that are specific to MSPs and send the final document to the other facility boards

(12:28)
lunch break
(13:27)

7.2 MSP expedition reviews (G. Lericolais)

(13:41)
G. Lericolais opened the discussion on the procedures of MSP expedition reviews. The question is whether procedures for some issues could be improved or not. For example, the composition of the MSP review committee, the ESO questionnaire and the support documents (Co-chief scientists and ESO reports).

DISCUSSION on MSP expedition reviews:
The Atlantis Massif review revealed that only few scientists answered the ESO questionnaire (G. Camoin). One third of the scientists replied to the offshore questionnaire and half of the scientists answered the onshore questionnaire (D. McInroy). For the Atlantis Massif Expedition 16 out of 30 scientists replied to the questionnaire and for the Chicxulub Expedition 18 out of 30 answered (D. McInroy). For JR expeditions the Staff Scientists are asked and sometimes the questionnaires are completed a few weeks after the expedition (M. Malone). The last Annual Review has shown that for JR expeditions 50-75% of the scientists are answering the questionnaire (M. Malone). The questionnaire could be sent out again later (S. Gulick). A reminder is usually sent to the scientists (D. McInroy). Completing the questionnaires depends largely on the people onboard (M. Malone). For Expedition 362 28 out of 30 scientists replied onboard, but for other expeditions only half of the scientists replied after the expedition even after sending several reminders (M. Malone). Maybe the response rate could be improved when the questionnaire is issued by ECORD or the PMOs and not by the operator (D. McInroy). It could be that the scientists would be more ready to provide feedback. The scientists response should be separated from the operators response. At the moment they are both in the ESO report (D. McInroy). The scientists should reply directly to ECORD (G. Lericolais).
Industry representatives should be part of the MSP review committee (D. Smith). The idea is great, but at the moment the oil price is too low to involve industry representatives (J. Austin). It is difficult to get external people from outside IODP involved but it should be

tried (S. Gallagher). At least two external scientific reviewers are needed and somebody from industry could have a look to operational issues (G. Früh-Green). Over the last years there were a couple of external reviewers on the IODP Facility Review panels (J. Allan). One of the review panels was composed of 20% Japanese, 40% European and 40% US members (J. Allan). These outsiders work with big international programmes, projects and facilities (J. Allan). External people look at the programme/project from a different angle than a closed community (D. Smith). There are several people from industry who are now involved in the academic world (G. Camoin). A couple of them are in the ECORD ILP and could have input (G. Camoin).

Co-chief perspective (G. Früh-Green): It would be good to have more time for discussion with the review committee and without external people. More time is needed for an open discussion by the committee, without the Co-chief scientists or the operators being present. The review process of the Atlantis Massif expedition was satisfying and the requested report was fine. One recommendation in the report was that at certain MSP expeditions not the whole Science Party is needed at the OSP. But in the calls it says that the whole Science Party is required to be there, i.e. the wording should be changed.

7.3 Guidelines for Co-chief scientists on MSP expeditions (G. Lericolais)

(14:01)

G. Lericolais presented recommendations to prepare guidelines for Co-chief scientists on MSP expeditions. The recommendations include improved communication, a pre-cruise meeting or workshop for a better coordination and guidelines for equipment use. These guidelines shall avoid expectations from the Co-chief scientists, the operators and the curators that cannot be met. They have to be signed by the Co-chief scientists before sailing and they should be accessible to anyone. The guidelines should be presented at a pre-cruise meeting or workshop.

Action Item 3: EFB
to prepare with ESO the guidelines for the Co-chief scientists on MSP expeditions

COMMENT on guidelines for Co-chiefs on MSP expeditions:
The Co-chief scientists will receive a letter with instructions from USIO and JAMSTEC. These instructions or obligations can be incorporated in the document "Guidelines for Co-chief scientists on MSP expeditions" (S. Gallagher). Then the results of the last MSP reviews can be added (S. Gallagher). This should be done within the next month, so that they can be used for the upcoming Corinth expedition (S. Gallagher).

7.4 EFB 2014-2016 Review and future plans in light of the ECORD renewal (G. Lericolais)

(14:07)

G. Lericolais gave an overview of the 2014-2016 MSP schedule including reviews of MSP expeditions (Table 13).

Table 13: FY14 - FY16 MSP schedule.

2014	2015	2016
None	**758 (Exp. 357)** **Atlantis M.** MeBo & RD-II **LC**	**548 (Exp. 364)** **Chicxulub** jack-up **MC**
Review of Exp. 347 #672-Full3 Baltic Sea Paleoenvironment		**Review of Exp. 357** #758 Atlantis Massif

LC = low-cost (< $8 M USD), MC = mid-cost ($8-15 M USD)

DISCUSSION on the functioning of the EFB:

G. Dickens just left as an EFB Science Board member. He and others who rotated off have the experience and could be asked about EFB functioning (J. Austin).

Long-term scheduling: The projection out to 2023 using proposals in preliminary stages is dangerous. Only proposals that went through the SEP should be considered, and if the number of proposals is not enough ECORD cannot implement one MSP expedition per year (J. Austin). Pre-proposals could offer the possibility to look ahead into potential scheduling but the proponents have to submit their full proposals (G. Lericolais). The Facility Boards should not contact proponents and tell them that they are interested in specific proposals (H. Given). Potential proposals that fit the cost categories can be identified (S. Gulick). Proposals in the waiting room may not fit into a slot (because of funding) but they could get the chance to enter a slot, as it happened for the Corinth MSP proposal (G. Lericolais). It is confusing to attempt to fill potential slots with proposals that did not go fully through the evaluation process (J. Allan). It is exactly the same for the planning of the JR, because many proposals are expected in one region and planning is done in advance (G. Lericolais). Three MSP expeditions are safely scheduled (Corinth, Arctic and Antarctic), but this may lead to a situation without money in the bank for drilling another proposal (J. Behrmann). This means, that at the moment no safe scheduling can be done for 2019 and 2021 (J. Behrmann). Even a cost category should not be set for the free slots, and ECORD should focus on implementing the three scheduled expeditions (J. Behrmann). At the next EFB

meeting, in spring 2018, is not too late to schedule a low-cost expedition in 2019 (J. Behrmann). The message to the community is important (A. Koppers). It should be stated that there is not enough proposal pressure and that there are many opportunities (A. Koppers). This could help to energize the community to put MSP proposals in the system (A. Koppers). ECORD could drive proposal pressure by putting cost categories on the proposal slots (S. Gulick). For the ECORD funding agencies it is important to try to implement one MSP expedition per year, but it is just a guideline (G. Früh-Green). The budget dictates when a low-, mid- or high-cost expedition can be implemented (G. Früh-Green). Costs should not be a primary consideration (J. Austin). Budget is not the primary consideration but a limitation (G. Camoin). Everything is open: if more low-cost proposals are coming in, in 2022 two low-cost expeditions could be implemented instead of 'Hawaiian Drowned Reefs' (G. Camoin). In the call for proposals, ECORD should mention the cost category like it was done by the Japanese who stated that they will not accept anymore new riser proposals (H. Given).

Proposal 730 'Sabine Bank': The EFB should pay attention on which message will be sent to the proponents of proposal 730 (H. Given). It seems that the EFB does not consider this proposal anymore. At the last EFB meeting proposal 716 'Hawaiian Drowned Reefs' was preferred. A clear message has to be sent to SEP and the proponents (H. Given). Proposal 730 has not been deactivated or rejected, but it cannot be scheduled in one of the low-cost slots before 2023 (G. Lericolais). The EFB makes the choice based on the science quality discussed by SEP and the expedition costs (G. Lericolais). A priority list is made based on these two parameters (G. Lericolais). For example, in 2019 there is not enough money available to implement proposal 730. The question is at what point the scheduling of a proposal is not feasible (S. Gulick). If a proposal is not deactivated because there is still a possibility to implement it, the proponents should be asked to descope their proposal (S. Gulick). Proposal 730 could be split into two parts, deep and shallow waters, because the deep water drilling is the expensive part, and the shallow water part could be a low-cost proposal (E. Thomas). A letter will be sent to the proponents and they will also be asked to reduce their drilling plans (G. Camoin).

The freedom of the EFB in determining is a fundamental concept and many factors have to be considered (G. Früh-Green). The question is whether the EFB is required to schedule proposals forwarded from SEP (G. Früh-Green). If two proposals with similar scientific objectives are forwared from SEP, the EFB needs the freedom to choose one over the other (G. Früh-Green). The proponents need feedback (J. Austin). The EFB always sends letters to the proponents (G. Lericolais).

7.5 MSP expeditions seen by ECORD partners: science, operations, funding scheme ("Tour de Table": reps from USA, Japan, ANZIC, China)

Not done.

9. Next EFB meeting (G. Lericolais)

(14:41)

ECORD FB Consensus 17-03-03:
The ECORD Facility Board Meeting #6 will be held in Italy (location TBD) on 6-7 March 2018.

8. Review of Decisions and Actions (N. Hallmann/G. Lericolais/All)

(14:45)

G. Lericolais presented the action and consensus items.

10. Any other business (G. Lericolais)

None.

ECORD FB Consensus 17-03-04:
The ECORD Facility Board thanks the BGR for providing excellent facilities and IODP Germany, especially Jochen Erbacher and Gabriela Drath, for the superb arrangements.

G. Lericolais closed the meeting at 14:52.

LIST OF ACRONYMS

ACEX: Arctic Coring Expedition
ADP: Amphibious Drilling Proposal
AGU: American Geophysical Union
AMA: Ask Me Anything
ANZIC: Australian and New Zealand IODP Consortium
APL: Ancillary Project Letter
AWI: Alfred Wegener Institute
BCR: Bremen Core Repository
BGR: Federal Institute for Geosciences and Natural Resources, Hannover, Germany
BGS: British Geological Survey
CAB: Curatorial Advisory Board
CDEX: Center for Deep Earth Exploration
CIB: *Chikyu* IODP Board
COI: Conflict of Interest
CPP: Complementary Project Proposal
CT: Computed tomography
DEDI: Distributed European Drilling Infrastructure
DIS: Drilling Information System
E&O: Education and Outreach
ECORD: European Consortium for Ocean Research Drilling
EEC: ECORD Evaluation Committee
EFB: ECORD Facility Board
E-ILP: ECORD Industry Liaison Panel
EMA: ECORD Managing Agency
EPC: European Petrophysics Consortium
EPM: Expedition Project Manager
EPSP: Environmental Protection and Safety Panel
ESO: ECORD Science Operator
ESSAC: ECORD Science Support and Advisory Committee
EGU: European Geosciences Union
EU: European Union
FB: Facility Board
FY: Fiscal Year
GSA: Geological Society of America
ICDP: International Continental Scientific Drilling Program
IESO: International Earth Science Olympiad
IGC: International Geological Congress
IGSN: International Geo Sample Number
IKC: In-kind contribution
IODP: Integrated Ocean Drilling Program (2003-2013) & International Ocean Discovery Program (2013-2023)
ISOLAT: Integrated Southern Ocean Latitudinal Transect
JAMSTEC: Japan Agency for Marine Earth Science and Technology
J-DESC : Japan Drilling Earth Science Consortium
JPFY: Japanese Fiscal Year
JOIDES: Joint Oceanographic Institutions for Deep Earth Sampling
JR: *JOIDES Resolution*
***JR*-FB**: *JOIDES Resolution* Facility Board
JRSO: *JOIDES Resolution* Science Operator
LTBMS: Long-Term Borehole Monitoring System
LWD: Logging While Drilling
MARUM: Center for Marine Environmental Sciences, University of Bremen
mbsf: metres below seafloor
MDP: Multi-phase Drilling Project
MeBo: Meeresboden-Bohrgerät
MEXT: Ministry of Education, Culture, Sports, Science & Technology, Japan
MoU: Memorandum of Understanding
MSP: Mission-specific platform
NanTroSEIZE: Nankai Trough SEIsmogenic Zone Experiment
NDA: Non-Disclosure Agreement
NSF: National Science Foundation
ODP: Ocean Drilling Program
OETF: Outreach and Education Task Force
OSP: Onshore Science Party
PI: Principal Investigator
PMO: Program Member Office
PRL: Proponent Response Letter
RD2: Rockdrill 2
SEDIS: Scientific Earth Drilling Information Service
SEP: Science Evaluation Panel
SSD: Site Survey Data
SSDB: Site Survey Data Bank
SSO: Science Support Office
UNOLS: University-National Oceanographic Laboratory System
USIO: U. S. Implementing Organization
USSSP: U. S. Science Support Program
XRF: X-Ray Fluorescence