EUROPEAN CONSORTIUM FOR OCEAN RESEARCH DRILLING

ECORD Facility Board Meeting #3

25th and 26th of March, 2015

Aix-en-Provence, France

MINUTES

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March 25th, 2015

1. Introduction

1.1 Welcome, opening remarks and rules of engagement (K. Gohl)

(8:30)

K. Gohl 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 Meeting logistics (G. Camoin)

(8:35)

G. Camoin presented the logistical information.

1.3 Introduction of participants (K. Gohl)

(8:40)

K. Gohl let all the participants begin self-introductions.

1.4 Meeting agenda approval (K. Gohl)

(8:44)

K. Gohl presented the agenda and the EFB approved the agenda.

ECORD FB Consensus 15-03-01:
The ECORD Facility Board approves the agenda of the ECORD FB Meeting #3.

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

Reports were presented for the EFB (K. Gohl), EMA (G. Camoin), ESO (D. McInroy), BCR (U. Röhl), EPC (S. Davies), ESO outreach/education (A. Stevenson), ESSAC (G. Früh-Green) and E-ILP (A. Moscariello).

2.1 EFB: report on main activities since last meeting (K. Gohl)

(8:46)

K. Gohl gave an update on the ECORD Facility Board (EFB) activities. The EFB members with voting rights are 1) the five Science Board members: Karsten Gohl (GER), Antonio Cattaneo (F), Dominique Weis (CAN), Gerald R. Dickens (USA) and Marta Torres (USA); 2) the members of the ECORD Executive Bureau: five ECORD Council members (core group), EMA with Gilbert Camoin, ESO with Robert Gatliff, ESSAC with Gretchen Früh-Green and E-ILP with Andrea Moscariello; and 3) NSF and MEXT with one representative each.

K. Gohl summarized the activities regarding MSP proposals following the outcome of the last EFB meeting in 2014 in Bremen and the 5-year scheduling strategy:

758-Full2 'Atlantis Massif': will be scheduled in late 2015; proponents should interact with ESO in planning the expedition

581-Full2 'Late Pleistocene Coralgal Banks': in the EFB holding bin

637-Full2 'New England Shelf Hydrogeology': in the EFB holding bin

716-Full2 'Hawaiian Drowned Reefs': in the EFB holding bin

548-Full3 'Chicxulub Crater': not scheduled because of the high costs of two drill holes; proponents submitted an Addendum saying that most of the objectives can be achieved with one drill hole; Addendum was approved by the SEP

813-Full 'Antarctic Paleoclimate': proponents submitted an Addendum with a revised drilling strategy and more site survey data

708-Full 'Arctic Paleoceanography': proponents were asked to submit an Addendum with a revised drilling strategy

K. Gohl continued to report on activities regarding MSP proposals following the outcome of an EFB Virtual Conference in June/July 2014:

548-Full3-Add 'Chicxulub Crater': Considering a single-hole strategy, the EFB decided to schedule an expedition for 2016 and recommended to the ECORD Council to set a limit of $8.5M USD of ECORD's contribution.

813-Full-Add 'Antarctic Paleoclimate': The EFB accepted the Addendum and scheduled this expedition for 2017.

The revised schedule of MSP expeditions after the Virtual Conference is shown in Table 1.

Table 1: Schedule of MSP expeditions after the EFB Virtual Conference in June/July 2014

2014	2015	2016	2017	2018
(none)	**758 Atlantis M.** (MeBo & RD-II)	**548 Chicxulub** (drill platform)	**813 Antarctic** (RD-II)	Arctic (open)

K. Gohl presented the EFB membership changes:

The EFB proposed to the ECORD Council to agree to the following changes:

1) Increase of the number of Science Board members from 5 to 6 members.
2) Setting fixed quotas for 3 members from ECORD countries (incl. Chair from an ECORD country), 1 member from IODP-JR (USA), 1 member from IODP-JR (non-US country), and 1 member from IODP-Chikyu (Japan);
3) Call for new members should by published about 1.5 years ahead.
4) Selected new (incoming) members should join prior EFB meeting(s) as observers in order to be prepared regarding proposals and EFB discussions items.
5) Nomination for new incoming Chair should be made at EFB meeting of the year prior to new Chair's 1st year term.

A Review Meeting of Expedition 347 'Baltic Sea' was conducted in November 2014. Three reviewers were invited: Marta Torres, Gerald Dickens and Martin Jakobsson. The scientific report was presented by the Co-chiefs and the operational/technical report was presented by ESO. The three reviewers went for a closed session and came back with a concluding statement. A written report by the reviewers was submitted to the meeting participants. The outcome of this review meeting was very positive with some constructive recommendations for improvements of future operations.

2.2 EMA: ECORD budget (incl. budget for MSP operations) (G. Camoin)

(9:00)

G. Camoin summarized the ECORD budget situation for FY14, FY15 and FY16 and beyond (Tables 2 to 6).

Germany, France and the UK represent 80% of the ECORD budget. The annual contributions from the other countries range from $30,000 to $1.1M USD (Tables 2 and 4). This helps to set quotas for sailing scientists. However, concerning outreach and education there are no quotas based on the contributions of the countries.

Table 2: FY14 member contributions

Austria	100,000
Belgium	30,000
Canada	150,000
Denmark	184,000
Finland	80,000
France	5,212,080
Germany	5,600,000
Iceland	30,000
Ireland	137,000
Israel	30,000
Italy	400,000
Netherlands	500,000
Norway	1,100,000
Poland	30,000
Portugal	90,000
Sweden	528,000
Switzerland	600,000
UK	4,296,400
TOTAL	**19,097,480**

Table 3: ECORD FY14 budget

	FY14 Incomes	FY14 Expenses	FY13 Expenses
FY 13 balance	1,615,180		
FY 14 contributions	19,097,480		
ECORD-NSF MoU		7,000,000	13,055,771
ECORD-JAMSTEC MoU		1,000,000	
ESO		3,131,775*	15,995,785**
EMA		318,090	379,730***
MagellanPlus		91,770	65,000
ECORD Outreach		74,770	-
ESSAC		364,238	285,702
Support of SEP Chair		93,864	N/A
BCR		417,284 *	N/A
TOTAL	20,712,660	12,491,791	
FY 14 balance	8,220,869		

** 15 months (10/13 – 12/14)*
*** Including Expedition #347 costs*
**** including outreach costs*

Table 4: FY15 member contributions

Austria	100,000
Belgium	30,000
Canada	150,000
Denmark	170,000
Finland	80,000
France	5,200,000
Germany	5,600,000
Ireland	140,000
Israel	30,000
Italy	400,000
Netherlands	500,000
Norway	1,100,000
Poland	30,000
Portugal	90,000
Sweden	528,000
Switzerland	600,000
UK	4,300,000
TOTAL	**19,048,000**

Table 5: ECORD FY15 budget

	FY15 Income	FY15 Expenses
FY 14 balance	8,220,869	
FY 15 contributions	19,048,000	
ECORD-NSF MoU		7,000,000
ECORD-JAMSTEC MoU		1,000,000
ESO		6,040,000*
EMA		275,846
MagellanPlus		87,570
ECORD Outreach		58,500
ESSAC		369,620
Support of SEP Chair		93,864
Support of E-ILP Chair		12,510
BCR		352,167
TOTAL	27,268,869	15,290,077
Expected FY 15 balance	11,978,792	

** Including Expedition #357 costs* 10,450,000

The Amounts in USD are subjected to exchange rate fluctuations

The FY14 income is $20,712,660 USD, i.e. $19,097,480 USD from the member contributions (Table 2) and $1,615,180 USD from the FY13 positive balance (Table 3). FY14 ended with a positive balance of $8,220,869 USD (Table 3) that was carried over to FY15. Together with the FY15 member contributions of $19,048,000 USD (Table 4), the FY15 income yields $27,268,869 USD (Table 5). ESO FY15 expenses include the implementation of the Atlantis Massif Expedition. FY15 should finish with a positive balance of $11,978,792 USD (Table 5). However, due to changes in the currency exchange rates, ECORD could loose $1.5M USD. This is because not all countries are paying in dollars. Belgium and France are paying in euros, Denmark in krones and the UK in pounds. In this case, the FY15 positive balance would be $10,450,000 USD. However, potential additional contributions (cash, IKCs) are not considered. The total fixed costs are $11,290,000 USD every year and $7.7M USD are available for MSP operations every year.

G. Camoin continued to present the predictions for the budget FY16 to FY18 (Table 6). The table is based on cash and potential additional contributions like IKCs are not considered. In FY16 $18.3M USD should be available for MSP expeditions. After the implementation of the Chicxulub expedition that will cost $8.5M USD, FY16 should finish with a positive balance of $9.8M USD. In FY17 $17.6M USD should be available for MSP operations. After implementing an Antarctic expedition, the FY17 should finish with a positive balance of $8.6M to $10.9M USD. In FY18 $16.4M to $18.7M USD should be available for the implementation of an Arctic expedition.

Table 6: ECORD budget FY16 to FY18

	FY 16 (US$)	FY 17 (US$)	FY 18 (US$)
Total income	29,500,000	28,800,000	27,600,000
Fixed costs	11,200,000	11,200,000	11,200,000
MSP expeditions	8,500,000 (Chicxulub)	9,000,000 (Antarctic)	15,000,000 (Arctic)
Available for MSP expeditions	18,300,000	17,600,000	16,400,000
Balance	9,800,000	8,600,000	1,400,000

2.3 ESO: Scoping/tender process, operations, technical developments (D. McInroy)

(9:09)

D. McInroy presented an update on the upcoming Expedition 357 'Atlantis Massif' (2015) including the associated seafloor drill developments. Furthermore, he reported on Expedition 364: Chicxulub (spring 2016) and the IODP Proposal #813: Antarctic Cenozoic Paleoclimate (potential 2018 MSP).

Expedition 357 'Atlantis Massif Serpentinisation and Life'

RRS *James Cook* is secured as an IKC from the UK with a value of about $2M USD. The sailing dates are from 24th October to 9th December, 2015. The Science Party has been provisionally selected. A major planning meeting was held on February 23rd, 2015. The Onshore Science Party has provisionally been schedulled to start on January 20th, 2016, and will last for about three weeks.

Seafloor drill developments

The RD2 and MeBo seafloor drills need to be developed. There are seven developments that were initiated at the end of 2014: two new logging tools, a borehole packer system, a drill string plug for post-expedition fluid sampling by ROV, a drill-mounted tracer delivery system, a drill-mounted water sampling system and a drill-mounted sensor package. In May, the logging tools will be delivered to the BGS and MARUM. From June to August there will be a dry test and a full wet test, co-funded by ECORD and the BGS, that will take place offshore Scotland in mid-August.

The test will be on the Northern Lighthouse Board vessel NLV Pharos (D. McInroy). The time between the wet test and the expedition is very short (G. Dickens). Using a developing system is always a risk (D. McInroy). It is better to have a prolonged dry testing period before the wet test (D. McInroy).

Expedition 364 'Chicxulub Impact Crater'

Negociations with the preferred contractor started. The project was descoped from two holes to one hole with trying to reach 1500 mbsf. The minimum was 1200 mbsf so that the objectives could be met. Multiple pipe size 'step downs' mitigate the risk of getting stuck. Regarding the duration and the costs of this expedition different scenarios were developed (Table 7).

Table 7: Duration and costs of Expedition 364

Open hole rate	Coring rate	Duration to 1500 mbsf	Cost to 1500 mbsf	Cost to 1200 mbsf
50m/day	30m/day	~50 days	$8.9M	$8.0M
40m/day	25m/day	~60 days	$9.6M	$8.5M
30m/day	20m/day	~70 days	$10.6M	$9.3M

The EFB set a self-imposed limit of $8.5M USD cost to ECORD. There is a good chance to get to at least 1200 mbsf on this budget. This operation is a joint IODP-ICDP MSP expedition. ICDP has provisionally awarded $1M USD for some ICDP focussed activity added on to this expedition but not for the basic expedition costs. The conditions of this funding still have to be discussed with ICDP. ICDP wants a visible and distinct contribution to the expedition, e.g. an additional logging tool or an additional measurement.

A decision about whether to break the limit of $8.5M USD could be made at sea when the progress and the timing are known (D. McInroy). After communicating with G. Camoin regarding the progress of the drilling, G. Camoin could explain the situation on the ship to the ECORD Council members and a decision on increasing the budget could be made.

There are ongoing discussions regarding the writing of a MoU between ECORD and some Mexican institutions. This leaves open the possibility of a Mexican contribution to the expedition, either through an IKC (e.g. support vessel) and/or a limited cash contribution.

<u>IODP Proposal #813 Antarctic Cenozoic Paleoclimate</u>

This expedition was provisionally scheduled for 2017. The only possibility so far is to contract the RV *N. B. Palmer* which belongs to the Division of Polar Programs of NSF. This ship is potentially available in February to April 2018 and not in 2017 as directed by the EFB. However, the ship will not be provided as an IKC. The costs of hiring the RV *N. B. Palmer* will be of $5.5M USD, including a long transit from Chile and back. The expedition cost estimate would be of $9M USD or $7M USD if NSF can schedule other programs to reduce the mobilisation costs. A commitment has to be done by around August 2015.

ESO requests EFB steer for this proposal, as NSF/ASC need to be informed of the plans. There are a few options: 1) to implement this expedition at higher cost than originally estimated ; 2) to negotiate a better rate for the RV *N. B. Palmer* (ECORD-NSF discussions or indirectly use a barter agreement); and 3) to abandon the RV *N. B. Palmer* option and to look for an alternative 2017 expedition. An alternative for 2017 could be Coralgal

Banks.

DISCUSSION on IODP Proposal #813:
The problem is that there are not so many icebreakers operating in this area (K. Gohl/D. McInroy). The ship barter agreement means talking with ship operators and schedulers to see where ships are being scheduled and in what programmes they have been scheduled, and perhaps there is an opportunity to make a ship swap (K. Gohl/T. Janecek). A better way to get ship time might be that the proponents apply for a ship to their own national funders prior to submitting an IODP proposal (R. Gatliff).

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

(9:40)
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. On the BCR webpage a map shows the location of the drill sites. *At the moment there is still a capacity of 35-40 km of core (U. Röhl/D. Kroon).*

The major achievements in 2014 are listed below:

- Since March 2014 about 40,000 samples taken,
- Aftermath of recent expeditions (339, 342, 347),
- Digitizing all sample request since 1994,
- Continuously making all curatorial data available,
- Updates CurationDIS 3.0 and ExpeditionDIS 5.0,
- Using SaDR for all requests,
- Contributing to new program policies & procedures,
- Participating in a variety of meetings,
- Planning for Exp. 357 and Exp. 364,
- Running ECORD Summer School 2014,
- Designing and running new ECORD Training Course 2015.

There are new versions of the Drilling Information System (DIS): the Repository Database 'CurationDIS' and the Expedition Database 'ExpeditionDIS'. the Scientific Earth Drilling Information Service (SEDIS) is continued into the new IODP programme with support of ECORD and the MARUM. For MSP expeditions the BCR provides online tutorials for all laboratories and facilities that are used during an expedition.

This year is the 9th year of the Bremen ECORD Summer School. In 2015 the topic of the Summer School is 'Ocean crust processes: magma, faults, fluxes and life'. The Summer School combines lectures and interactive discussions on the main themes of IODP with practical 'shipboard' methodologies. Two weeks ago the first ECORD Training Course was held at the MARUM with 30 participants from nine different countries. *There were*

almost 60 applicants for this course (U. Röhl/D. Mallinson). The participants were prepared for future IODP expeditions. This Training Course was open for non-ECORD and non-IODP member countries.

U. Röhl continued giving an update on policies.

1) MSP Standard Measurements: This policy was discussed and approved at the last EFB meeting in 2014. The policy was implemented and is online since June 2014.

2) IODP Sample, Data, and Obligations Policy: This policy was also discussed and approved at the last EFB meeting in 2014, and is online since June 2014.

3) MSP Third-Party Tools and Instruments Policy: A draft version of this policy exists since December 2014 that has to be discussed at the upcoming EFB meeting.

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 overlapping four-year terms. After this policy has been online there was a decision on the membership on this advisory board. Some members will rotate off this year and the question is when the new membership will be decided and who will decide on this issue.

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

(9:51)

S. Davies presented the activities of the European Petrophysics Consortium (EPC): post-expedition activities, preparation for upcoming expeditions, capability developments and training staff for upcoming expeditions, and other key activities including education and training.

For Expedition 347 'Baltic Sea', EPC's staff collaborated with the MARUM's one to document QAQC of the expedition downhole logging and core physical properties data. The petrophysics staff scientist attended the first post-cruise meeting and EPC also attended the expedition review meeting.

Downhole logging on MSP expeditions varies from using EPC logging tools, e.g. on MSP Expeditions 310 and 325, or working with external conractors, e.g. on MSP Expeditions 302 and 347. For Expedition 357 the logging will be from the seabed rock drill. At the moment, EPC and ESO are looking for a logging contractor for Expedition 364.

For Expedition 357 'Atlantis Massif', EPC will work closely with the BGS and MARUM as downhole logging tools are developed for deployment from the two seabed rock drills

that are planned to be used as part of this expedition.

For Expedition 364 'Chicxulub', EPC personnel has discussed the logging requirements with Co-chiefs and are investigating various logging tool options. EPC is working with the British Embassy to get permits in place for the radioactive source of the Standard MSCL.

Concerning capability development, EPC is updating the procedures for core petrophysics measurements and working on the improvement of plotting petrophysical results. Furthermore, there is an ongoing refurbishment of the offshore petrophysics container to: 1) increase the core storage; 2) extend the Standard MSCL by introducing the capability of a double magnetic susceptibility loop and having the potential to extend sensor capability; and 3) to maintain the option for a second 'fast-track' MSCL. EPC's downhole logging equipment has been tested.

In preparation for future expeditions, EPC offers a staff training, including offshore survival training, software training and MSCL training.

Regarding education and training, EPC personnel has led training sessions for early career scientists. EPC was invited by the London Petrophysical Society to talk on 'life as an academic petrophysist' at their careers day in November 2014. Furthermore, EPC was involved in the ECORD Summer School 2014, GESEP 2014, ECORD 'Virtual Drillship' 2015 and MEDGATE 2014.

Concerning staffing and organisation, the EPC management is now divided between Sarah Davies and Sally Morgan. EPC represents ESO as operations watchdog and observer on the Science Evaluation Panel.

2.6 ESO: Educational/outreach issues (A. Stevenson/A. Gerdes)

(10:03)

A. Stevenson presented education and outreach issues for ESO.

For the 'Atlantis Massif' expedition, a communication plan was drafted and sent to the Co-chief Scientists to get background information about the key messages and to be consistent in conveying a message to the media. Albert Gerdes took part in the planning meeting for this expedition that was held in Edinburgh on February 23rd. There are discussions about the information to be included in the expedition flyer and on the ESO website. The interesting message for the public is the story of life and life evolving very slowly, but also the CO_2 storage. Ideas for media activities, including media briefings and other activities at the start of the expedition, will be developed once the mobilisation

port has been confirmed. London would be a good place for media activities. There will be also a close collaboration with the communications specialists at the Co-chief Scientists' universities and those of the science party. The Co-chiefs will be asked to provide video material that may be used to publicise the expedition and that will be put into the media packs, which will be distributed. A close liaison will be made both with the UK National Oceanography Centre and NERC.

For the 'Chicxulub' expedition, the discussions with the Co-chiefs have started. A. Stevenson joined the ESO delegation to attend the Chicxulub Drilling Workshop from March 28th to April 1st, 2015 in Mexico. A media conference and a press release were organized to publicise the workshop and the expedition science, to help the permitting process and to highlight the contribution from the Secretary of Education. The outreach contacts include the Communications Director at UT Jackson School, the Media Officer at Imperial College, London, and some Mexican press groups. It is also possible that there would be a link to the Mexican National Academy and the UK Royal Society.

The main target audiences are the media, interested public, scientific community, policymakers and educators. The main communication objectives are: 1) to interact positively with the media and the general public to demonstrate the benefits of MSP expeditions; 2) to maximize the expedition's publicity impact among the public and the scientific community; and 3) to strengthen the links between the IODP/ECORD community and the international media. The message can be conveyed using the ECORD web pages, expedition flyers, the ECORD folder, booths at the EGU and AGU, media packs, press conferences, media releases, the media day at the Onshore Science Party and Science Party organisations' websites.

2.7 ESSAC: Staffing, courses and other activities (G. Früh-Green)

(10:15)

G. Früh-Green gave an overview of completed and upcoming IODP 2015 expeditions. Expedition 354 'Bengal Fan' will be completed by the end of the current month. Afterwards the *JR* will continue with Expedition 355 'Arabian Sea Monsoon' (CPP). The next MSP expedition is 'Atlantis Massif'.

Staffing:

G. Früh-Green continued to present staffing and quotas. The number of berths depends on the financial contributions of the ECORD member countries. The staffing for the eight expeditions, 349 through 356, has been completed and the three major contributors have the major proportions of participants. The distribution of participants from smaller countries is fine. In the case of special calls the participants do not count towards the quotas. For the time period from January 2014 to May 2015 there is also a good

distribution of senior scientists to early career scientists and students from ECORD countries.

The 2014 quotas show a deficit for Germany and France at the end of 2014 (Table 5), however, Germany has no deficit anymore in 2015.

Table 5: 2014 quotas

Contributions FY 2014			Quotas / Actual stand FY 2014				
Designated ECORD Berths for expedition					34		
Member	Financial Contribution ($US)	%	Total Berths invited	Total Berths sp. calls	Entitled berths, excl. Sp. Calls & Cc	Diff. entitled vs invited (Quota)	Total Partic., incl. co-chiefs
France	5,017,000	26.86	7	0	9.13	-2.13	7
Germany	5,600,000	29.99	8	0	10.19	-2.19	9
UK	4,080,000	21.85	10	2	7.43	2.57	13
Sum	14,697,000	78.69	25	2	26.76	-1.76	29
Austria	100,000	0.54	0	1	0.18	-0.18	1
Belgium	31,000	0.17	0	0	0.06	-0.06	0
Canada	150,000	0.80	0	0	0.27	-0.27	0
Denmark	170,000	0.91	0	0	0.31	-0.31	0
Finland	80,000	0.43	0	0	0.15	-0.15	0
Iceland*	30,000	0.16	0	0	0.05	-0.05	0
Ireland	140,000	0.75	0	0	0.25	-0.25	0
Israel	30,000	0.16	0	0	0.05	-0.05	0
Italy	400,000	2.14	0	1	0.73	-0.73	1
Netherlands	500,000	2.68	1	0	0.91	0.09	1
Norway	1,100,000	5.89	1	0	2.00	-1.00	1
Portugal	90,000	0.48	0	1	0.16	-0.16	1
Poland	30,000	0.16	0	0	0.05	-0.05	0
Sweden	528,000	2.83	2	1	0.96	1.04	3
Switzerland	600,000	3.21	2	1	1.09	0.91	3
Sum	3,979,000	21.31	6	5	7.24	-1.24	11
TOTAL	18,676,000	100	31	7	34.00	-3.00	40

The projected quotas for 2014 and 2015 look good for the UK and Germany, but France has to work on it (Table 6). Overall, more ECORD participants sailed than the eight berths per *JR* expedition that are mentioned in the ECORD-NSF MoU. The minimum number of designated ECORD berths based on the MoU is of 81 for two years. The total number of participants in expeditions in 2014 and 2015 is of 94 (Table 6).

Table 6: Projected quotas 2014 and 2015

	Projected Quotas 2014 & 2015 (Exps. 349 - 360)				
Member	Total Berths invited	Total Berths special calls/ IKC	berths entitled*, excl. Sp. Calls & Cc	Difference	Total Sailed, incl. co-chiefs
France	18	1	21.24	-3.24	20
Germany	23	0	23.71	-0.71	26
UK	17	6	17.27	-0.27	25
Sum	58	7	62.22	-4.22	67
Austria	1	1	0.42	0.58	2
Belgium	0	0	0.13	-0.13	0
Canada	1	0	0.64	0.36	1
Denmark	0	0	0.72	-0.72	0
Finland	0	0	0.34	-0.34	0
Iceland*	0	0	0.06	-0.06	0
Ireland	0	0	0.59	-0.59	0
Israel	1	0	0.13	0.87	1
Italy	3	2	1.69	1.31	5
Netherlands	4	0	2.12	1.88	4
Norway	3	0	4.66	-1.66	3
Portugal	1	1	0.38	0.62	2
Poland	1	0	0.13	0.87	1
Sweden	3	1	2.24	0.76	4
Switzerland	3	1	2.54	0.46	5
Sum	21	6	16.78	4.22	27
TOTAL ECORD	79	13	79.00	0.00	94

The staffing for the upcoming *JR* expeditions after July 2015 has been completed (Expedition 356 'Indonesian Throughflow') or is almost completed (Expedition 359 'Maldives Monsoon and Sea Level'). ECORD will have 10 sailing scientists on both expeditions.

JR Expedition 360 'SW Indian Ridge Lower Crust and Moho' is fully staffed and there will be eight ECORD scientists sailing, including for the first time a Polish scientist. The staffing of the *JR* Expedition 361 'Southern African Climates' is almost completed, including a special call for a nannofossil specialist.

A total of 82 applications were received for the next MSP expedition 357 'Atlantis Massif Serpentinization and Life'. 43 of them are from ECORD scientists. The staffing is in process and the first invitations were sent in March 2015. ECORD will have 12 berths because India and Brazil did not provide applications; in this case, the MoU dictates that those two berths go back to ECORD. For ECORD, there were more applications from senior scientists, but together with the US, Japanese, Korean and Chinese partners the

academic career distribution is eventually well balanced. The 'Atlantis Massif' expedition is staffed with 4 scientists from France, 1 from UK, 2 from Germany and 5 from small countries. The IKC berths for the UK are not counted. 50% of the Onshore Science Party will be female. The Webinar associated to this expedition was very successful with 65 participants.

There are currently two open calls for applications: 1) a special call for a nannofossil micropaleontologist for IODP Expedition 361; and 2) a call for applications for IODP Expedition 362 'Sumatra Seismogenic Zone'. All expeditions scheduled until mid 2016 should be staffed by the middle of the current year.

For a simplification of the application process, the ESSAC webpage and the application form were revised. There is no longer an online procedure: all applications are now done by email.

ECORD members in IODP panels:
G. Früh-Green continued to present the 4 new SEP members (January 2015-December 2017): Marguerite Godard (France), Steven Bohaty (UK), Werner Piller (Austria) and Marc-André Gutscher (France).
The new EFB members starting in January 2016 are Gilles Lericolais (ECORD), Fumio Inagaki (Japan) and Stephen Gallagher (Australia). The official alternate will be Benoît Ildefonse. These new members were already approved by the ECORD Council.
Jan-Hinrich Behrmann (GEOMAR, Kiel, Germany) has been elected as the new ESSAC Chair starting in 2016.

In 2015 there will be five MagellanPlus workshops. The workshop 'South Atlantic Drilling' was already held in February. The upcoming workshops are the IMAGE/MEDGATE Project and the 'Indian Ocean Crust and Mantle Drilling' workshop in May, 'Mantle, Water and Life' in June and 'Submarine Paleoseismology' in July.

EGU:
There will be a special IODP-ICDP session at the EGU in April 2015. This session 'Achievements and perspectives in scientific ocean and continental drilling' will be convened by G. Früh-Green and collaborators.

Education and outreach activities:
DLPs - A new Distinguished Lecturer Programme was set up. This time there are five speakers who cover the themes of the Science Plan. Two cover the topic 'Climate and Ocean Change' and the other three cover the three topics 'Biosphere Frontiers', 'Earth in Motion' and 'Earth Connections'.

ECORD Schools - Traditionally there are the Urbino Summer School in Paleoclimatology and the ECORD Bremen Summer School with a different theme every year. The Bremen 2015 Summer School will concern 'Ocean crust processes: magma, faults, fluxes and life'. ECORD Scholarships are offered to students to be able to attend these summer schools; usually there are 50-70 applications every year and 10-15 scholarships are given.
In addition to the two traditional summer schools, ECORD co-funded the International School on Foraminifera in June 2015 in Urbino.
A new ECORD Training Course was held in Bremen in March 2015: 'The Virtual Drillship Experience'. In total 53 applicants and 30 participants from ECORD and non-ECORD countries attended this first Training Course.

ECORD Grants - ECORD Research Grants are given every year to PhD students, early-career or postdoctoral scientists for DSDP/ODP/IODP related research. With those grants ECORD tries to promote the use of ocean drilling material and data, and to encourage new collaborations at different institutions.

'Teachers at Sea' - The 'Teachers at Sea' is a very successful outreach programme. In 2015 Diane Hanano is sailing on Expedition 354 'Bengal Fan'.

ECORD publication database - Teresa Bingham was hired temporary and part-time through ETH and ECORD funds to help setting up a publication database for all ECORD related literature.

The ESSAC news will be distributed monthly through the ESSAC distribution list.

(10:36)
coffee break
(11:03)

2.8 ECORD Industry Liaison Panel: recent activities (A. Moscariello)

A. Moscariello summarized the ECORD-ILP activities. There are three focus activities of the ILP in 2015: 1) to involve and educate a larger number of possible Industry partners in ECORD/IODP activities; 2) to organise one ILP annual event; and 3) to ensure an active participation of Industry representatives at the MagellanPlus workshops. Most of the ILP members are from the oil and gas industry (BP, Eni, Total, ExxonMobil, Shell, Statoil, BG Group), but there are also two service companies (Schlumberger and ION).

Focus activity 1: The new members are the BG Group and Schlumberger as Industry partners and UK-IODP KEF (Sally Morgan) as an observer.

Focus activity 2: The last ILP meeting was held in September 2014 in Bremen and focused on the topics in which industry has interest, like the Niger Transform Margin, the Arctic and the Mediterranean. The expression of interest for this workshop came from Shell, BG Group, ION, Statoil and Schlumberger.

Focus activity 3: The MagellanPlus workshop 'Drilling the Cretaceous-Palaeogene tropical South Atlantic' was held in February 2015 in Newcastle. Five representatives from Industry (one from the BG Group and four from Shell) attended this workshop. ION and CGG Veritas provided seismic lines.

A. Moscariello continued to present the IODP Pre-proposal 864: 'The Origin, Evolution and Palaeoenvironment of the Equatorial Atlantic Gateway'. There is lack of data for the Southern Atlantic and this project is an example for the collaboration of the science community with Industry.

A. Moscariello summarized other ILP activities. There are discussions on how combining the ECORD/ILP visibility with the ECORD outreach team. The next AAPG Annual Convention and Exhibition will be held in Denver from May 31st to June 3rd 2015.

DISCUSSION on collaboration with Industry:
The ECORD activity should be raised to the level of the European Commission (G. Lericolais). There is a lack of vessels for deep sea mining, which is related to drilling, and IODP and ECORD could play a very important role in this business (G. Lericolais). Next year the BGS will participate in a blue mining drilling campaign with a rock drill (R. Gatliff). A. Stevenson is working together with an Atlantic Initiative together with the EU, the US and the Canadians (R. Gatliff). There is an agreement between the EU, the US and Canada to have an Atlantic Research Alliance and they try to mobilise the scientific community and to identify priorities for this alliance (A. Stevenson). A. Stevenson has been asked to chair the Atlantic Seabed Mapping Working Group and there will be a big event in April 2016 in Brussels. G. Lericolais will attend this event and he will be able to report because one day before he is co-organising a meeting on a Northern Atlantic cooperation (G. Lericolais).
There is the upcoming MagellanPlus workshop 'Mantle, Water and Life' in June 2015 and probably they did not invite a representative from Industry (G. Früh-Green). A. Moscariello will have a look to the details of this proposal and see how Industry could be involved.
For most MSP projects Industry is very interested but, in contrast to the very experienced science community, Industry is sometimes missing the experience (G. Dickens). Industry really appreciates the experience of the science community (A. Moscariello). For example, if Industry drills a location on its own then they do not care about any scientific topics. However, it would be great for public relations for the company if they could bring a

scientist and spend a bit more time and money at this location (G. Dickens). IODP could bring the whole stratigraphic calibration and analyses of cores (M. Malone). This could happen on the ship or quickly post-cruise. Normally Industry hires people and this can take many months for them to get the analyses. For example, Shell is very interested in the Niger Transform area and they want more information to save money (M. Malone).

2.9 ECORD: recent activities and forward look (G. Camoin)

(11:26)

G. Camoin presented some general news about ECORD and started with following changes in the ECORD structure:

1) Michel Diament is the new ECORD Council Chair until December 2015 and Guido Lüniger is the outgoing ECORD Council Vice-Chair until the end of June 2015. There will be a new incoming ECORD Council Vice-Chair starting on July 1st and becoming the new ECORD Council Chair on January 1st, 2016.
2) The new MagellanPlus Chair since the beginning of February 2015 is Lucas Lourens (Netherlands).
3) ESSAC nominated Jan Behrmann (Germany) as the new ESSAC Chair starting on January 1st, 2016.
4) The three new EFB members are Gilles Lericolais (France), Stephen Gallagher (Australia) and Fumio Inagaki (Japan) starting on January 1st, 2016.
5) Nadine Hallmann is the new EMA Assistant Director since January 2015.

G. Camoin showed the content of the Annual Report 2015 that is online and indicated that the hard copies will be distributed within the next two or three weeks.

G. Camoin presented the ECORD membership (Table 8). At the moment ECORD has 17 member countries. Iceland has withdrawn from ECORD at the end of 2014. Most of the countries are committed until end of FY18, i.e. ECORD has to start soon thinking about an external review of the ECORD activities to prepare the renewal of ECORD and the funding beyond FY18. Denmark, Israel and Switzerland are committed until end of FY16, and Canada until end of FY15.

Table 8: ECORD member countries and their contributions

FY14 contributions

		($US)
Austria	> FY18	100,000
Belgium	TBD	30,000
Canada	> FY15	150,000
Denmark	> FY16	184,000
Finland	> FY18	80,000
Germany	> FY18	5,600,000
Iceland	>FY14	30,000
Ireland	>FY18	137,000
Israel	> FY16	30,000
Italy	> FY18	400,000
Netherlands	>FY18	500,000
Norway	>FY18	1,100,000
Poland	>FY18	30,000
Portugal	>FY18	90,000
Sweden	>FY18	528,080
Switzerland	>FY16	600,000
UK	>FY18	4,296,400
France	>FY18	5,212,000
TOTAL		19,097,480

There are renewed contacts with Spain showing that they could come back to ECORD. At the beginning of ECORD Spain contributed $400,000 USD and then they increased their contribution to $700,000 USD (G. Camoin). Concerning potential newcomers, the new 'Accessing Member' status was proposed to Russia. That means with only a small contribution Russia can have access to the ECORD educational programme, but does not get any sailing scientists on IODP expeditions. There are new contacts through the Russian Academy of Sciences. There are still contacts with the Czech Republic and Luxembourg and new contacts with Turkey. This year Turkey is willing to organise an IODP Day and their Ministry is positive about an ECORD membership.

ECORD is ready to play a significant role in the development of Amphibious Drilling Proposals (ADPs) combining land drilling and (especially) shallow water drilling. One example is the planned drilling programme offshore Nice (southeastern France), combining an IODP and an ICDP proposals. In the frame of the MagellanPlus workshop series, ECORD and ICDP provide 10,000 € each to fund ADP workshops.

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

There were reports on the *JR*-FB (S. Humphris), the CIB (N. Eguchi), the Science Support Office (H. Given), the Science Evaluation Panel (D. Kroon) and the IODP Forum (K. Becker).

3.1 *JOIDES Resolution* Facility Board (S. Humphris)

(11:35)

The *JOIDES Resolution* Facility Board (*JR*-FB) is responsible for scheduling the *JR* and for the advisory panels that this facility board uses. The *JR*-FB is required to get feedback from other facility boards on the effectiveness of the advisory panels. The last *JR*-FB

meeting was held in April 2014 and the next meeting will be held in May 2015.

S. Humphris presented a list with expeditions completed since the last EFB meeting and expeditions that are scheduled:

Expeditions Completed Since Last EFB Meeting:	
30 March–30 May 2014:	350: Izu-Bonin Mariana: Rear-arc
30 May–30 July 2014:	351: Izu-Bonin Mariana: Arc Origins
30 July–29 September 2014:	352: Izu-Bonin Mariana: Forearc
29 November 2014–29 January 2015:	353: Indian Monsoon
29 January–31 March 2015:	354: Bengal Fan
Expeditions Scheduled:	
31 March–31 May 2015:	*355: Arabian Sea Monsoon CPP**
31 July–30 September 2015:	356: Indonesian Throughflow
30 September–30 November 2015:	359: Maldives Monsoon
30 November 2015–30 January 2016:	360: Indian Ridge Moho
30 January–31 March 2016:	361: South African Climates & Agulhas Current Density Profile APL
31 July–30 September 2016:	362: Sumatra Seismogenic Zone
30 September–30 November 2016:	363: Western Pacific Warm Pool

** Not included in the base budget; dependent on external funding source*

With the Expedition 353 'Indian Monsoon' there were a number of sites within Indian waters leading to a considerable amount of trouble gaining clearance for drilling. Drilling in Indian waters had to be postponed and the problem could only be solved through major effort by the science operators and NSF including an intervention at the highest levels of government. This resulted in additional expenses that included the ship going to India for inspection. Given the experience of getting research clearance for Expedition 353, the decision was made to exclude one site of Expedition 359 'Maldives Monsoon' that is in Indian waters.

The long-term *JR* cruise track will follow a path from the western and southwestern Pacific Ocean, through the Southern Ocean into the Atlantic Ocean for opportunities to start drilling there in 2018. This statement will be revisited at the next *JR*-FB meeting in May 2015 based on proposal pressure. The prediction is that this will be still the long-term track (S. Humphris).

JR-FB membership

At the next *JR*-FB meeting a new *JR*-FB chair will be selected. There are two new scientists at the *JR*-FB: Anthony Koppers and Christina Ravelo. There is an open call for the selection of the US members. The US Science Support Programme makes a recommendation to the *JR*-FB.

Items for EFB attention

1) Feedback is needed regarding the effectiveness of the advisory panels in meeting the needs of the EFB

2) Proposal and site survey confidentiality policies: feedback on proposed revisions of the clarifications regarding the handling of proprietary data and information (see agenda book)

3) Feedback on the draft of the amphibious IODP-ICDP drilling proposal procedures and guidelines (see agenda book)

3.2 *Chikyu* IODP Board (G. Kimura/N. Eguchi)

(11:45)

G. Kimura presented the budgetary situation for JFY15 and a *Chikyu* status update. Some non-IODP operations were cancelled and delayed last year and MEXT allocated non-IODP scientific operations in order to relieve the budgetary situation. MEXT requests a budget for *Chikyu* operations for JFY15 to conduct scientific drilling. Only basic cost of drill ship operation might be secured. CDEX has still budgetary constraints because JAMSTEC could not carry over its cumulated profits between the 5-year programs of the Independent Administrative Legal Entity (IALE) in April 2014. In addition, the BOP and ship body inspection is more expensive than expected.

After a long negotiation, the *Chikyu* has been committed to a commercial contract between the Japan Drilling Company (JDC) and ONGC (Indian company) for a gas hydrate exploration cruise off India beginning this March and expected to finish in August 2015. With this Indian operation basic cost for the *Chikyu* can be saved (N. Eguchi). Because of the delay in this Indian operation the IODP operation is also delayed to next year (N. Eguchi). After the cruise off India the *Chikyu* has to go to dry dock for a 5-year legal inspection as well as for maintainance and repair including BOP and riser-pipe repairs. The *Chikyu* will be able to return to IODP operations in March 2016 when a riserless operation is planned (N. Eguchi).

The last CIB meeting was held in July 2014 and the next CIB meeting will be held in March 2015. Hiroshi Nishi took over as chair of the J-DESC IODP Section in September 2014.

3.3 Science Support Office (H. Given)

(11:53)

The IODP Science Support Office (SSO) started at the beginning of the new IODP in October 2013 and is located at the Scripps Institution of Oceanography, UC San Diego. The SSO is funded by the National Science Foundation (NSF). The budget of the SSO for

FY15 is about $1M USD. Seven people are involved in the office. The tasks of the SSO are: 1) to support the *JR*-FB and its advisory panels; 2) to oversee the proposal process for IODP; 3) to manage the Site Survey Data Bank (SSDB); and 4) to provide the IODP website.

The proposals from the October 2013 submission deadline were the first responsibility for the SSO. Since then there is a good proposal activity and volume. At any given time since the SSO exists there are 106 active proposals in the system, with 20% of them being MSP proposals. 38% of the active proposals are led by ECORD scientists. There are about 1300 unique proponents and about 500 of those are ECORD scientists.

The submission of IODP proposals must be made via the e-system. The Proposal Submission Guidelines document is continuously evolving. Proposals continue to be refined at the Facility Board. Once the proposal has been forwarded from SEP there is a lot of interaction between the Facility Board and the proponents. The revised proposal does not have to be reviewed by SEP. There is a one-way arrow from SEP to the Facility Board. A new section called 'Consideration by an IODP Facility Board' was added to the Proposal Submission Guidelines and aims at requesting a proponents' response letter or an addendum. The Facility Board usually wants SEP to have an opinion about a proposal after getting more information from the proponents. Therefore, the SSO introduced the SEP Comment Form to record the specific item the proponent asked SEP to look at.

The SSO got specific requests from the proponent groups of proposals 846-APL, 840-Pre, 864-Pre and 730-Full about how confidential data are handled. Specifically they wanted to know if the SSO would sign an agreement about how proprietary data would be handled. These inquiries led to revisions of the two policies for proposal and data confidentiality. These revisions to the policy documents do not introduce any new procedures and only concern clarifications on the policies. The SSO decided to sign an agreement for proprietary site survey data bank (SSDB) to help the proponents. The SSO signs to agree on operating in accordance with its policies. SSO will sign a Non-disclosure Agreement (NDA) if the institution of the person who received the data from the data provider also signs this agreement.

DISCUSSION on confidentiality:
It could be good to have a watchdog signing a NDA and blocking the access to other members who are not watchdogs (G. Lericolais). This is difficult because there might be time series to look at but there are also pictures that might be in the proposal document itself (H. Given). When the watchdog signed then there is the question if no picture of the proposal can be shown because this might have proprietary data. It is not possible to have an open discussion if it is not allowed to show pictures and this resulted in pulling back

from getting NDAs (H. Given). Confidentiality is important and that is why there will be a signing sheet at the beginning of the meetings (H. Given). There is a problem with the EPSP because of oil company proprietary data (G. Lericolais). Here, it is important to be stringent.

<u>COMMENT on proposals with Industry interest:</u>
It would be useful to identify proposals that might have some Industry interest (A. Moscariello). It is very difficult to change the proposal submission system but this issue can be considered for the development of the system (H. Given). As soon as SEP initially discussed such a proposal there could be a communication to A. Moscariello from the SEP chair (H. Given).

3.4 Science Evaluation Panel (D. Kroon/D. Mallinson)

(12:17)
D. Kroon reported on the last SEP meeting. There is a good MSP proposal pressure and a big variety of proposals in terms of the character and the scientific objectives.

Table 9 shows mature proposals in the system that came back to SEP for review at the last meeting. At this level there is no MSP proposal. Highlighted in green are proposals that came back from external review and revised proposals are highlighted in brown.

Table 9: Revised proposals submitted on the 1st of October, 2014

P#	Type	Title	PI	Platform	Theme	Possible destinations
618	Add5 (Full3)	East Asia Margin	Clift	JR	CO	Letter to FB
760	Full	SW Australia Margin Cretaceous Climate	Hobbs	JR	CO	Forward to JRFB/ excellent/co-chief nom.
770	Add (Full3)	Kanto Asperity Project: Observatories	Sato	JR	EC, EM	Stays in HB
771	Full2	Iberian Margin Paleoclimate	Hodell	JR	CO	External review
818	Full	Brothers Arc Flux	de Ronde	JR	EC	Revise 'fast tracked'
834	Full	Agulhas-Transkei Transect	Uenzelmann-Neben	JR	CO, EC	Revise
835	Full	Japan Trench Tsunamigenesis	Kodaira	Chikyu	EM	Revise
841	APL2	Creeping Gas Hydrate Slides	Pecher	JR	EM	HB
857	MDP2	DREAM: Mediterranean Salt Giant	Camerlenghi	JR+Chikyu	BF	Stays in SEP: develop daughter proposals
865	Full	Nankai Trough Temperature Limit	Hinrichs	NR-Chikyu	BF	Forward to CIB/ excellent/co-chief nom.

D. Kroon continued to present proposals that are new in the system or that were deactivated in the past and came back to SEP. This list includes three MSP proposals (Table 10).

Table 10: New proposals at the SEP since the 1st of October, 2014

P#	Type	Title	PI	Platform	Theme	Possible destinations
866	Pre	Japan Trench Paleoseismology	Strasser	MSP	EM	Develop into Full
867	pre	Red Sea Plio-Pleistocene	Rohling	MSP	CO	Deactivate
868	Full	Drake-Scotia paleoclimate	Hernandez-Molina	JR	CO	Deactivate
869	Pre	Pacific Meridional Overturning Circulation	Okazaki	JR	CO	Deactivate
870	Pre	Rio Grande Rise Origin	Lacasse	JR	EC	Deactivate
871	Pre	Lord Howe Rise Crustal Evolution	Heap	Chikyu	CO EC BF	Develop into Full
872	Pre	Manus-Basin sulfide deposit	Parr	JR	EC	Deactivate
873	Pre	Drake Passage Plio-Pleistocene paleoceanography	Lamy	JR	CO	Deactivate
874	Pre	Neogene Newfoundland Sediment Drifts	Friedrich	JR	CO	Develop into Full
875	Pre	Brazilian Equatorial Margin Paleoceanography	Jovane	JR	CO	Develop into Full
876	Pre	Bend-Fault Serpentinization	Phipps Morgan	JR+Chikyu	EC	Develop into Full (send to CIB)
877	Full	High-resolution Indian Monsoon	Schwenk	JR	CO	Deactivate (Reject)
878	CPP	South China Sea Rifting	Sun	JR	EC	Holding Bin
879	Full	Corinth Active Rift Development	McNeill	MSP	EC	External review
880	APL	Experiment: Drilling parameters for Lithology	Moe	Chikyu	Engineering	Revise
881	Pre	Sao Paulo Plateau magmatic system	Almeida	JR	BF	Deactivate
882	Pre	Brazilian Equatorial Margin Tectonics	Vannucchi	JR	EC	Develop into Full
883	Pre	Walvis Ridge Hotspot	Sager	JR	EC	Deactivate
884	CPP	Southern Australia Cretaceous Anoxia	Holford	JR	CO EC	Revise

(12:40)
lunch break
(13:40)

3.5 IODP Forum (K. Becker)

The proposal pressure is the main criterion for evaluating the progress towards the Science Plan. There is a good proposal pressure and it is the challenge of the facility boards to schedule these expeditions to achieve the objectives of the Science Plan. K. Becker presented an overview of completed and scheduled expeditions and proposals at the Facility Boards and at the SEP organized by challenges: 1) Climate and Ocean Change: challenges #1-4; 2) Biosphere Frontiers: challenges #5-7; 3) Earth Connections: challenges #8-11; and 4) Earth in Motion: challenges #12-14 (Table 11). This table was updated after the January 2015 SEP meeting and does not include the 12 pre-proposals that were identified at the last two SEP meetings for the development to full proposals.

Table 11: IODP expeditions and proposals organized by challenge

Challenge	Done/scheduled	At FB's	At SEP
#1 Climate response to high atmospheric CO_2	361 SAFARI 708 ACEX2 813 Ant. Cenozoic	567 SPac Paleogene 760 SW Australia K {778 Tanzania?}	771 Iberia Paleoclimate** 834 Agulhas Cret. 847 Drake/Scotia 884CPP S Australia Cret.
#2 Ice sheet and sea level response to warming climate	(347 Baltic Sea) 359 Maldives Monsoon 708 ACEX2 813 Ant. Cenozoic	581 Coralgal Banks 716 Hawaiian Reefs 732 Ant. Sed. Drifts 839 Amund. Sea WAIS	730 Vanuatu SL 751 Ross Sea WAIS* 771 Iberia Paleoclimate** 847 Drake/Scotia 863 MDP ISOLAT
#3 Control of regional precipitation patterns	(341 S Alaska Margin) (346 Asian Monsoon) 353 Indian Monsoon 354 Bengal Fan 355 Arab. Sea CPP 356 Indon. Thruflow 359 Maldives Mons'n 361 SAFARI 363 WPac Warm Pool	{549 Arabian Sea} {595 Indus Fan} 618 E. Asian Mons'n 777APL Okinawa	730 Vanuatu SL 819APL Arab Sea OMZ 863 MDP ISOLAT 868 Drake/Scotia 877 Indian Monsoon
#4 Ocean response to chemical perturbation	364 Chicxulub Impact		760 Mentelle Basin 819APL Arab Sea OMZ 857MDP DREAM 858 APL NW Aust
#5 Origin, extent, significance of subseafloor biosphere	(347 Baltic Sea) 357 Atlantis Massif	505 Mariana forearc	635 Hydrate Ridge 830 APL Scott Plat. 833 Guaymas Basin 857MDP DREAM
#6 Limits of subseafloor life		830 APL Scott Plat. 865 Nankai T Limit***	857MDP DREAM
#7 Ecosystem sensitivity to environmental change		{724 Gulf of Aden}	760 Mentelle Basin 819 APL Arab OMZ 857MDP DREAM 858 APL NW Aust

Continuation of Table 11

Challenge	Done/scheduled	At FB's	At SEP
#8 Upper mantle composition and dynamics	(345 Hess Deep) 360 Atlantis Bank	522 Superfast Crust 800 Atlantis Bank	834 Agulhas Cret. 805 MDP Mohole
#9 Seafloor spreading and ocean crustal architecture	(345 Hess Deep) 349 SCS Tectonics	522 Superfast Crust 769 APL 504B logs	760 Naturiste Plat. 805 MDP Mohole 838 CPP SCS II 879 Corinth Rift**
#10 Chemical exchange between crust and seawater	357 Atlantis Massif	505 Mariana forearc	818 Brothers Arc
#11 Subduction and formation of continental crust	350 IBM rear arc 351 IBM arc origins 352 IBM forearc	698 IBM middle crust***	
#12 Control of earthquakes, landslides, tsunamis	(NanTroSEIZE 1,2,3) (334/344 CRISP A) 362 Sumatra 364 NTS C10 Obs'y	NanTroSEIZE 3,4*** 537B CRISP B*** 781A Hikurangi 782B Hikurangi	770 Kanto Asperity 796 Ligurian Slide 811 Cape Fear 841 APL Hikurangi 835 JTRACK
#13 Storage and flow of subseafloor carbon		533 Cascadia CORKs 791 APL Cascadia	811 Cape Fear 836 APL Timor Tr. 841 APL Hikurangi
#14 Fluids linking biological, chemical, physical processes		837 New Eng. hydro. 505 Mariana forearc 633 Costa Rica mud mounds	

Key:
* = holding bin after external review
** = sent to external review after Jan 2015 SEP
( ) = done at end of first IODP
{ } = security issues
green font = 2012 top US priority challenge for JR
cyan font = MSP
orange font = Chikyu (*** = PCT approved)
white font = JOIDES Resolution
(or Chikyu riserless if CIB criteria are met)

The next IODP Forum Chair will be nominated soon (K. Becker). There was a first vote and two candidates had exactly the same number of votes (G. Camoin). There will be another vote and the nomination will be done within the next two weeks (G. Camoin). There were three candidates for this position (K. Becker/G. Camoin).

At the upcoming IODP Forum there will be two special focus points: 1) first review of IODP-2 results; and 2) review of education and outreach across IODP.

K. Becker continued to present the new procedures regarding the amphibious proposals. At the first IODP Forum meeting in 2014 a motion has been made to work with ICDP and to design a process to jointly evaluate proposals. The IODP Forum recommended setting up a working group. ICDP agreed and this working group was set up and chaired by Kenneth Miller (IODP SEP). The other panelists were Pierre Francus (ICDP EC), Flavio Anselmetti (ICDP SAG), Jochen Erbacher (IODP Forum) and Sean Gulick (IODP SEP).

The definition of ADP's is as follows (revised version from April 3rd, 2015):

Definition: *Amphibious drilling proposals are those for which full achievement of the scientific objectives requires scientific drilling at both onshore and offshore sites.*

There are three principles for the coordinated evaluation of ADP's:

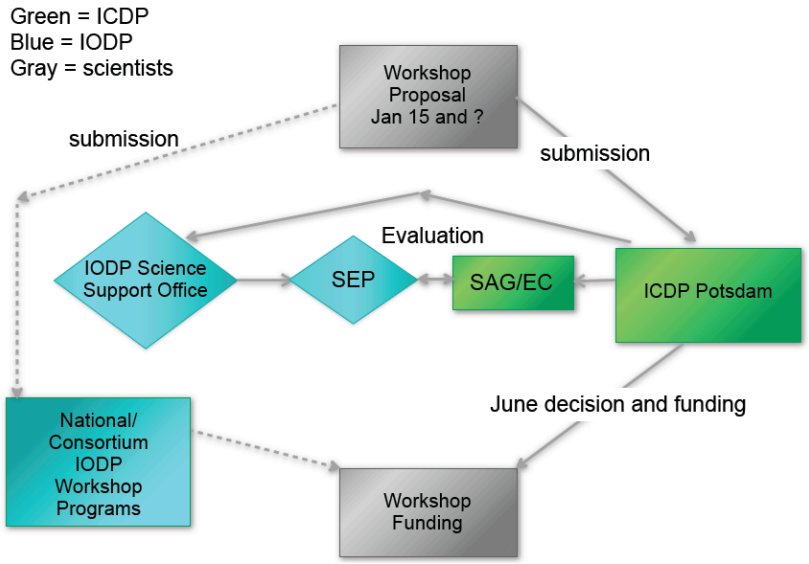
1) Adopt general ICDP procedure for workshop to develop ADP, using normal ICDP workshop proposal deadline (Jan 15)
2) Adopt IODP procedure for SEP evaluation of full proposal, with external reviews, using (a) normal IODP fall proposal deadline (Oct 1) for potential Jan SEP decision for external review; and (b) co-submission to ICDP at normal Jan 15 deadline for evaluation at regular spring SAG meeting.
3) Flexibility in dealing with procedures in both IODP and ICDP.

One difference between ICDP and IODP is that ICDP has one annual cycle of proposal review while IODP gets two proposal deadlines separated by six months.

ADP's generally require workshops to bring together members of the IODP and ICDP communities and to justify the scientific need for both onshore and offshore sites (K. Becker). Workshop proposals will be reviewed by the ICDP SAG/EC and the IODP SEP with, if necessary, the advice of the MagellanPlus SSC, USAC or any external reviewer (K. Becker). Workshop funds will be provided by ICDP and the IODP Program Member Organizations (ECORD, USAC, J-DESC).

K. Becker continued to present two flow charts for the development of ADP workshops and full proposals (Figs. 1 and 2).

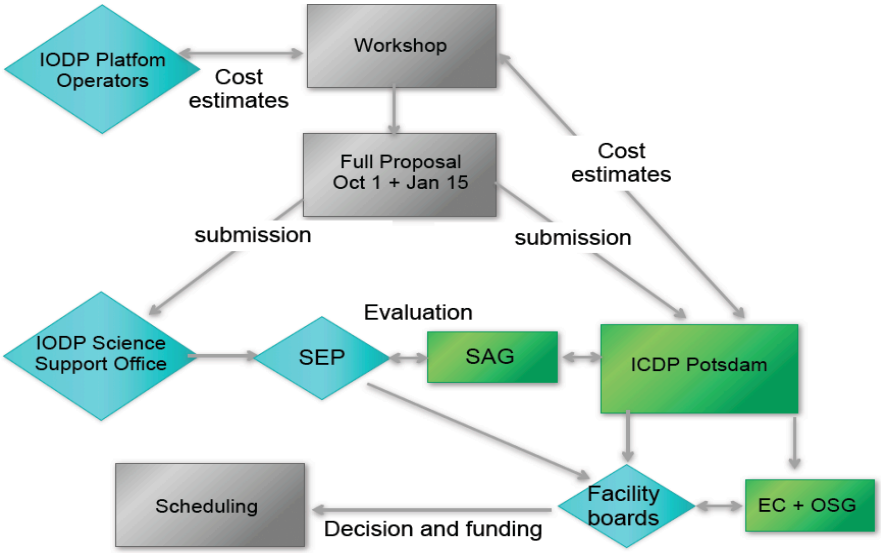
Figure 1: IODP-ICDP Amphibious Drilling Proposal (ADP) Development: Workshop



On IODP side the workshop proposal will be submitted for the ICDP January 15th deadline and whatever deadlines are appropriate for the national or consortium workshop programmes (Fig. 1). On ICDP side the submission will be to ICDP Potsdam who would forward the proposal to the IODP Science Support Office as information. The SSO would forward the proposal to SEP for review. If there is a positive decision by ICDP at their Executive Committee in June, they would make the decision to offer funding. In a parallel process there is the possibility of getting co-funding of a workshop from the various sources of IODP workshop funding (Fig. 1).

Full ADP proposals should be submitted for the normal IODP October 1st deadline and co-submitted for the ICDP January 15th deadline. If a full ADP proposal is positively reviewed at the January IODP SEP, the IODP Science Support Office will obtain fast-track external review in time for the spring ICDP SAG meeting. Following external review, the Full ADP will be evaluated by the scientific panels of both programmes (spring SAG and June SEP). Those recommendations will be integrated into a single review document. It is up to the chairs of these two panels to organize a joint evaluation. The key aspect is to get an integrated review and to avoid that the proponents get contrasting reviews (K. Becker).

Figure 2: IODP-ICDP Amphibious Drilling Proposal (ADP) Development: Full Proposal



The document 'IODP ICDP Guidelines for joint review of "Amphibious Drilling Proposals" (ADP's)' will be reviewed this spring at the EFB, CIB and *JR*-FB, then at the ICDP Executive Committee in June and the IODP Forum in July. If there is an agreement, then it will be adopted by both programmes.

DISCUSSION on ADP's:

SEP and SAG have to evaluate the ADP proposals together and they have to forward it together to the facility boards, i.e. it cannot happen that ICDP or IODP rejects and the other panel accepts (K. Gohl/H. Nishi). The ADP definition says that the scientific objectives can only be achieved by both drilling onshore and offshore (G. Camoin). If one panel does not like the proposal then it is not an ADP anymore (D. Kroon/G. Camoin).

K. Becker gave two examples for expeditions that had/will have an onshore ICDP component besides the offshore IODP component: 1) the New Jersey Sea Level Expedition; and 2) the Chicxulub Expedition. Some of the hydrogeological proposals that are in the system could be an example for the future (K. Gohl). These proposals could incorporate objectives like groundwater flow from the land to the ocean.

SEP would have the option to determine if a proposal could be two standalone projects and that one part should be submitted for an IODP project and the other part for an ICDP project (D. Mallinson). It gives strength to a proposal if the proponents can demonstrate that the scientific objective can only be achieved with drilling onshore and offshore because there is support from two independent panels (M. Torres). ADP's give the opportunity to potentially address scientific objectives that could not be addressed by a solely either offshore or onshore component (S. Humphris). Regarding hydrogeological proposals, stronger proposals could maybe be written by looking at the continent-ocean transition (S. Humphris).

T. Janecek mentioned that it appears that a new structure is being built for maybe only a small number of proposals. This structure is not new (K. Becker/K. Gohl). The only new item in this scheme is the coordinated review between SEP and SAG (K. Gohl). The proponents do not want separate evaluations. They want a joint evaluation with a single response letter (K. Gohl).

ECORD FB Consensus 15-03-02:
The ECORD Facility Board agrees on writing a feedback message regarding the ADP guidelines to the other Facility Boards.

- **Action (K. Gohl)**: to write a feedback message regarding the ADP guidelines to the other Facility Boards.

4. Review of the MSP proposals

Five MSP proposals that are currently at the ECORD Facility Board were reviewed and discussed: 1) #581 Late Pleistocene Coralgal Banks; 2) #637 New England Shelf Hydrogeology; 3) #716 Hawaiian Drowned Reefs; 4) #708 Arctic Paleoceanography; and 5) #813 Antarctic Paleoclimate. Of those the first three are in the holding bin.

4.1 581-Full2 Late Pleistocene Coralgal Banks (holding bin)

4.1.1 Summary of objectives, SSD and previous EFB decision (A. Cattaneo)

(14:15)

A. Cattaneo presented the scientific objectives and the drilling plan for proposal #581. At present, this proposal is in the holding bin but there have been discussions if the objectives can still be reached by drilling to a maximum depth of 80 mbsf. There is a pending issue concerning the availability of data that have not been provided to the Site Survey Data Bank (A. Cattaneo/D. Mallinson).

4.1.2 Drilling operations and costs (D. McInroy)

(14:21)

The penetration considered in the current proposal is between 70 and 100 mbsf at seven holes. There are two possible platforms: a geotechnical ship with coring rig or a sea bed drill. The expedition is technically feasible, i.e. no extra development is needed. The geotechnical mobilisation/demobilisation costs would be disproportionate to the length of the expedition (13-20 days). 100 mbsf is beyond the current reach of the BGS RD2 and the MeBo70, but it is potentially reachable with the MeBo200. In May 2014, A. Droxler confirmed that the objectives can be met with 50-70 m penetration. A revised proposal or addendum has not been submitted. The expedition would cost $2.0-$2.7 M

USD when a seafloor drill is used and the vessel is assumed to be provided as a full IKC. The maximum penetration is 80 mbsf and 50 mbsf for the MeBo 200 and RD2, respectively. The cost of an operation using a geotechnical vessel would range between $5.5 and $8.7M USD.

DISCUSSION on proposal #581:
The expedition would take less than 20 days (transit to drill sites and drilling) plus 5-6 days of mobilisation at the start and two days of demobilisation at the end (D. McInroy/K. Gohl).

The MeBo200 might not be available for IODP expeditions until 2020 (D. McInroy/M. Torres). This will be the same for the MeBo70 (G. Camoin). Both MeBo systems are booked out until 2019 or 2020 (K. Gohl). However, if there is an opportunity for an IODP/ECORD expedition and if the expedition is short (less than 4 weeks) and can be scheduled with a German or another vessel as an IKC, MARUM may be able to run more than two MeBo expeditions per year (K. Gohl). The MeBo200 has not yet been fully tested (K. Gohl). The first expedition will be offshore New Zealand in early 2016. There is a high demand for the two MeBo systems (K. Gohl). If ECORD wants to use the MeBo before 2020 then MARUM has to be quickly informed, i.e. within a couple of months (K. Gohl).

T. Janecek asked about the likelihood of IKCs, from whom it could come from and how much a research vessel would cost if ECORD does not get a ship as an IKC. It would cost another $2.5 M USD if ECORD could get a research vessel in the area (D. McInroy). The research vessel has to be in the region (D. Smith). There is a defined application process for a non-US research vessel working in US waters (D. McInroy/D. Smith). Hiring a geotechnical vessel would be another $1.5 M, i.e. in total $3.5 M to $5 M USD (D. McInroy). D. Smith suggested just to do the coring and to do the analyses onshore. It was mentioned that the costs in the proposal are only $1 M USD (G. Dickens). However, this depends on the vessel mentioned in the proposal and the vessel may not be big enough to take research laboratories (D. McInroy). These are probably the costs at the time of proposal submission, i.e. from 17 years ago (G. Camoin). The proponents had the offer to use a ship but the ship disappeared (R. Gatliff). This offer was only for a test on one core (G. Camoin).

This proposal is on hold because of no further activities in terms of scoping and because it was not considered for scheduling before 2018 (K. Gohl). This proposal could be an alternative depending on the MSP expeditions schedule. A new scoping for geotechnical platforms could be done or it would be good to talk to research vessel operators to see if any ship is available in this area as an IKC (K. Gohl).

4.2 637-Full2+Add6 New England Shelf Hydrogeology (holding bin)

4.2.1 Summary of objectives, SSD and previous EFB decision (M. Torres)

(14:37)

M. Torres presented the scientific objectives and the drilling plan of proposal #637. This proposal is in the holding bin because it was considered as too expensive to be implemented. The ESO cost estimate from 2014 was ranging between $27 M and $41 M USD. A consensus from the EFB 2013 meeting was to look for ways to minimize the costs and to look for outside funding. There was a consensus at the last EFB 2014 meeting to keep this proposal in the holding bin. The absolute minimum requirements were discussed with the proponents. Based on an email exchange with the proponent B. Dugan in February 2015, the minimum would be three logging while drilling holes and two coring holes. The proponents look at stepped wireline logging instead of logging while drilling to reduce the costs and they are looking for additional funds including ICDP. The proponents are looking for guidance from the EFB to find the best way to establish a program that allows attaining the scientific objectives with reasonable costs.

4.2.2 Drilling operations and costs (D. McInroy)

(14:42)

Currently the proposal includes ten holes in total, i.e. five cored holes and five logging while drilling holes. The proposal is feasible, but costly. The proponents were encouraged by the EFB to consider wireline logging instead of logging while drilling and to reduce the number of holes. In March 2015 the proponents acknowleged that a compromise is needed and that they are willing to submit an addendum. The cost estimated last year was in the $24.8 M-$39.3 M USD range. Assuming three holes with wireline coring, the cost range would be between $12.1 M and $20.7 M USD. The proponents want to have a face-to-face meeting with ESO to find out how much budget is available and to produce a new proposal.

<u>DISCUSSION on proposal #637:</u>

ICDP and C-DEBI for microbiology are an option for additional funding (M. Torres). However, the proponents cannot get any additional funding before knowing when the expedition could be scheduled (M. Torres).

There is big difference in the costs of a liftboat platform and another type of platform (D. Smith). ECORD should say which platform is affordable and give the proponents a technical limit (D. Smith). Usually ECORD does not go to the proponents with a statement of resources (D. McInroy). It should be put back on the proponents and a plan should be made so that the scientific objectives can be reached as minimum as possible but the upper end should be ruled out (M. Malone). In the new evaluation programme the operators are writing the guidance to the proponents during the evaluation or even during the workshop (M. Torres). It is clear to the proponents that using a platform like a jack-up vessel is too

expensive (D. McInroy). A cost limit has to be set and there should be realistic options ahead of time (G. Dickens). It will be a standard procedure to limit costs for most of the expeditions that ECORD schedules (K. Gohl). Given this limited contribution from ECORD only a certain platform can be kept as feasible. Then ECORD has to go back to the proponents, they have to see if their scientific objectives can be reached and write an addendum that stays in the cost limit (K. Gohl). If the proponents cannot stay within the cost limit proposed by ECORD then they have to get extra funds on their own (K. Gohl).
R. Gatliff questioned if three holes are needed. The minimum is two, but they need at least three holes where they can map the extend of freshwaters (M. Torres). The reason for the big costs is logging while drilling (G. Dickens/D. McInroy). The reason for the deactivations at SEP is always that the drilling plan is not feasible (D. Kroon). The advice is to start honest with the proponents and discuss with them what is possible and realistic (D. Kroon). It is more difficult for the old proposals because of their long history (M. Torres). ECORD moved ahead with the new SEP and now there is also a better guidance for the proponents (M. Torres).

4.3 716-Full2 Hawaiian Drowned Reefs (holding bin)

4.3.1 Summary of objectives, SSD and previous EFB decision (G. Dickens)

(14:56)
G. Dickens presented the scientific objectives and the drilling plan of proposal #716. There are eleven primary sites with a penetration of 150 m. However, the proponents are flexible on some of the sites as well as the penetration depths. The idea is using the MeBo instead of a geotechnical vessel.

4.3.2 Drilling operations and costs (D. McInroy)

(14:59)
The current proposal has a maximum penetration of 180 mbsf. The proponents reduced the penetration depths to a maximum of 140 mbsf and at some sites it could be shallower than 100 mbsf. A geotechnical ship with a coring rig or a sea bed drill could be used. Even the revised penetration depths are beyond the current reach of the BGS RD2 and the MeBo70. The MeBo200 has to be used, but it is potentially five years away from being available to IODP. The ESO cost estimate is of $3.4M to $4.6 M USD assuming the use of a seafloor drill and a research ship as an IKC. Using a geotechnical ship would cost between $8 M and $13 M USD. In March 2015 the proponent J. Webster replied that he is not sure whether waiting for the MeBo200 or revising the penetration depths in the proposal.

DISCUSSION on proposal #716:

About 50 driling days are planned (D. McInroy/G. Camoin). D. Kroon questioned the use of the MeBo200. A different drilling plan drilling more sites, but shallower holes could be considered (D. Kroon). There are terraces and a penetration depth of 50 m should be enough (G. Camoin). Instead of drilling at one site down to 150 m, two successive terraces could be drilled and exactly the same sequence could be reconstructed (G. Camoin). However, this is just modelling (G. Camoin).

There is an Australian commercial drill which was tried for the Great Barrier Reef expedition, but it was too busy doing commercial work and it was very expensive (R. Gatliff). Last week R. Gatliff found out that the company is building two extra drills and maybe this could be an option. These drills have the potential to drill deeper than 100 mbsf (R. Gatliff).

All proponents will get a letter of response to explain the status of their proposal (K. Gohl). For proposal #716 the question can be asked if the scientific objectives can be reached by drilling shallower holes (K. Gohl).

4.4 708-Full+Add Central Arctic Paleoceanography (addendum/revision)

4.4.1 Scientific objectives (D. Weis)

(15:11)

D. Weis presented the scientific objectives of proposal #708.

K. Gohl asked D. Weis to lead the discussion because of his institutional conflict of interest.

(15:27)
coffee break
(15:40)

4.4.2 Site survey data (D. Mallinson)

One primary drill site and three alternate sites are proposed. The maximum penetration depth for the primary site is 1200 mbsf and was revised based on a new velocity model. The proposal was reviewed by the SEP in June 2014, but at this time the new seismic data aquired during the RV *Polarstern* cruise in August to October 2014 were not yet available. At its June 2014 meeting, SEP recommended that the proponents submit an addendum and new site survey data from the RV *Polarstern* 2014 cruise. SEP also requested a more accurate velocity model and digital bathymetry/backscatter data. On March 16, 2015, an addendum and new data were received. The RV *Polarstern* 2014 cruise data have just been uploaded but not yet fully reviewed. Digital data were uploaded and a new velocity model was provided. Furthermore, the proponents addressed science and operational EFB's concerns. There are still problems with the site

location for the primary site on the new MCS line. There is a mismatch between stated site positions and CDPs on seismic sections and the basemap.

DISCUSSION on site survey data for proposal #708:
R. Gatliff questioned if there is a new line linking ACEX-1 to these sites. This is not clear from the addendum (D. Mallinson). There is no seismics that connects the ACEX 1 and the ACEX 2 sites (K. Gohl).

4.4.3 Drilling operations and costs (D. McInroy)

(15:57)

The water depth at the primary site is 1405 m. The proponents are requesting three holes at the primary site with penetration depths of 1200 mbsf. The Addendum still calls for three deep holes in deep water requiring at the primary site 2.6 km of drillstring and up to 3.6 km of drillstring at the alternate sites. The maximum that can be deployed on a geotechnical rig is 2 km of pipes. Therefore, an ACEX-style fleet with a 'top-end' geotechnical rig on a sizable icebreaker is needed. Such a set-up does not currently exist. A stronger rig is required to handle more than 2 km of pipe and a casing will be required. The long site residency increases the risk of being pushed off station. 24 days are required on site for coring and 28-29 days including logging and casing. The ESO cost estimate if of about $25 M to $34 M USD assuming no IKC and including three holes to 1200 mbsf. The estimated costs are $14 M to $19 M USD assuming an ice breaker as an IKC and including drilling two holes to 1200 mbsf. The costs for ECORD could be reduced to $9 M to $15 M USD if ice breakers are free, only two holes are drilled and the total pipe penetration is below 2 km.

DISCUSSION on proposal #708:
Addendum, objectives and costs: The science questions and the operational issues were not addressed in the addendum (G. Dickens). Even with drilling only one of their sites they could reach their main objectives and they could reduce the costs but they just do not address it (G. Dickens). The addendum is not a substantive answer (D. Weis). For example, during a paleoceanographic drilling operation in the Sea of Japan geotechnical logging was done in real time and only two holes had to be drilled per site to get a continuous sequence (G. Dickens). Two holes are only enough when the recovery is close to 100% (T. Janecek). The question is if the sequence of interest can be found and if fossils for dating can be found in this sequence (M. Torres). The Neogene section can be dated through the dinoflagellates or via Beryllium dating that goes down to 14 million years (G. Dickens). The costs for this expedition are not justified (G. Dickens). But there is no record of sea ice through time for the Neogene (D. Kroon). Paleoceanographically they will get something out of it and the dating for the Neogene is in hands (D. Kroon). There is a site on the seismic line that hits all objectives but the proponents do not select this one (G. Dickens). This site is

possibly to close to sea ice (D. Weis). One of the reviewers said that the proponents should go to an expended section (D. Mallinson). The proponents want the Neogene and the best Neogene is in the expended section of the Neogene with 1200 m of drilling (D. Kroon).
During the expedition ACEX-1 only one place was drilled with a very interesting result (D. Kroon). However, this has only been recorded at one site and it is important to drill elsewhere to confirm it or to find a different situation (D. Kroon). The hiatus has to be confirmed at least once. The costs of $15 M to $16 M USD are not too high for such an interesting expedition. The Neogene could be drilled and the hiatus problem could be addressed (D. Kroon). It is also important to know what the pink reflector means (D. Kroon). ECORD should propose to the proponents to drill at one site for $15 M to $16 M USD (D. Kroon). The proponents did not change the drilling depth to reduce the costs (G. Dickens). They admitted that the target depth could be 1100 mbsf instead of 1200 mbsf (D. Mallinson).
<u>Budget limit and IKCs:</u> ECORD should go back to the proponents and say that ECORD will not spend $30 M USD for this expedition, but $15 M USD and the proponents have to decide where they want to drill (D. Kroon). Either in 2018 or 2019 the upper limit of ECORD's contribution will be $16 M to $17 M USD (G. Camoin). The second scenario raised by ESO has to be considered, i.e. an IKC for the ice breaker (G. Camoin). Germany would propbably offer an ice breaker as an IKC (D. Weis). At the ECORD Spring Council meeting in March 2015 the Swedish representative said that Sweden would provide an ice breaker as IKC (G. Camoin). A proposal for the RV Polarstern to work in this area during the possible ACEX-2 expedition was submitted and the proponents will get a response in May 2015 (K. Gohl). If this proposal would be approved the RV Polarstern would be an IKC. In this case, the expedition costs would be $14 M to $19 M USD if the ice breakers are IKCs and two holes are drilled (D. McInroy). With a cost range of $6.7 to $9 M USD for the Antarctic expedition, there will be $16.4 M to $18.7 M USD available in 2018. (G. Camoin). An upper limit of $15 M USD for the Arctic expedition would be reasonable (G. Camoin). There could be large contributions from various people due to the interest in the Arctic (D. Smith).
<u>Operational risks:</u> Deep water drilling and deep penetration increases the risk (D. Smith). There is no guarantee to stay on site for that long and the deeper the drilling the higher the risk to not meet the objectives (D. Smith). This issue was also given to the proponents, but it was not addressed (G. Dickens). The primary site seems to be located on a structural closure at the base and the top of the Eocene section, i.e. there is the possibility that the EPSP might not recommend the primary site for approval (D. Strack).

<u>Discussion with proponents:</u> The EFB should invite the proponents to be involved in the discussions (G. Früh-Green). The letter to the proponents said that in principle the EFB supports an Arctic proposal, but not especially this one (D. Weis). However, there is no competing proposal (D. Weis). The proponents went out with the RV Polarstern to get a second set of seismic lines, i.e. they did a lot of effort to get the supportive evidence of

excellent seismic lines (D. Kroon). A discussion with the proponents is needed because there are still too many questions (R. Gatliff/M. Torres). Based on budget and operational limits, ECORD has to go back to the proponents and tell them that the expedition will not take place without certain operational restrictions and exceeding the budget limit for this expedition (T. Janecek). There are too many tools and variables for MSP expeditions, therefore it would be beneficial for the proponents to discuss the various options with the operator (M. Torres). The budget limit gives restrictions on the hardware and then the discussion can start with the proponents (T. Janecek).

4.5 Other proposal(s) that could potentially be forwarded by SEP in the future (only discussions; no actions/decisions)

4.5.1 Summary of scientific objectives (K. Gohl)

(16:37)

K. Gohl gave an overview of the 14 active Pre- and Full MSP proposals at the SEP (Table 12).

Table 12: MSP proposals at the SEP. The order is according to the relative maturity. The asterisk indicates that ECORD co-funding may be considered.

Proposal	Short Title	Proponent	Country	Ocean	Drill Platform	Status
879-Full	Corinth Active Rift Development	McNeill	UK	Mediterr.	drill ship	01/15: external review
866-Pre	Japan Trench Paleoseismology	Strasser	Switzerl.	Pacific	long-piston coring	01/15: submit full prop.
ADP / 796-Full	NADIR Nice Amphib. Drilling Ligurian Landslide	Kopf	Germany	Mediterr.	geotech rig; MeBo	01/15: subm. to ICDP 05/12: revise
730-Full	Sabine Bank Sea Level	Taylor	USA	Pacific	MeBo200	06/14: revise
857-MDP2* 857A-Pre*	DREAM Mediterr. Salt Giant DREAM-GOLD	Camerlenghi Rabineau	Italy France	Mediterr.	(JR & Chikyu) Chikyu	01/15: submit daugther prop. 06/14: submit full prop. to CIB
863-MDP	ISOLAT S-Ocean Paleoclimate	Peterson	USA	Southern	long-piston coring	06/14: submit daughter prop.
852-Pre	North Sea GlaciStore	Stewart	USA	Atlantic	drill rig	06/14: submit full prop.

Continuation of Table 12:

812-Pre	Ross Sea Glacial History	Wilson	USA	Southern	seabed drill	12/12: submit full prop.
806-Pre	Beaufort Gas Hydrate	Paull	USA	Arctic	geotech rig	05/12: submit full prop. or MDP with 797
797-Pre	Alaska Beaufort Margin	Ruppel	USA	Arctic	drill rig (or JR)	05/12: submit full prop. or MDP with 806
680-Full	Bering Strait Climate Change	Fowell	USA	Arctic	lift-boat, jack-up	12/11: revise (link with 750?)
761-Pre	South Atlantic Bight Hydrogeology	Wilson	USA	Atlantic	geotech rig; jack-up	12/11: submit full prop.
756-Pre	Arctic Ocean Exit Gateway	Jakobsson	Sweden	Arctic	drill ship (JR?)	12/11: submit full prop.
750-Pre	Beringia Sea Level History	Polyak	USA	Arctic	geotech rig or seabed drill & drill rig (JR?)	12/11: submit full prop. (link with 680?)

The first seven proposals in the table have been active since 2014. Proposal #879 is an expensive operation in the Gulf of Corinth and it would normally be a *JR* proposal. However, the Gulf of Corinth is not accessible by the *JR* and that is why it turned into a MSP proposal. Proposal #796 is the first proposal in the new ADP category. The DREAM proposal is listed in this table because of a possible contribution from ECORD to this *Chikyu* operation (K. Gohl). In the second part of the table there are proposals that were for the last time active in 2011 or 2012.

COMMENT on MSP #863-MDP: The proponents will submit daughter proposals on April 1st, 2015 (D. Kroon).

COMMENT on MSP #852-Pre: The proponents will most likely submit a full proposal on October 1st, 2015 (D. Kroon).

DISCUSSION on proposals at the SEP and future MSP expeditions:
Is is the question how long should pre-proposals stay in the system without any activity (S. Humphris). It would be good to ask the proponents after a certain period of time of total inactivity if there is a future for their proposal and if not then the proposal will be withdrawn (S. Humphris).
Every year ECORD has about $7.5 M USD available for MSP operations (K. Gohl). This allows two expensive and two or three medium-cost expeditions in 10 years. The remaining expeditions have to be in the low-cost category, i.e. less than $5 M USD (K. Gohl). An Arctic expedition in 2018, year 5 of the new phase, would be possible with an upper limit of $15 M USD because there was no expedition in 2014 and there will be a low-cost expedition in

2015, year 2 of the new phase (G. Camoin). The implementation of a second expensive expedition requires at least two low-cost expeditions with significant IKCs (G. Camoin). The active proposals at the SEP show a good distribution in terms of scientific objectives and costs (D. Kroon/G. Camoin).
Several low-cost expeditions require regular research vessels and equipment like the MeBo and the RD2 that needs to be booked early because of the high demand (K. Gohl). Seabed drilling systems have to be provisionally booked years ahead to secure these systems (K. Gohl).
It would be important to know the schedule of the RV N. B. Palmer. Mobilization costs can be saved if the ship is in the area in 2018 (G. Dickens). The schedules will be available by August 2015 (T. Janecek).
S. Humphris asked if cruises with long piston coring are limited to the French vessel Marion Dufresne. In France there are two systems for long piston coring (50 m cores) that not only work with the Marion Dufresne (G. Camoin). There is also a new Japanese ship constructed by JAMSTEC (D. McInroy). The new Japanese system will probably have a penetration depth of 30 m (N. Eguchi). At the moment there are discussion between EPF and JAMSTEC on building a new vessel and they would like to have the Calypso corer on board (G. Lericolais). There are two vessels that are equipped with the Calypso system reaching 20 m and 25 m of core length (G. Lericolais). The RRS James Cook might also be able to be equipped with long piston coring and it goes to the South Atlantic every year (R. Gatliff).

The meeting was closed at 17:12.

March 26th, 2015

(9:30)
K. Gohl opened the meeting.

5. MSP operation schedule for FY2015 to FY2019 (K. Gohl/All)

(9:02)
K. Gohl summarized seven proposals that were already discussed on the first EFB meeting day (Table 13). At the moment these proposals are most mature at their status. Three of these proposals are scheduled and four are still in the holding bin.

Table 13: Mature MSP proposals that are already scheduled or still in the holding bin.

IODP-MSP proposal	Drilling plan	Platform	ESO expedition cost estimates in mill. US$ (average) (12 Mar 2015)	MSP/ECORD priorities (outlined in ECORD documents)	Remarks	EFB decision at meeting
758 Atlantis Massif (G. Früh-Green)	WD 750-1770 m, 10 holes 50-70 m	MeBo & RD2	3.7 - 4.3 (4.0)	deep biosphere	ship is IKC by UK	scheduled for 2015 (2nd half)
548 Chicxulub Crater (J. Morgan)	WD 17 m, 2 holes 1500 m	liftboat or jack-up platform	8.5		total cost $9.9M; ECORD contribution limited to $8.5M; ICDP contributes $1.0 M; IKC by Mexico?	scheduled for 2016
813 Antarctic Paleoclimate (T. Williams)	WD 353-1407 m, 8 holes 50 m	RD2 on RV Palmer	9.0	drilling in polar regions	$3.5M + $5.5M ship cost	scheduled for 2018
708 Arctic Paleoclimate (R. Stein)	WD 1334-1752 m, 1 hole 1225 m	drill ship	25.0 - 34.0 (29.5) or 14.0 – 19.0 (16.5)	drilling in polar regions (Arctic in particular)	costs include chartered icebreaker ($7.3M) without icebreaker costs	not scheduled, but to be kept in holding bin; seriously considered to be scheduled for 2018
716 Hawaiian Drowned Reefs (J. Webster)	WD 134-1154 m, 11 holes 150 m	geotech drill or MeBo200	8.0 - 13.0 (10.5) or 3.4 - 4.6 (4.0)	sealevel	MeBo option: ship must be IKC	not scheduled, but kept in holding bin
581 Coralgal Banks (A. Droxler)	WD 60-78 m, 7 holes 70-100 m	geotech drill or MeBo/RD2	5.5 - 8.7 (7.1) or 2.3 - 3.4 (2.9)	sealevel	MeBo option: ship must be IKC	not scheduled, but kept in holding bin
637 New England Hydrogeology (M. Person)	WD 33-79 m, 5 sites, each 2 holes cored & 5 LWD 350-650 m 2 holes at 3 sites with wireline	large liftboat or industry rig	24.8 - 39.2 (32.0) 12.1 – 20.8 (14.5)			not scheduled, but kept in holding bin; perhaps reconsidered for 2nd 5-year phase of IODP

Correction for Table 13: For proposal 637 the drilling plan that costs on average $14.5 M USD includes drilling one and not two holes at three sites (D. McInroy).

K. Gohl presented the budget that is available for MSP expeditions (Table 14) and different scheduling scenarios. The carry-over from FY14 is $8.2 M USD. The balance at the end of FY15 is $10.5 M USD and includes a currency exchange loss of about $1.5 M USD (G. Camoin). The annual budget available for MSP expeditions is $7.8 M USD.

Table 14: EFB budget calculation for MSP expeditions. The costs are pure expedition funds without ESO fixed costs.

ECORD FY	annual budget for MSP expeditions (million US$)	available budget (million US$)	MSP expedition (proposal no. & short title)	estimated average of expedition costs (million US$)	balance at end of FY (million $US)	comments
2014	6,9	6,9	(none)	0,0	8,2	
2015	7,5	15,7	758 Atlantis Massif	4,0	10,5	ship will be in-kind contribution by UK
2016	7,8	18,3	548 Chicxulub	8,5	9,8	costs limited to $8.5 M by ECORD plus $1 M by ICDP
2017	7,8	17,6	(none)	0,0	17,6	
2018	7,8	25,4	813 Antarctic Paleoclimate	9,0	16,4	ECORD limit at max $9M incl max $3.5 M for RV Palmer
	0,0	16,4	708 Arctic Paleoclimate	15,0	1,4	ECORD limit at $15M; icebreakers must be IKC
2019	7,8	9,2		4,0	5,2	low cost
2020	7,8	13,0		4,0	9,0	low cost
2021	7,8	16,8		10,0	6,8	medium cost
2022	7,8	14,6		4,0	10,6	low cost
2023	7,8	18,4		18,0	0,4	high cost

Scenario 0: The costs of the Antarctic expedition would be of $9 M USD and of the Arctic expedition of $16.4 M USD. The $16.4 M USD is the average on the lower cost option, i.e. drilling of two holes to 1200 mbsf and all icebreakers come as IKCs (K. Gohl/D. McInroy). At the end of FY18 the balance would be around zero.

Scenario 1: The costs for the Antarctic and Arctic expeditions could be limited to $7 M and $15.5 M USD, respectively. In this case, the positive balance at the end of FY18 would be $3 M USD. A medium-cost expedition could be implemented in FY21 and an expensive operation could be implemented in FY23. Low-cost expeditions have to be implemented in FY19, FY20 and FY22.

Scenario 2: A low-cost expedition, like proposal #581, could be implemented in FY17. The schedule for expeditions in FY19 to FY23 is like in scenario 1.

DISCUSSION on the MSP operation schedule beyond FY16:

It is important to have two scenarios to be flexible and to have alternates. For example, if the expedition costs are too high for the RV N. B. Palmer due to the long transit then the Antarctic proposal has to be pushed back (G. Dickens).

Exchange with proponents at pre-proposal stage: G. Camoin asked if the ESO representatives have contact with the proponents at the pre-proposal stage regarding the technology they can use to implement their MSP expedition. The contact at this stage occurs only occasionally (D. McInroy). Many proposals are at the pre-proposal stage and it would be important to have discussions between the operator and the proponents to give them an idea of the costs (G. Camoin). This might help the proponents to realize what is doable and to develop a full proposal. It is always possible to limit the drilling plans and the SEP will tell if the scientific objectives can still be reached. This would avoid discussions about less mature proposals at the EFB and too frequent exchanges between the EFB and the proponents (G. Camoin). The transition between pre- and full proposal is very important (G. Camoin). This is the idea of the new SEP and exchanges between the EFB and the proponents are not negative (D. Kroon). But less mature proposals for high-cost expeditions at the EFB are a waste of time (G. Camoin). For example, for the Chicxulub expedition the proponents always wanted to drill two holes and suddenly after setting a budget limit only one hole was enough for them (G. Camoin). The drilling plans have to be streamlined and the costs have to be reduced (G. Camoin). When the proposals are discussed at the SEP, ESO has to tell that an expedition is doable but with a budget limit (K. Gohl). In the response letter to the proponents the budget limit has to be mentioned and the proponents have to be asked to get in contact with ESO or the EFB to discuss the different options (K. Gohl). The message that has to be passed to the proponents between the pre- and full proposal is that there is a budget limit for their expedition and that they have to streamline their drilling plan and to apply for any IKC (G. Camoin). The watchdogs have to be asked to include a request in the response letter to the proponents to contact ESO and the EFB (K. Gohl). Contacting the operators at the pre-proposal stage is especially important for the MSPs because of the wide range of technology (G. Camoin). In the proposal submission guidelines it already says that for pre-proposals the proponents are encouraged to contact the appropriate implementing organization before submission of the pre-proposal in order to dicsuss drilling platform capabilities and the feasibility of the proposal (H. Given).

Low-cost expedition in FY17: An argument for scheduling an expedition in FY17 would be to fulfill the promise of having on average one expedition per year. It would be good to have another low-cost expedition before FY18 if the budget allows (K. Gohl). For proposal #581 the biggest constraint is not the costs but its readiness (M. Torres). It would be better to delay this proposal because of its uncertainty in readiness (M. Torres). Proposal #581 should not be implemented in FY17 because of missing information (D. Weis). For 2017 it is difficult to reduce the transit costs for the Antarctic expedition, i.e. this expedition has to be

implemented after FY17 (D. Weis/T. Janecek). ESO is able to implement two expeditions in one year as the Arctic and Antarctic expeditions would be six months apart (R. Gatliff/D. McInroy). There is a third option to move the Antarctic expedition to FY19 with an expedition for about $7 M USD in between (G. Dickens). The implementation of proposal #716 would cost $4 M USD with the MeBo or $10.5 M USD with a geotech drill (K. Gohl). However, this expedition cannot be done for $4 M USD before FY20. The proponent of proposal #716 does not want to descope the proposals, but prefers to wait for the MeBo (D. McInroy). It would be good to keep some money in the bank and to keep flexibility (D. Weis/G. Camoin). The scheduling for an expedition for FY17 has to be done now because FY16 would be too late to schedule for FY17 (G. Camoin/D. McInroy). In the case of not implementing an expedition in FY17 and scheduling two expeditions in FY18, only $1 M USD would be left in the bank (G. Camoin). This is not a secured buffer (G. Camoin). The costs are too close to the limit (R. Gatliff). ESO sets limits and if something gets more expensive then modifications have to be made and the program has to be reconfigured (M. Torres).

DISCUSSION on proposal #708 Arctic Paleoclimate:

The average estimated costs for the implementation of proposal #708 are $16.5 M USD assuming an ice breaker as an IKC and including drilling two holes to 1200 mbsf. However, ECORD has to set a limit to, for example, $15.5 M USD to have a surplus at the end of the FY (K. Gohl). The difference between using a long or a short pipe is $6 M USD and the proponents can reach all objectives with a shorter pipe (G. Dickens). The only difference is that the Neogene section gets slightly expended by 200 m and the proponents did not exactly justify this component (G. Dickens).

The funding agencies expect one MSP expedition per year and the Arctic expedition should not be pushed until it is ready (G. Früh-Green). For the renewal of ECORD the external review will be in FY17 and it would make a difference for the majority of the funding agencies if already one expedition to the Arctic is scheduled in FY18 (G. Camoin). A provisionally scheduled expedition to the Arctic in FY18 would also help in trying to involve Russia in ECORD. The proponents still have time to fix the problems (G. Camoin/D. Weis). Furthermore, the proponents will get clear limits and clear instructions for the pipe length and two drill holes (D. Weis). The proponents' conclusion is that the key objectives can be reached even if only the upper 800-900 m can be penetrated (D. Weis). An upper budget limit of about $15 M USD has to be set (G. Camoin). The Arctic expedition should be scheduled for FY18 with a fixed budget (G. Dickens). The proponents can start working on the IKCs, two icebreakers, with this provisional schedule (G. Camoin). Besides IKCs the proponents also have the possibility to get financial contributions in addition (R. Gatliff).

Progress has to be made in the Arctic (D. Kroon). The proponents indicate that they want the Neogene, but the EFB said that they should move to another site to get the whole Cenozoic (D. Kroon). ECORD has to go back to the proponents and put a limit on the budget

but indicating the two drilling possibilities (D. Kroon). The proponents need strategic signals to get additional funding or to realize the drilling options (D. Kroon). The details and options have to be discussed with the proponents (R. Gatliff). ECORD has to decide if the Neogene is sufficient for $15.5 M USD or if the whole Cenozoic should be drilled (G. Früh-Green).
The Arctic expedition should be scheduled for FY18 to convince the funding agencies and assuming that the proponents fulfill the conditions (M. Diament). The expedition should be scheduled for FY18 with a limit of $15 M USD and two icebreakers as IKCs (K. Gohl/D. Weis). The proponents should be forced to choose between the two drilling options, i.e. either to stick to the drill string longer than 2 km and provide further external funding or change the location and fix the small problems (A. Cattaneo). Deeper water depth and deeper penetration have a higher risk (D. Smith). They can get every objective at the shallower site (G. Dickens). The proponents can choose their primary site and drill the expended record of the Neogene with a higher resolution or they can drill the entire Cenozoic with a lower temporal resolution (D. Mallinson). A lower resolution would lead to a loss of information, e.g. on rapid climate events (D. Kroon). The problem is that at the time when the proposal went throught the SEP the objective was to get a record through the Cenozoic and the Neogene was one component of that (G. Dickens). If the focus of the proposal suddenly changes and only the Neogene would be drilled, the proposal may never have gone through the SEP (G. Dickens).

ECORD FB Consensus 15-03-03:
The ECORD Facility Board recommends scheduling proposal 708 as an expedition for the fiscal year 2018 with two provisions: (1) that the maximum ECORD contribution will not exceed $15 million US, and (2) that primary objectives in the original proposal and addenda are not changed. The ECORD Facility Board and ESO will contact the proponents to discuss options to make this happen.

DISCUSSION on proposal #813 Antarctic Paleoclimate:
A budget limit of $9 M USD would be appropriate (G. Camoin). At the end of FY16 after the implementation of the Chicxulub expedition, ECORD will have $9.8 M USD (Table 6). At the end of FY17 $8.6 M USD would be still left (Table 6) and $16.4 M USD would be available for the implementation of the Arctic expedition (G. Camoin). In order to have a higher surplus at the end of FY18, a lower price for the RV N. B. Palmer could be discussed, e.g. the mobilisation and demobilisation costs could be saved by combining this expedition to another one (G. Camoin). These costs could be lower if ECORD can provide enough lead time notice to NSF for use of N.B. Palmer. This lead time would allow NSF to possibly find additional programs to fit into the ship schedule, thus defraying mobilization costs (T. Janecek). In this case, after the implementation of the Arctic expedition with costs of $15-

15.5 M USD ECORD would still have about $3 M USD as a surplus (G. Camoin). The Antarctic expedition has to be implemented in January-February 2018 because the ice window is only six weeks for the East-Antarctic margin (K. Gohl).

ECORD FB Consensus 15-03-04:
The ECORD Facility Board recommends scheduling proposal 813 as an expedition for the fiscal year 2018 with two provisions: (1) that the maximum ECORD contribution will not exceed $9 million US, and (2) that primary objectives in the original proposal and addenda are not changed. The ECORD Facility Board and ESO will contact the proponents to discuss options to make this happen.

(10:22)
coffee break
(10:50)

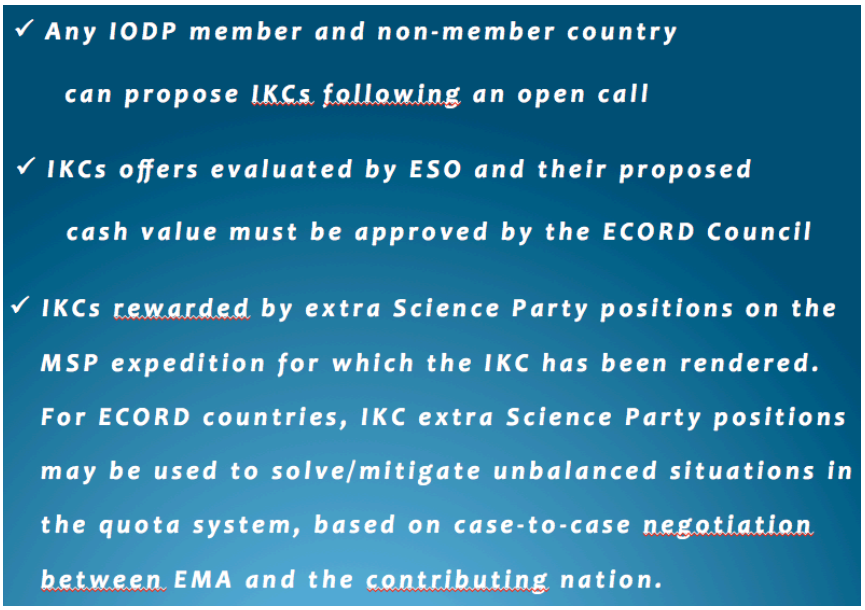
6. Procedures and issues regarding EFB activities and MSP operations

(9:02)
G. Camoin presented the system of in-kind contributions (IKC) for MSPs. U. Röhl reported on the Biological Sample & Data and Third-Party Tool policies and the Nagoya Protocol was discussed. Furthermore, the procedure of MSP expedition review meetings was reviewed and the duration of the OSP was discussed. M. Torres presented the pre-expedition webinar series and K. Gohl reported on the addendum of the EFB Terms of Reference. A new EFB Chair and an EFB Vice-Chair were nominated.

6.1 In-kind contributions for MSPs (G. Camoin)

(10:50)
G. Camoin explained the concept of in-kind contributions (IKC). Following items can be called an IKC:

The procedures and conditions are as follows:



The two upcoming expeditions Atlantis Massif and (likely) Chicxulub have IKCs. In 2015 there will be an IKC from the UK for the Atlantis Massif expedition. The UK will get three extra Science Party positions and maybe one or two of them will be taken to mitigate the quota because at the moment the UK is overquota.

6.2 Biological Samples & Data (U. Röhl)

(10:57)

The implementation of the Expedition #347 'Baltic Sea' has shown that there is a lack of standard protocols for microbiology. A three level approach was defined at the MagellanPlus Workshop "Advancing Sub-Surface Biosphere and Paleoclimate Research" in August 2014 in Seoul, South Korea, to improve the expectation of biological research for upcoming expeditions.

The three levels are as follows:

Level 1

- expeditions with little to no geomicrobiological component
- Expectation: microbiologist onboard, low frequency core sampling, no onboard contamination checks.

Level 2

- expeditions with a modest geomicrobiological component
- Expectation: microbiologist onboard, more frequent core sampling onboard, onboard contamination checks, limited geochemistry.

Level 3

- expeditions with a significant geomicrobiological component
- Expectation: microbiologist(s) onboard, frequent core sampling, full onboard contamination checks, onboard cell counting, extended geochemistry, onboard CAS freezing facilities.

Proposals listed at level 1, 2 and 3 will not receive support, some or full support from the biosphere community to improve their rank when evaluated, respectively.

The Nagoya Protocol is an international agreement on access to genetic resources and sharing of benefits arising from their utilization to the convention on biological diversity. The agreement entered into force on October 12, 2014 and applies to the countries exclusive economic zone. The Nagoya Protocol does not specify the procedure to obtain Prior Informed Consent (PIC). Separate individual contact with the concerned government agency with authority of granting access to genetic resources is necessary to find out more because different agencies may require different documents and information depending on their local circumstances. §18 of the Nagoya Protocol (Mutually Agreed Terms - MAT) says that there are "…simplified measures on access for non-commercial research purposes…". However, these "simplified measures" are not specified.
The Nagoya Protocol affects all microbiological sampling in territorial waters. PIC and MAT are essential for any proposed microbiology sampling. Otherwise scientists might not be able to publish their results. Retrospective requests cannot be made. Detailed requirements depend on the regulations of the local authorities and might vary for different countries.

DISCUSSION on the Nagoya Protocol:
The real challenge is that the countries can define what a genetic resource is (M. Malone). For example, India says that if biology is surveyed it falls under the Nagoya Protocol. There was no microbiology part on expedition #353 'Indian Monsoon' and a clearance request

was submitted. It is a real challenge if the operation takes place in a country that is part of the Nagoya protocol (M. Malone). Almost 200 countries signed the Nagoya Protocol (U. Röhl). Basically this concerns expeditions in coastal territories (K. Gohl). For the Chicxulub expedition there is already contact to a person in Mexico to get the permit (U. Röhl). The implementing organisations will have a real challenge because of the differences from country to country (M. Malone). For India it was clear because of individual agreements for individual projects (M. Malone). For example, on expedition #356 there is no microbiology part in the proposal and no microbiologist is staffed, i.e. no sample request for microbiology can be accepted (M. Malone). This constrains science and the level depends on the country (M. Malone). If an IODP proposal with a microbiological component is received, SEP has to give advice on this issue (F. Inagaki). The Nagoya Protocol applies only to the exclusive economic zone but not to the open ocean (F. Inagaki). There is already a statement on this issue in the IODP proposal submission guidelines (H. Given). The SEP has to be advised if the proponents fail to read the instructions (M. Torres).

DISCUSSION on the Seoul Workshop:
The workshop aimed at writing guidelines to microbiologists on what level of support on the ship they need to have when they are proposing a proposal (D. Smith). There will not be a change in operating with proposals at the SEP and the Science Support Office (H. Given/D. Smith).

6.3 Procedure of MSP expedition review meetings (M. Torres/G. Dickens)

(11:17)

G. Dickens presented the outcome of the review meeting for Expedition #347 'Baltic Sea' that was held in Aix-en-Provence on November 18, 2014. The external panel members were Marta Torres, Martin Jakobsson and Gerald Dickens.

Each MSP expedition needs a review after completion that is normally one year after the onshore component. The rationale has to make continuous improvements to the programme, to address problems affecting expeditions and to review the implementation and the potential for outcomes and not the actual scientific outcomes.

The Expedition #347 review was overwhelmingly positive and resulted in six recommendations for improvement: 1) Improve contamination tests for microbiology; 2) Fully incorporate rhizon sampling for pore water analyses; 3) Broaden the limits of seismic data interpretations; 4) Flexibility in onshore participation; 5) A webinar series and 6) Third party tools.

Reviews are necessary and helpful for the program success. The review meeting should be one year after the expedition and it should be two days. The process should be completely transparent.

Dicussion on recommendation 3) Broaden the limits of seismic data interpretations:
Some of the objectives could not be reached because of pre-approved specific drilling depths (G. Dickens). A key target horizon was at 250 m, but the drilling depth was approved to 230 m and the proponents had to stop drilling before they reached the main target although there was no hazard issue (G. Dickens). Their interpretation of the seismic data was that the objectives will be met at this depth. The objectives were paired with the interpretation of the seismic data that were off (M. Torres). When they reached the depth, they run out of permission and could not reach a certain age. It is a simple question of adding a margin of error to the permit (M. Torres). EPSP recommends to the proponents to be generous with the depth and to take the error of seismic data into account (D. Strack).

Dicussion on MSP expedition review meetings:
At the next ECORD Council meeting K. Gohl will report on the review meeting for expedition #347. The EFB meeting is the right forum to present the outcome of MSP expedition review meetings (M. Torres). It is important to have two separate reports; one written by the Co-chief scientists and the other one written by ESO (G. Dickens). These reports are specifically written for the review panel (K. Gohl/H. Given). The evaluations are summarized as well in these reports (M. Torres). ESO encouraged every Science Party Member to evaluation (D. McInroy). The response is much higher for the online evaluation compared to the paper form evaluation (D. McInroy).

6.4 Discussion on onshore-part of expeditions (G. Dickens/U. Röhl)

All MSP expeditions likely will have an offshore and an onshore component. The onshore component involves sampling and also analyses for obvious team goals and for personal/small group research.
G. Dickens presented comments and responses on onshore participation. There was one comment on long working hours for the Baltic Sea expedition. The response from ESO was that more than 1.6 km of cores and about 27,000 samples needed to be completed and that none of the participants agreed to stay longer than four weeks at the OSP. Furthermore, there was a comment on the mandatory OSP attendance. ESO's response was that IODP expeditions are team efforts and that all participants are obliged to share the work load.
The universal root problems are that 1) OSPs add extensive time to the primary expedition; 2) some people do not partake on offshore activities, but all people are expected to partake on full onshore activities; 3) there is a huge grey area between group and personal science; 4) OSPs allow the collection and analyses of far more samples than ordinarily can be done offshore and 5) item 4) is being used to justify far more sampling for personal research under the auspices of group research.
The recommendation from the Review Panel was that the entire scientific party (both offshore and anshore) needs to attend the onshore components of MSP expeditions for some minimum amount of time. This should be nominally one to two weeks and might

involve restriction of sample collection and the rotation of schedules, but also the inclusion of graduate students.

DISCUSSION on sampling duration at OSPs:
Expedition #347 'Baltic Sea': A question was raised as to whether the two complaints about the onshore participation represent a universal feeling among people or if only one or two people were complaining (T. Janecek). There was a large group complaining (M. Torres). But there was also a comment by a microbiologist stating that it was useful to meet the whole science team and to talk to the geochemists (U. Röhl).
The general concept of the OSP is that during this part of the expedition the whole science team comes together and works jointly (U. Röhl). The main aim of the OSP is the extended core description acquiring all standard IODP measurements and the sampling is only the bonus (U. Röhl). The OSP is also the time and the place to develop the team effort (U. Röhl). The requirements for the core descritption are defined in the IODP standard measurement procedures (U. Röhl). Scientists are invited to provide an expertise, i.e. graduate students cannot be sent to help sampling (U. Röhl). An OSP is totally different from a sampling party (U. Röhl). For the Baltic Sea Expedition more than two people complained specifically about the time involved in taking samples and not about the time involved in discussions (M. Torres). People should also ask for the amount of samples that can be sampled in a defined amount of time (U. Röhl). Taking samples simultaneously to the core description does not make the whole process slower (U. Röhl). It appears that the core description is getting progressively more complex and longer (T. Janecek). This issue has to be addressed. The offshore phase of the Atlantis Massif Expedition is very limited in the number of people, i.e. there is only a selected group that has to do the measurements right away (G. Früh-Green). This group of people will also be expected to help onshore (G. Früh-Green). The concern is that the feasibility of doing onshore science does not get expanded beyond what is needed (M. Torres). There is a minimum of core length that has to be processed during a day, i.e. the core describers have a time limit (U. Röhl). Not the scientist alone decides on how much time will be spent on the core description because the total length of the OSP has to be planned in advance (U. Röhl). The discussion should be continued in a smaller group (K. Gohl).

MSP Third-Party Tools and Instruments Policy:
A third-party tool or instrument is any additional tool, observatory or laboratory based equipment that a member of the science party wishes to use during an expedition (offshore and onshore), and is not being provided by ESO. These tools and instruments include downhole and specialist coring tools, observatory- and laboratory-based equipment. All tools require technical support from ESO and ESO may require the approval of associated operating costs by the EFB. ESO has the final responsibility for

the use of a third-party tool or instrument during a MSP expedition or in an IODP core repository. Third-party tools and instruments must satisfy operational and safety criteria that ESO applies. The principal investigator for a third-party tool or instrument is responsible for providing funds for planning activities, shipping the tool to the port of mobilization and integrating the tool deployment into the expedition work and data flow. Funding of a third-party tool or instrument does not guarantee time or space on board of an MSP or at the BCR for the use of that tool or instrument during an expedition (offshore/onshore). The data produced through the use of third-party tools are the property of IODP. The acquired data are community data.
A draft version of the MSP Third-Party Tools and Instruments Policy can be found in the agenda book.

DISCUSSION on MSP Third-Party Tools and Instruments Policy:
In the previous programme all data that came from Third-Party tools were community data (T. Janecek).
The use of a third-party tool or instrument requires discussions between the principal investigator for a third-party tool or instrument and ESO about the feasibility, the operating procedures and safety aspects (D. Smith).
It is critical if a third-party tool is being supplied for the benefit of science and for the whole group, but the principal investigator has to provide the funding (G. Früh-Green). If somebody is producing results that are beyond the standard measurements programme, the principal investigator has to pay for the shipment and also to share the data (D. McInroy). If funding is available for a tool or instrument, it does not automatically mean that it will be implemented on the expedition (U. Röhl).

ECORD FB Consensus 15-03-05:
The ECORD Facility Board accepts the MSP Third-Party Tools and Instruments Policy.

6.5 Pre-expedition webinar series (M. Torres/G. Früh-Green)

(12:02)
Some problems were identified from reading the evaluations of Expedition #347 'Baltic Sea' (M. Torres). There was a lack of understanding of time-commitments after the offshore part of the expedition (sampling party). A better communication with the sailing scientists would assure a proper sample collection at sea and a good understanding of post-cruise wishes. Because of the limited time at sea, there is less opportunity for the science party members to get to know each other, to understand the different scientific needs and to develop collaborative projects and sample sharing strategies.

A possible strategy would be the intense use of webinars at all stages of the expedition (M. Torres):

1) An informative seminar where the Co-chiefs introduce the scientific objectives and the overall plan, but also the application, funding options, sample policies, expectations, etc.

2) A pre-cruise meeting for shipboard and shorebased science parties that should be mandatory for all participants. This meeting focuses on a short science introduction, schedules, sample and publication policies and a detailed description of duties/commitments of participants.

3) Group meetings for specialty disciplines depending on the objectives of the expedition.

4) A post-cruise webinar before the sampling party where the Co-chiefs can present the results to the shipboard and shorebased parties. This meeting helps to lay out plans for sampling and to sort out remaining sample conflicts.

COMMENT on pre-expedition webinars:
The first Chicxulub webinar will be held in April 2015 (D. McInroy). Webinars will also be used for other science party type of meetings (D. McInroy).

6.6 Addendum of EFB Terms of Reference (K. Gohl)

(12:11)
K. Gohl presented the new version of the EFB Terms of Reference (changes to the current version are in blue):

> The Science Board **consists of six leading scientists according to the following composition: 3 members from ECORD countries, 1 member from IODP-US, 1 member from an IODP-US associated country (non-US), 1 member from IODP-Japan.** They will be nominated by the E-EB and their nominations will be approved by the ECORD Council, based on the recommendations provided by the ECORD Science Support and Advisory Committee (ESSAC) following an open nomination process. **If there is a tie in a vote, the current E-FB Chair will have the final decision.** The Science Board members will be selected to serve on the E-FB on 3-year staggered rotations.
>
> The ECORD Facility Board will include the members of the ECORD Executive Bureau, a **representative of the US funding agency, a representative of the Japanese funding agency,** and a Science Board defined below.

Modification: Separate item 'Liaisons and Observers/Guests':

The E-FB will have liaisons from all major entities of IODP including:
- The Chair of the IODP Forum or his/her nominated representative;
- The Chair of the **SEP** or his/her nominated representative;
- The Chair of the **Science Support Office**;

Representatives from other Platform Providers.
Observers will normally include representatives from Program Member Offices (PMO), additional representatives from Funding Agencies and/or Platform Providers. Guests who may contribute to the E-FB activities will be invited **to the E-FB meetings** as appropriate.

Correction 1: The Director of the Science Support Office and not the Chair (T. Janecek).

Correction 2: Change to 'representative of the US implementing organisation' and to 'representative of the Japanese implementing organisation' (N. Eguchi/K. Gohl/G. Camoin).

Correction 3: Change to 'Two SEP Co-chairs' (G. Lericolais/G. Früh-Green).

Correction 4: Include EPSP (N. Eguchi/G. Camoin).

COMMENT on the EFB Terms of Reference:
The major change was the number of the Science Board Members that was already approved by the Council (G. Camoin). The final document can be produced and put online (G. Camoin).

6.7 Selection of the next EFB Chair (K. Gohl)

(12:17)
The next EFB Chair will start on January 1st, 2016. The EFB Chair has to come from an ECORD member country. Gilles Lericolais (France) and Dominque Weis (Canada) are the only possible candidates. After discussions, Gilles Lericolais is recommended as the next EFB Chair and Dominique Weis as Vice Chair. Dominique Weis will be the incoming Vice Chair and Karsten Gohl will be the outgoing Vice Chair for one year (G. Camoin).

ECORD FB Consensus 15-03-06:
The ECORD Facility Board recommends Gilles Lericolais' nomination as new EFB Chair and Dominique Weis' nomination as new EFB Vice-Chair starting in January 2016.

Antonio Cattaneo and Marta Torres will rotate off by the end of 2015.

ECORD FB Consensus 15-03-07:
The ECORD Facility Board warmly thanks Marta Torres and Antonio Cattaneo for their contributions and services.

ECORD FB Consensus 15-03-08:
The ECORD Facility Board thanks Karsten Gohl for his leadership of the Facility Board from its inception in the new program. He guided us through challenging decisions with patience, professional insight and friendliness.

(12:29)
lunch break
(13:50)

8. Next EFB meeting (K. Gohl)

(13:53)

ECORD FB Consensus 15-03-09:
The ECORD Facility Board agrees that the next EFB meeting will take place for two days between April 4-15, 2016.

Brussels would be a good place for the next EFB meeting.

- **Action (EFB)**: to get in contact with Jean-Pierre Henriet and David van Rooij from Belgium regarding the location of the next EFB meeting.

Further Action Items (K. Gohl/All)

(14:00)
Another action item is to draft letters of response to proponents of proposals that are kept in the holding bin, i.e. #716 'Hawaiian Drowned Reefs', #581 'Coralgal Banks' and #637 'New England Hydrogeology'. At every EFB meeting letters to the proponents of proposals at the EFB should be sent to let them know the status of their proposal and to ask questions (K. Gohl).

- **Action (K. Gohl)**: to draft response letters to the proponents regarding the status of their proposals and ask questions to them if necessary, and to send this draft letter to the Science Board Members.

<u>Proposal #716 'Hawaiian Drowned Reefs':</u>
The proponents asked if all options for drilling platforms are explored (G. Camoin). ESO is in contact with the proponents (D. McInroy).

Proposal #581 'Coralgal Banks':
The proponents have to be asked about the status of their site survey data. They have to submit a proposal otherwise it will be out of the system (K. Gohl). The proponents have to be encouraged to be proactive with ESO to find a research vessel for this area that can hold a seabed drilling system. They also need to have a plan on how to supply the laboratory space (D. McInroy).

Proposal #813 'Antarctic Paleoclimate':
T. Janecek suggested having a discussion on the costs of the RV *N. B. Palmer* with ship schedulers of the Polar Division in Arlington during the upcoming *JR*-FB meeting in May 2015. G. Camoin, K. Gohl and D. McInroy will attend this meeting.

Proposal #708 'Arctic Paleoclimate':

- **Action (M. Torres/D. Weis/G. Dickens)**: to write a response letter to the proponents of proposal #708 'Arctic Paleoclimate'

K. Gohl presented an example for the scheduling of MSP operations beyond FY18 (Table 14). According to this plan, in FY19 and FY20 two low-cost expeditions will be implemented to save money for high-cost operations. A medium-cost expedition could be implemented in FY21, another low-cost in FY22 followed by an expensive operation in FY23.

The seabed drilling operators, BGS and MARUM, have to be asked if ECORD can provisionally book the equipment for the low-cost expedition years because there is a high demand on these systems (K. Gohl). The expeditions are season-dependent and they have different lengths with different transit times. Therefore, the owners of the systems should not be asked for a particular time in a particular year. They just have to know that there is interest (K. Gohl). MARUM tries to increase from two to three MeBo expeditions per year (K. Gohl). Two systems for shallower drilling and two years for deeper drilling with the MeBo200 could be booked sending a letter of interest (K. Gohl). In addition, a decision for a research ship has to be made two years ahead (D. Smith). It should be stated that in FY19 there is the probability that ECORD uses one of the seabed drilling systems (G. Dickens). Options should be put at the MARUM and the BGS two years ahead (G. Camoin). The first option for an expedition using the seabed drills would be in FY19 and FY20 (R. Gatliff).

- **Action (K. Gohl)**: to address a letter to the BGS and MARUM expressing an interest in using their seabed drilling systems.

An application for long-piston coring has to be done two to three years ahead (G. Camoin). There will be a second review of the proposal at the French level (G. Lericolais). The IPEV will have a booth at the EGU and there the new ship *Marion Dufresne* and the long piston-coring system can be discussed (G. Camoin). A French principal investigator has to apply (G. Lericolais). The principal proponent of the IODP proposal does not have to be French (G. Lericolais/G. Camoin).

(14:35)

7. Review of Decisions and Actions (K. Gohl/N. Hallmann/All)

(14:44)

9. Any other business (K. Gohl)

None.

K. Gohl closed the meeting at 14:57.

ROSTER

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* Apologies

Andrea Moscariello, Martina Kern-Lütschg and Jessica Surma left on March 25.

LIST OF ACRONYMS

AAPG: American Association of Petroleum Geologists
ACEX: Arctic Coring Expedition
ADP: Amphibious Drilling Proposal
AGU: American Geophysical Union
ANZIC: Australian and New Zealand IODP Consortium
APL: Ancillary Project Letter
BCR: Bremen Core Repository
BF: Biosphere Frontiers
BGS: British Geological Survey
BOP: Blow Out Preventer
CAB: Curatorial Advisory Board
CAPES: Coordination for the Improvement of Higher Education Personnel
CDEX: Center for Deep Earth Exploration
CIB: *Chikyu* IODP Board
CO: Climate and Ocean Change
COI: Conflict of Interest
CPP: Complementary Project Proposal
DIS: Drilling Information System
DLP: Distinguished Lecturer Programme
DREAM: Deep-sea Record of Mediterranean Messinian Events
EC: Earth Connections
ECORD: European Consortium for Ocean
EFB: ECORD Facility Board
EGU: European Geosciences Union
E-ILP: ECORD Industry Liaison Panel
EM: Earth in Motion
EMA: ECORD Managing Agency
EPC: European Petrophysics Consortium
EPSP: Environmental Protection and Safety Panel
ESO: ECORD Science Operator
ESSAC: ECORD Science Support and Advisory Committee
ETH: Swiss Federal Institute of Technology
EU: European Union
FB: Facility Board
FY: Fiscal Year
GEOMAR: Helmholtz Centre for Ocean Research Kiel
GESEP: German Scientific Drilling Consortium
IALE: Independent Administrative Legal Entity
ICDP: International Continental Scientific Drilling Program
ICDP EC: ICDP Executive Committee
IKC: In-kind contribution
IODP: Integrated Ocean Drilling Program (2003-2013) & International Ocean Discovery Program (2013-2023)
IPEV: Institut polaire Paul Emile Victor
JAMSTEC: Japan Agency for Marine Earth Science and Technology
JDC: Japan Drilling Company
J-DESC : Japan Drilling Earth Science Consortium
JOIDES: Joint Oceanographic Institutions for Deep Earth Sampling
JR: *JOIDES Resolution*
***JR*-FB**: *JOIDES Resolution* Facility Board
KIGAM: Korea Institute of Geoscience and Mineral Resources
MARUM: Center for Marine Environmental Sciences, University of Bremen
MAT: Mutually Agreed Terms
mbsf: metres below seafloor
MDP: Multi-phase Drilling Project
MeBo: Meeresboden-Bohrgerät
MEXT: Ministry of Education, Culture, Sports, Science & Technology, Japan
MoES: Ministry of Earth Sciences
MoU: Memorandum of Understanding
MSCL: Multi-Sensor Core Logger
MSP: Mission-specific platform
NanTroSEIZE: Nankai Trough SEIsmogenic Zone Experiment
NDA: Non-disclosure Agreement
NERC: Natural Environment Research Council
NSF: National Science Foundation
OSP: Onshore Science Party
PIC: Prior Informed Consent
QA/QC: Quality Assurance/Quality Control

RD2: Rockdrill 2
SAG: Science Advisory Group
SEDIS: Scientific Earth Drilling Information Service
SEP: Science Evaluation Panel
SSC: Scientific Steering Committee
SSDB: Site Survey Data Bank
SSO: Science Support Office
TBD: To be determined
USAC: US Advisory Committee for Scientific Ocean Drilling
VSEGEI: A. P. Karpinsky Russian Geological Research Institute