



PROCEED

EXPANDING FRONTIERS OF
SCIENTIFIC OCEAN DRILLING

Workshop at Austrian Academy of Science
in Vienna (Austria), 6 -7 April 2019

Photos credit: the Austrian Academy of Sciences



Organising Committee



 Gilbert Camoin FMA	 Nadine Hallmann EMA	 Dave McIntroy ESO	 Werner Piller ESSAC
		 Tony Morris ESSAC	
			 Bernhard Plunger FCORD Council
			 Gabi Uenzelmann-Neben ETB





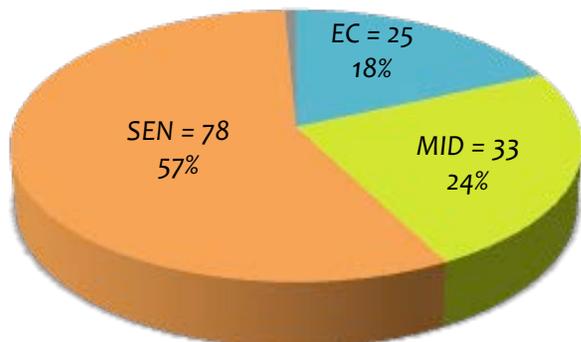
17



PROCEED Participants

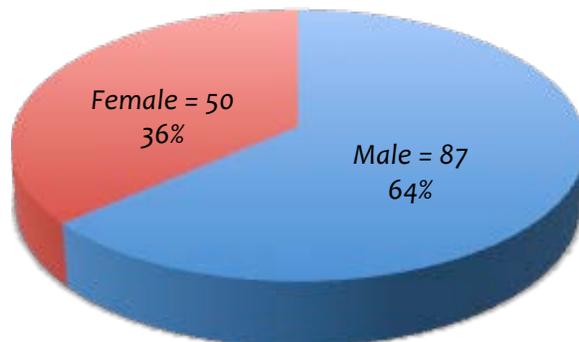
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By career stage



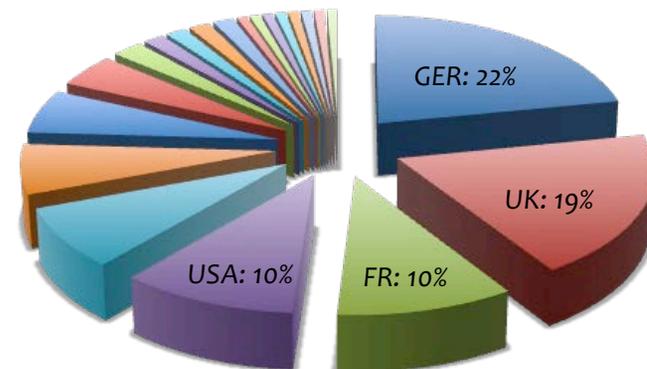
EC – Early-career Sci. (< 6 yrs after PhD)
 MID – Mid-career Sci. (6-15 yrs after PhD)
 SEN – Senior Sci. (> 15 yrs after PhD)

By gender



n = 137

By country



21 countries, 4 ECORD, 5 IODP, 2 non-IODP

- Germany
- UK
- France
- USA
- Italy
- Austria
- Japan
- Norway
- Switzerland
- Australia
- Finland
- Spain
- Sweden
- Canada
- China
- Ireland
- Israel
- Korea
- Netherlands
- Portugal
- Saudi Arabia



Objectives

Initiating concepts and defining new goals for ECORD participation in a future international scientific ocean drilling programme to be developed beyond 2023

Special emphasis on new science frontiers and technological developments in a multiple drilling platform approach

Agenda

Day 1: April 6

8h15	Registration
8h45	Introduction to PROCEED
9h00	Plenary Session: Our progress towards achieving the Challenges of the Science Plan
	- Climate and Ocean Change: Heiko Pälke - Earth Connections: Chris MacLeod
10h00	Breakout Session A (Part 1): Climate and Ocean Change/Earth Connections
10h45	<i>Coffee break</i>
11h15	Breakout Session A (Part 2): Climate and Ocean Change/Earth Connections
12h00	Report 30 min
12h30	<i>Lunch</i>
13h45	Plenary Session: Our progress towards achieving the Challenges of the Science Plan
	- Biosphere Frontiers: Verena Heuer - Earth in Motion: Lisa McNeill
14h30	Breakout session B: Biosphere Frontiers/Earth in Motion
16h00	<i>Coffee break</i>
16h30	Report 30 min
17h00	Plenary Session: Introduction to Day 2 - Future platforms, technology, opportunities & IODP management
	- SOD+23: A potential New US facility beyond 2023: Anthony Koppers and Jim Wright
	- J-DESC PROCEED Workshop Summary report: Masa Kinoshita
	- MSP opportunities beyond 2023: Dave McInroy - IODP China opportunities beyond 2023: Shouting Tuo
18h00	Reception (Aula)

Day 2: April 7

9h00	Wrap Up Session: Day 1 summary and introduction to Day 2 - Future platforms, technology, opportunities & IODP management
9h30	Plenary Session: Technologies and opportunities to expand IODP Science
	A. Kopf
10h00	Panel Session: Future technologies, techniques, methods, and opportunities: Panelists: ICDP - Ulrich Harms Paleoclimate/IPCC - Tina van de Flierdt JPI Oceans - Angelo Camerlenghi Minerals/Resources - Sabina Strmic Hydrocarbon Exploration Insights from IODP - Andrew Davies
	10h45 <i>Coffee break</i>
	11h15 Breakout Session C: Future technologies, techniques, methods and opportunities
	12h00 Report 30 min
12h30	<i>Lunch</i>
13h45	Panel Session: What is missing from the Science Plan?
14h30	Breakout Session D: Expanding the Frontiers of IODP - identifying the new(?) challenges for each Theme (including any new Themes developed during the workshop)
	15h30 <i>Coffee</i>
16h00	Report 30 min
16h30	Plenary Session: summary of the PROCEED survey and open scientific questions, comments, ideas & wrap up
17h00	Workshop close

 What are your opinions on the content and architecture of a New Science Plan?

Is the current IODP Science Plan for 2013-2023 still appropriate to guide scientific ocean drilling beyond 2023?

Yes

57.8%

No

42.2%





What are your opinions on the content and architecture of a New Science Plan?

Is the scientific content of the current Science Plan still relevant?

Yes 94%

No 6%

Do we need a new architecture for the new Science Plan?

Yes 92.9%

No 7.1%



The content of the Science Plan is still appropriate to guide scientific ocean drilling beyond 2023

- *Identification of many exciting new/emerging topics*
- *Better use of existing data – big data, accessible interfaces*
- *New ‘big ideas’:*
 - Planetary Hazards (i.e. in a ‘broader way’)*
 - Ressources*
 - Life Cycle of a Plate*
 - Origin of Life: Planet Dynamics to Habitability*
 - Tectonics, Oceanography and Climate Sensitivity*
 - Future Evolution of Life, from Past to Future*

There are key question that can ONLY be addressed with land-to-sea (amphibious) transects

Permafrost; Obduction; source2sink; Sea Level; Ice Mass Balance; Coastal aquifers & Hydrological Cycles; Life across salinity gradients; Hydrothermalism / Volcanic Processes; Marine-terrestrial basin evolution

CYCLES & RATES A closer link with ICDP (& other entities) should be explored:

Highlight commonalities in Science Plans, a 'Scientific Deep Drilling Forum' in the new structure, a combined program, e.g. 'Earth Systems Drilling & Monitoring' ?

The architecture of the Science Plan needs to be changed:

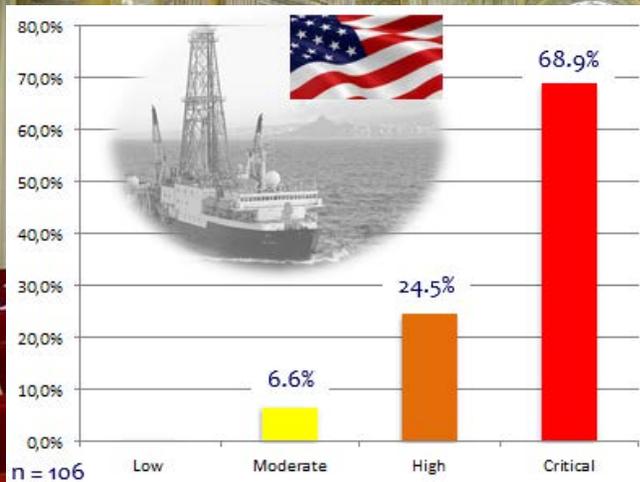
- *to better reflect the interdisciplinary nature of our science*
- *to avoid compartmentalising and allow more integration*
- *to ‘think outside the boxes and challenges’*
- *to make more links/connections between current themes and challenges and to avoid overlap*
- *to reflects commonalities with ICDP and other entities*
- **.....AND to excite funding agencies**

The Role of ECORD

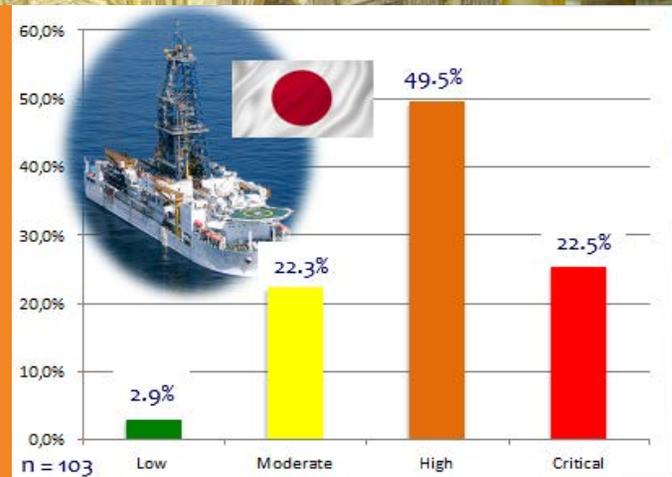
- *ECORD must continue to be a (MSP) platform provider/IODP partner*
- *We should explore and advertise the versatility of MSPs*
- *ECORD needs to explore ways to leverage more funding in order to meet the challenges of the new program*



The ECORD community is very healthy and must continue to participate in all aspects of IODP globally, using and supporting all facility



How do you perceive the need of JR type vessel / Riser vessel in resolving the outstanding and emerging frontiers of ocean drilling





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