

Toward Post-2024 Scientific Ocean Drilling September 15, 2022 Discussion

Following the formal proceedings of the September 2022 IODP Forum Meeting, the attendees engaged in discussions about post-2024 scientific ocean drilling plans and options. Each of the IODP partners presented their status and their current thoughts about future scientific ocean drilling programs. Their slides, where available, are attached. In summary:

- ECORD and Japan are beginning to formalize their partnership to continue international scientific ocean drilling and to develop details regarding how their joint program will operate. They anticipate that this joint program, inspired by the 2050 Framework, will be open internationally and begin immediately after the conclusion of IODP. ECORD and Japan have invited all interested parties to join their envisioned international alliance that would share overarching resources, such as a common proposal evaluation system.
- The U.S. National Science Foundation is still evaluating whether to extend *JOIDES Resolution* operations for four years beyond IODP (2025-2028) and whether to invest in acquiring a new platform, a decision process that requires a new Decadal Survey of Ocean Science. Acquiring a new platform will take more than a decade; therefore, even if a new ship is approved, there will be years after the *JOIDES Resolution* stops operating when the U.S. is not operating a scientific ocean drilling platform. Attendees were concerned about NSF's slow internal processes for and apparent lack of commitment to a future U.S.-led scientific ocean drilling program.
- The U.S. Scientific Ocean Drilling Alliance (US-SODA), who is advocating for a new U.S. drilling vessel and program, reported a growing number of major U.S. institutions supporting its work. US-SODA's recent actions demonstrated the broad scope and international character of scientific ocean drilling, with over 2,200 scientists and over 50 institutions from around the world supporting the initiative. The attendees were supportive and hope that these actions will help to positively influence and streamline the various NSF processes.
- China is planning to commit multiple platforms to its developing post-2024 scientific ocean drilling program, including a newly built riser drilling vessel that is scheduled to begin operations in 2025. China is also considering building a new core repository. Tongji University will serve as the Science Operations Center, and they are seeking to involve additional universities. China would like to begin discussions with ECORD and Japan about their proposed alliance of platform providers.
- India and Korea are waiting internal (national) budget decisions so that they can progress in science planning. Both are interested in continuing to participate in post-2024 scientific ocean drilling programs and are open to discussions with the alliance that ECORD and Japan are proposing.

- ANZIC is committed to continued participation in future scientific ocean drilling programs. New Zealand has confirmed funding. Australia is awaiting a decision to extend funding to the end of IODP and is actively exploring new funding options post-2024 through a partnership with an existing geoscience research infrastructure program.

Attached Presentations

1. ECORD-Japan Structure
2. NSF Post-IODP
3. US-SODA
4. China Post-IODP
5. India Post-IODP
6. Korea Post-IODP
7. ANZIC Post-IODP

A light blue world map is centered in the background of the slide. The map shows the outlines of continents and countries in a darker shade of blue.

12. Post-2024: ECORD-Japan

12a. Joint Program Planning

G. Camoin

Director of the ECORD Managing Agency

and the Post-2024 ECORD – Japan Working Group

N. Eguchi

MarE3/JAMSTEC

IODP Forum Meeting, 14-15 September 2022 – , LDEO USA

Post-2024 ECORD – Japan Working Group

ECORD – Japan bilateral meetings (Sept. 21 – Aug. 22)

#1:09/03/21 #7:03/10/22
#2:09/24/21 #8:03/29/22
#3:01/11/22 #9:04/15/22
#4:01/28/22 #10:05/31/22
#5:02/10/22 #11:09/22/22
#6:02/16/22

ECORD

France Lagroix
(alt. for Stéphane Guillot) - ECORD Council
Bernard Westerop - ECORD Council
Guido Lüniger - ECORD Council
Mike Webb - ECORD Council
Markus Engelhardt - ECORD Council
Gilbert Camoin - EMA
Nadine Hallmann - EMA
Angelo Camerlenghi - ESSAC
Tony Morris - ESSAC
Dave McInroy - ESO

Japan

Gen Totani - MEXT
Shin'ichi Kuramoto - JAMSTEC
Nobu Eguchi - MarE3
Fumio Inagaki - MarE3
Nobukazu Seama - CIB
Harue Masuda - J-DESC
Masataka Kinoshita - J-DESC
Yuki Morono - J-DESC
Tomo Morishita – J-DESC
Sanny Saito - J-DESC
Minoru Ikehara – Kochi University
Yoshiyuki Tatsumi – Kobe University

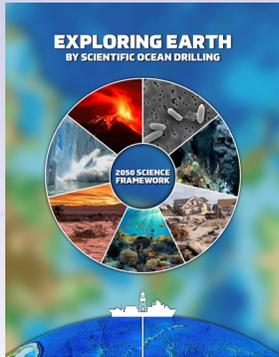
Two WG established

- ECORD-Japan new SOD program MoU WG
- ECORD-Japan Workshop WG

*D/V Chikyu, R/V Kaimei and KCC are
crucial facilities for the successful
implementation of the 2050 Science
Framework and post-IODP programs*

*ECORD intends to develop the MSP concept by diversifying
drilling and coring technologies and applying them to all
drilling environments, as determined by scientific priorities,
operational efficiency and better value for money*





Science Framework Working Group 2020 Consensus Statements

CONSENSUS STATEMENT #1

The *Enduring Principles* (p.7) in the *2050 Science Framework* are critical in providing the foundation for a cohesive set of ground rules for future scientific ocean drilling program(s).



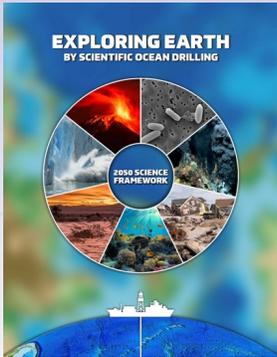
Consensus Statement 1: ECORD and Japan agree to build up a joint scientific ocean drilling programme.



ECORD - Japan SOD Program



- ✓ **ECORD-Japan partnership, through a MoU**
- ✓ **Basic principles of the program**
 - *Single international Science Framework*
 - *International staffing of expeditions and advisory panels*
 - *Transparent, open, flexible and international*
 - *Program-wide standard policies and guidelines*
 - *Sustainable management of knowledge-based resources*
 - *Public access to knowledge-based resources*



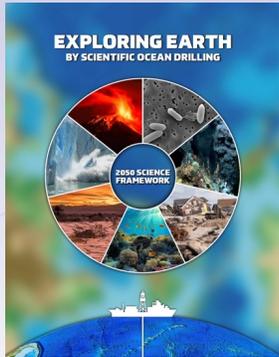
Consensus Statement 3: ECORD and Japan agree to establish a joint 'Operation Advisory Committee' in the post-2024 ECORD-Japan SOD Programme. The ECORD-Japan Working Group on OAC will draft the Terms of Reference.

ECORD - Japan SOD Program

Ops. Advisory Committee



Vision TF & Outreach TF



Science Support Office (SSO)

Science Evaluation Panel (SEP) Environmental Protection and Safety Panel (EPSP)

Science Framework Working Group
2020 Consensus Statements

CONSENSUS STATEMENT #2
Implementation of the *2050 Science Framework* must be driven by a *Common Proposal Process* powered by bottom-up submission of proposals, prepared by international teams of scientists, and developed through an open, transparent, and merit-based peer-review process.

Ops. Advisory Committee



SUPPORTING OBSERVATIONS AND IDEAS

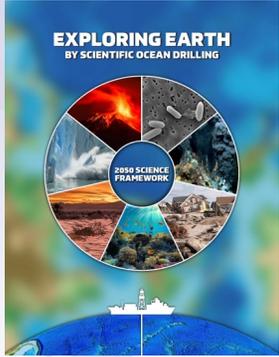
- Current panels and Facility Boards are working well and should be used as our starting point to develop a new scientific advisory structure in support of the innovative 2050 Science Framework.
- All proposals should come through a common review process and the new scientific advisory structure should prioritize promoting important science endeavors and projects.



Consensus Statement 2: The ECORD-Japan SOD Programme needs services of an SSO-equivalent for proposal and data management as well as those of SEP- and EPSP-equivalents for proposal evaluation.

'ALLIANCE'

ECORD-Japan
'Vision'
of an
'ALLIANCE'



Science Support Office (SSO)

Science Evaluation Panel (SEP) Environmental Protection and Safety Panel (EPSP)



NATIONAL / CONSORTIA PROGRAMMES

ECORD/JAPAN

Prog. A

Prog. B

Prog. C

Prog. D

Ops. Advisory Committee

ECORD
INTERNATIONAL CONSORTIUM FOR SCIENTIFIC OCEAN DRILLING

Vision TF & Outreach TF

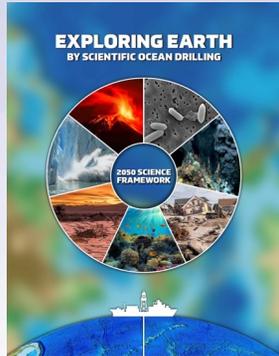
X

Y

F
O
R
U
M

Other science programs / initiatives





Science Support Office (SSO)

Science Evaluation Panel (SEP) Environmental Protection and Safety Panel (EPSP)

ECORD / JAPAN

Ops. Advisory Committee



Vision TF & Outreach TF

F
O
R
U
M

Other science programs / initiatives



Future Schedule

		2022/3	2022/4	2023/1	2023/2	2023/3	2023/4	2024/1	2024/2	2024/3	2024/4	2025
E-J SOD												
	MoU	← WG Drafting →		← Finalize →			← Sign →					
	OAC ToR	← WG Drafting →										
	Partnership			← Setup Partnership →								
Alliance/ E-J SOD												
	Panel ToR			← WG Drafting →		← Finalize →			← Setup →			
	SSO-eq					← Call for App →		← Select/Setup →		← Proposal Transfer →		
	Forum ToR				← Drafting →		← Finalize →					
	Collab. Prog			← Setup Collaboration →								

E-J New SOD Program Starts



Photo Credit: William Crawford, IODP-TAMU

NSF UPDATE TO THE IODP FORUM Agenda Item 14

Jamie Allan
NSF/ODP



FY2024- IODP Option Year

- Funding amounts for FY2023- FY2024 uncertain; financial analysis infers funding could be short a few \$M to support the four scheduled expeditions after the 45-year certification drydock
 - Dependent on all partners following through on Memorandum responsibilities and FY2024 pledges (\$6M)
- Analysis also indicates that **ZERO** funding will be available for pre-funding any activity in FY2025
 - Current funding model **impossible** post-IODP



NSF IODP Forum Request to Partners

- **NSF requested letters of interest for participating in FY2025-2028 JR operations at April meeting**
 - Received Multiple Letters from IODP partners
 - Letters represent non-public information, and cannot be shared



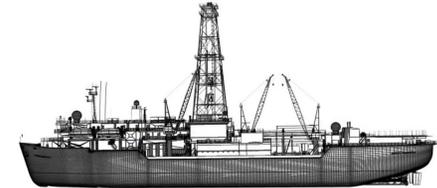
2022 Decision Timeline Update



April 7 - 8	IODP Forum (Vienna, Austria)
June 7 - 10	JR inspection (Cape Town, South Africa)
July 19-22	NSF mid-award Review College Station, TX
August 1	Letters of Interest to NSF
Based on this input	
August 1	NSF/ODP recommendation to management chain



NSF Decision Regarding JR

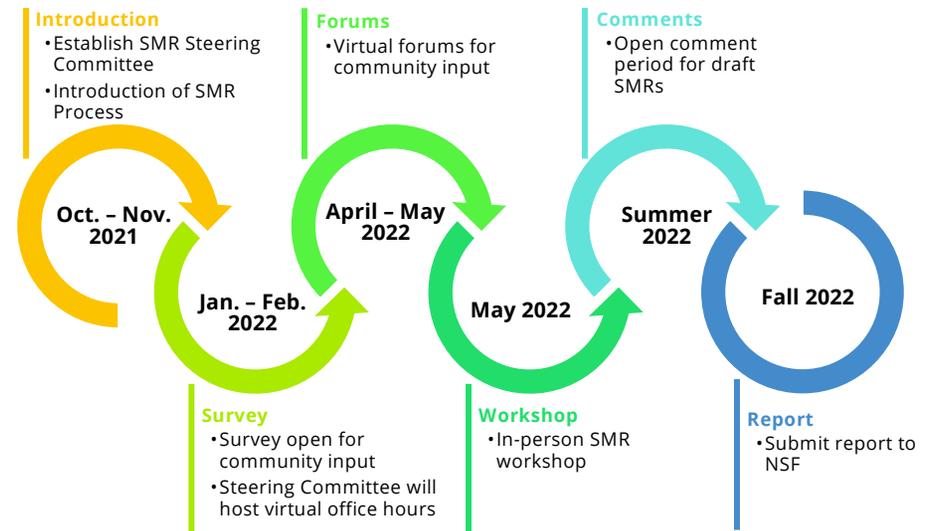


- NSF conducting internal process to determine next steps
- NSF analysis and recommendations during October / November 2022. NSF informs National Science Board regarding decision in late 2022.
- NSF informs JRSO of decision by February 2023



Possible Future NSF-Sponsored Ocean Drillship

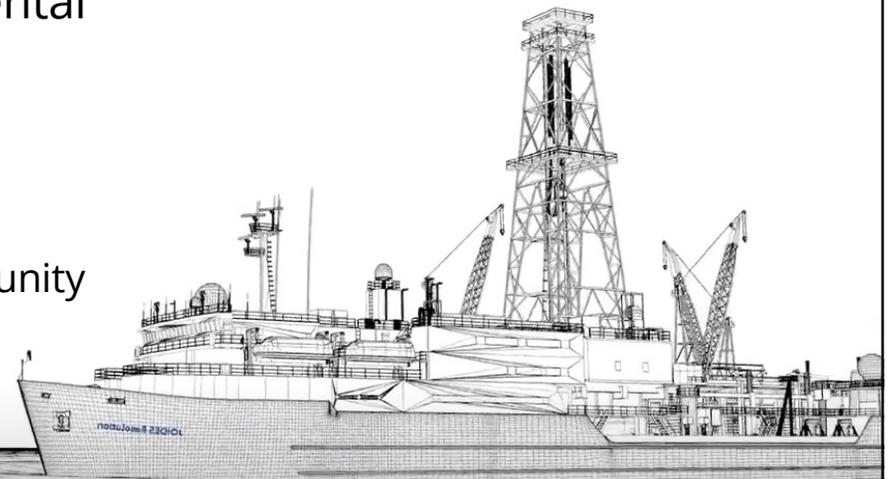
- US effort underway to define science mission requirements (SMRs)
- Anyone can comment on draft SMRs online





Possible Future Conceptual Design

- NSF will receive community-defined SMR's in Fall 2022
- SMR Report will constitute a fundamental element of a process to define OCE priorities for the coming decades
 - Multi-year process will include a second Decadal Survey
 - Heavy involvement of U.S. science community at each step
 - Will consider needs of U.S as a nation





UNITED STATES SCIENTIFIC OCEAN DRILLING ALLIANCE US-SODA

ANTHONY KOPPERS (chair)

Oregon State University

email: anthony.koppers@oregonstate.edu

web: <https://us-soda.org>

A dark, stormy ocean scene with a yellow graphic overlay containing text. The background is a photograph of a dark, choppy sea under a heavy, cloudy sky. A yellow graphic element, consisting of two overlapping trapezoidal shapes, is positioned in the upper middle section of the image. The left shape is a vertical bar with a white number '1'. The right shape is a larger trapezoid containing the main title and subtitle in white and blue text.

1

Introducing US-SODA

**Assisting NSF in the Process Leading to a
New U.S. Drilling Vessel**

The 13 Founding Institutions in **US-SODA**



A Joined Holistic Vision

Promoting Scientific Ocean Drilling Impacts to the Benefit of Society

1

Providing Assistance

- The US-SODA institutions represent a strong combined knowhow garnered over decades of *scientific ocean drilling*
- We stand ready to assist and provide advise to NSF in the process leading to a new U.S. drilling vessel and future accompanying drilling program(s)

2

Our Goals

- Promoting *scientific ocean drilling* as a critical foundation upon which advances in, for example, climate science, hazard assessments, and resilience planning should be built
- Advocating for innovative new *scientific ocean drilling* facilities and strategies that lead to major progress in our understanding of the interconnected processes of the complex Earth system that shape our planet's future
- Supporting trustworthy and societally relevant *scientific ocean drilling* research that provides effective STEM training and knowledge about our planet to the public and decision makers



2

Call to Action!

**Calling the IODP Community to Battle for
the Future of Scientific Ocean Drilling**

Call to Action!

Showing NSF the **Need** & **Impact** & **Scope** of Scientific Ocean Drilling

1

US-SODA Letters

- US-SODA sent a first six-page letter to the NSF Director and the GEO and OCE leadership on 16 May 2022
- US-SODA sent a second five-page letter on 3 August 2022

- **Goal:** providing NSF with the data to show the need-impact-scope of scientific ocean drilling

2

2

Institutional Letters

- We encouraged letters to be sent to NSF leadership by U.S. and international institutions

- **Goal:** providing NSF with the data to show how scientific ocean drilling is important to a large variety of institutions and their faculty and students

50

3

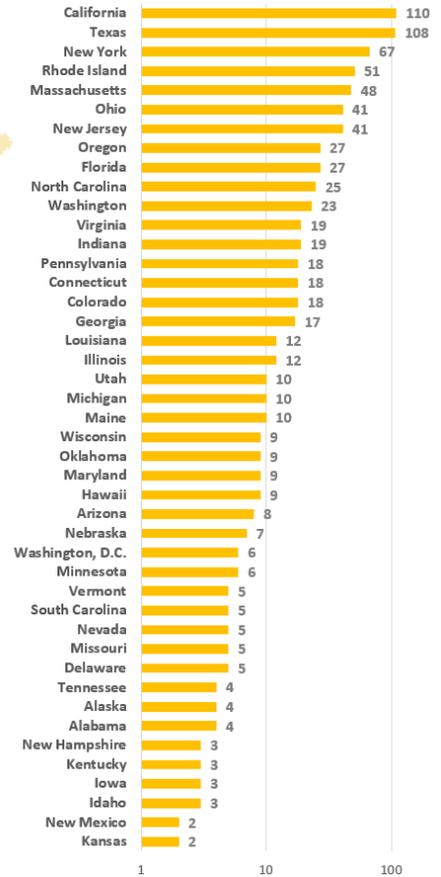
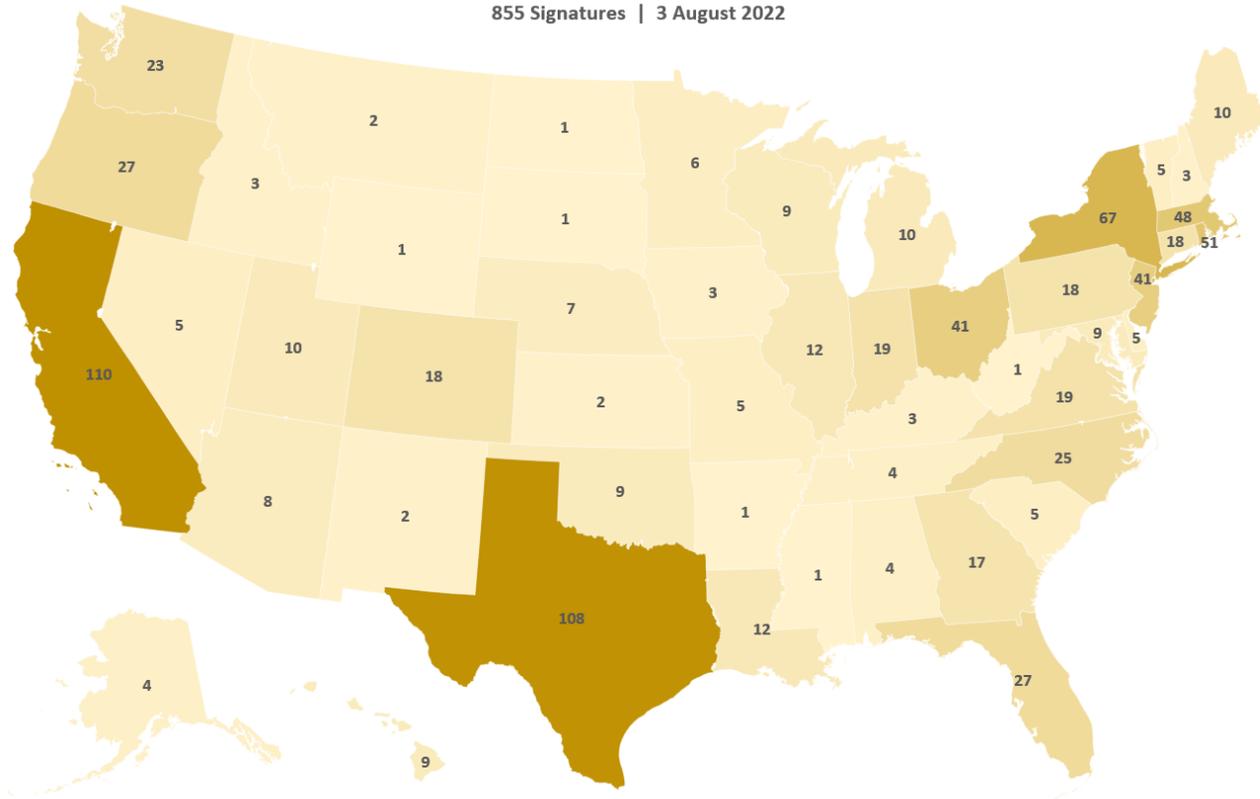
Scientists Petition

- We encouraged scientists from the U.S. and around the world to fill out the US-SODA petition in support of *Continued, Future Riserless Drilling*

- **Goal:** providing NSF with the data to show the broad scope and international character of scientific ocean drilling

2,225

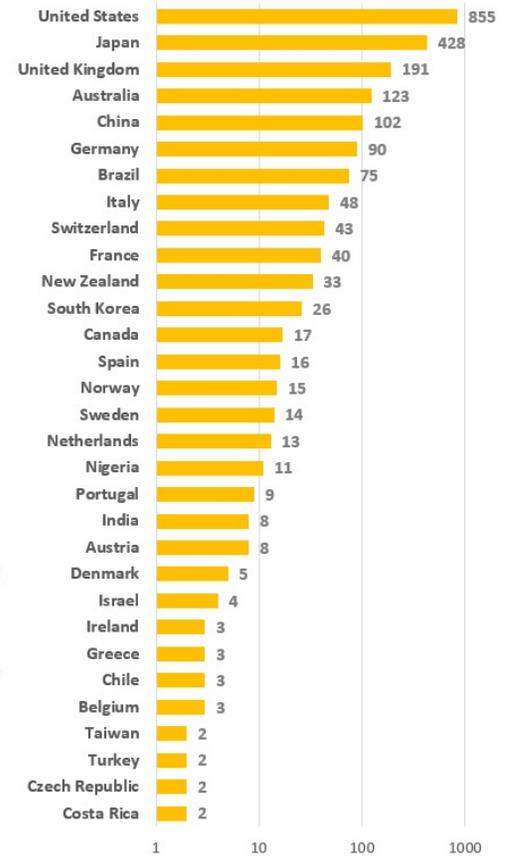
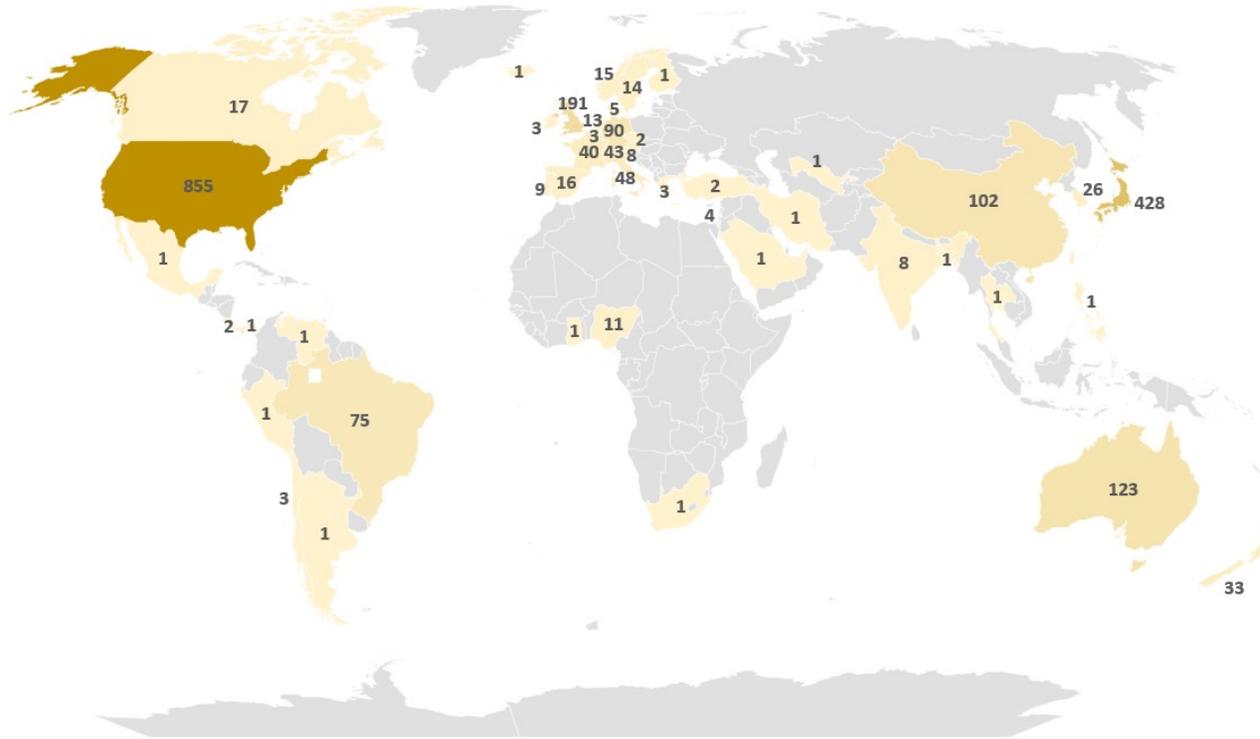
US-SODA Petition by US State
855 Signatures | 3 August 2022



855 SIGNATURES IN THE U.S. COVERING ALL STATES

US-SODA Petition by Country

2,213 Signatures | 3 August 2022



#1 US (855) – #2 ECORD (504) – #3 JAPAN (428) – #4 ANZIC (156)

Moving Forward ...

Promoting Scientific Ocean Drilling Impacts to the Benefit of Society

1

Conclusion

- NSF has been presented a range of impressive data demonstrating the need, impact and scope of scientific ocean drilling in the U.S. and worldwide
- Given the strong plea from >2,200 scientists and >50 institutions from around the world, we should act on their behalf and find solutions to ensure U.S. riserless scientific ocean drilling between 2024-2028, and beyond, while involving the widest group of international partners that together represent a remarkably large scientific community and that needs access to a global-ranging riserless drilling in the U.S. to meet the objectives in the 2050 Science Framework

2

US-SODA Next Steps

- Keep engaging NSF in discussing next steps and providing data where needed
- Keep informing the IODP community on next steps for needed sustained support
- Keep discussing with international scientists, partner institutions, and consortia the value of participating in the operation of an U.S. riserless vessel for the implementation of the 2050 Science Framework



**UNITED STATES
SCIENTIFIC OCEAN DRILLING ALLIANCE
US-SODA**

THANK YOU! QUESTIONS?



中国大洋发现计划
INTERNATIONAL OCEAN
DISCOVERY PROGRAM, CHINA

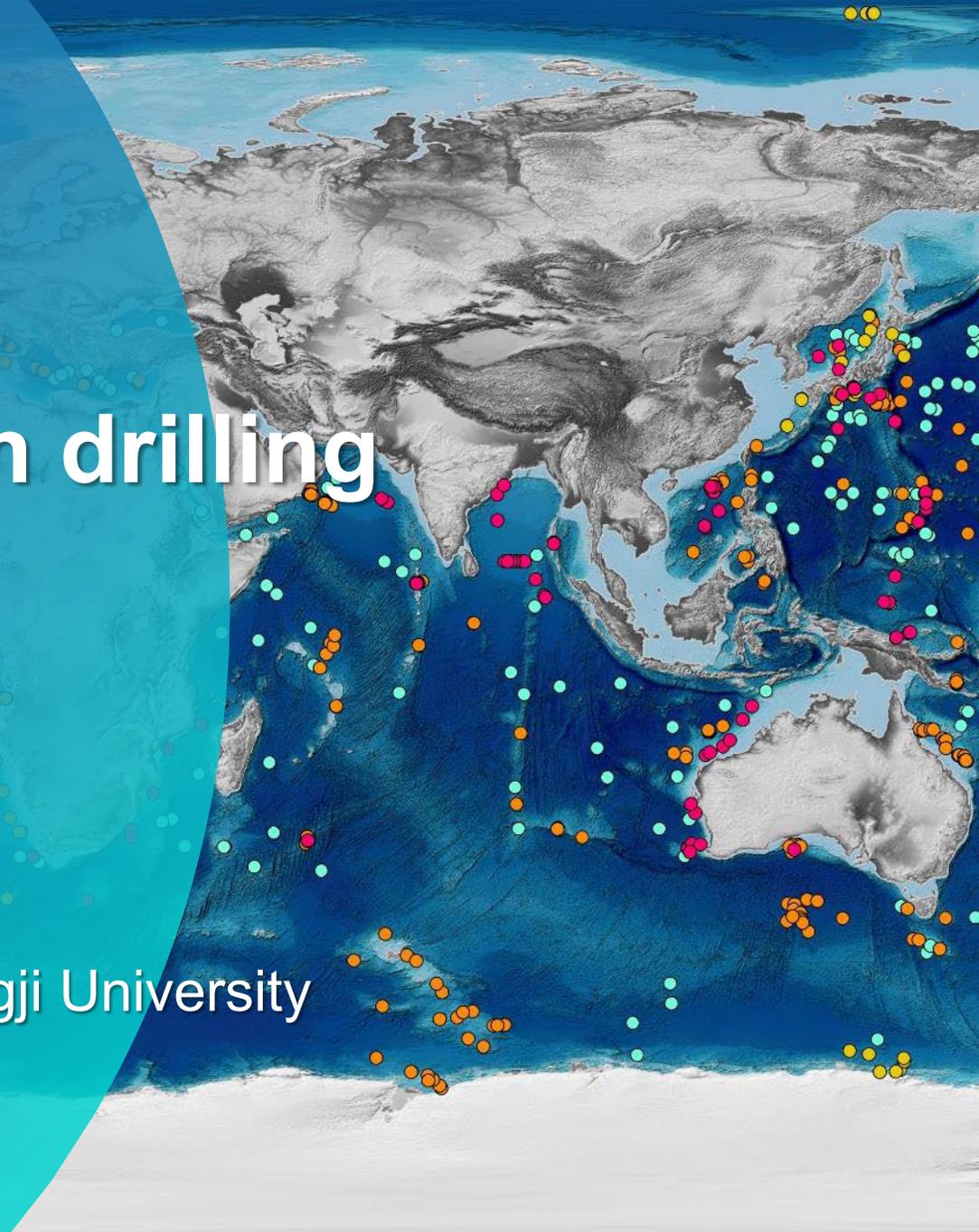
IODP-China updates on post-2024 scientific ocean drilling

Dr. Shouting Tuo

the IODP-China Office

State Key Laboratory of Marine Geology, Tongji University

IODP Forum, 14-15th, Sept., 2022



China Multifunction Platform (CMP)

- Managed by Tongji University and GMGS, cooperate with other partners in various types.
- Missions: implement international scientific ocean drilling CMP expeditions, run Core Repository & Laboratory

riser drilling vessel

shallow water drilling vessel

seafloor drilling rig



Ocean Drilling Vessel

Marine Geology No.10

Hainiu II

Platforms
provided by
third parties

Domestic workshops

- 07/09/2022
- 05/07/2022
- 08/03/2022
- 04/03/2022
- 28/02/2022
- 25/10/2021



IODP-China work very close with MOST, organized 6 domestic workshops since last October, resulting in a series of reports submitted to the MOST.

Recently, the Vice-Minister has approved the preliminary plan, MOST strongly supports China to become a platform provider post-2024, including implement expeditions and run core repository. Further discussions and investigations are ongoing between the MOST and IODP-China.

IODP-China Strategy Workshop on Post-2024 Development, Beijing, Sept., 7, 2022

- 38 scientists from Universities and Institutes as well as representatives of MOST, NSFC, Ministry of Natural Resources and other related ministries participate the meeting
- Focus on the current international progress on Post-2024 scientific ocean drilling, discuss IODP-China development strategy and next step works.

Reached consensus on the following issues

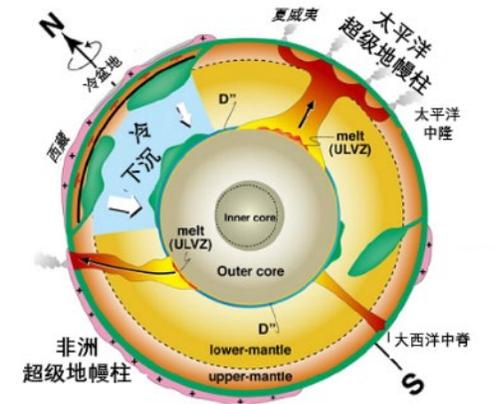
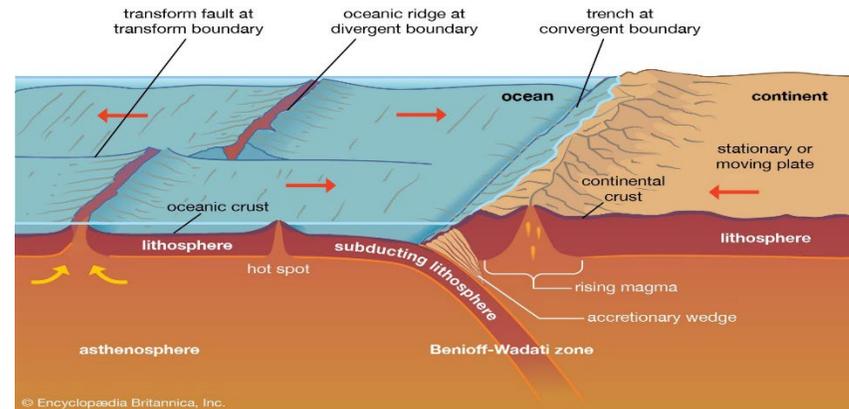
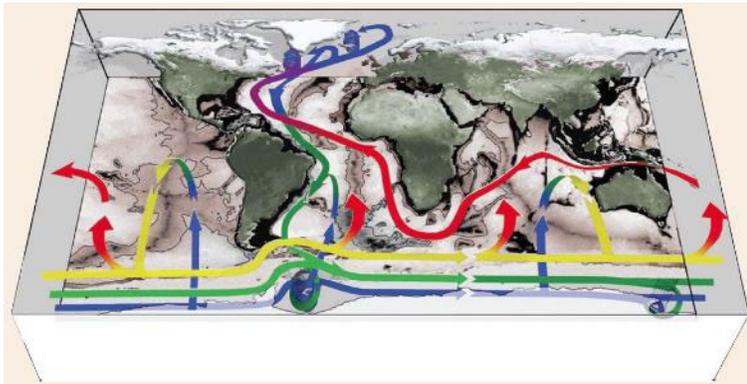
- 1 IODP-China's 10 year Science Plan
- 2 Build CMP Management structure
- 3 Next step works



IODP-China's 10 Year Science Plan (2025-2035)

- Based on the IODP 2050 Science Framework, IODP-China is developing a 10 year science plan to guide CMP operation during 2025-2035.
- Organize series workshops, invite active scientists to form a working group, and plan to have first draft around June of 2023, and call for suggestion to improve.

Focus on three scientific themes

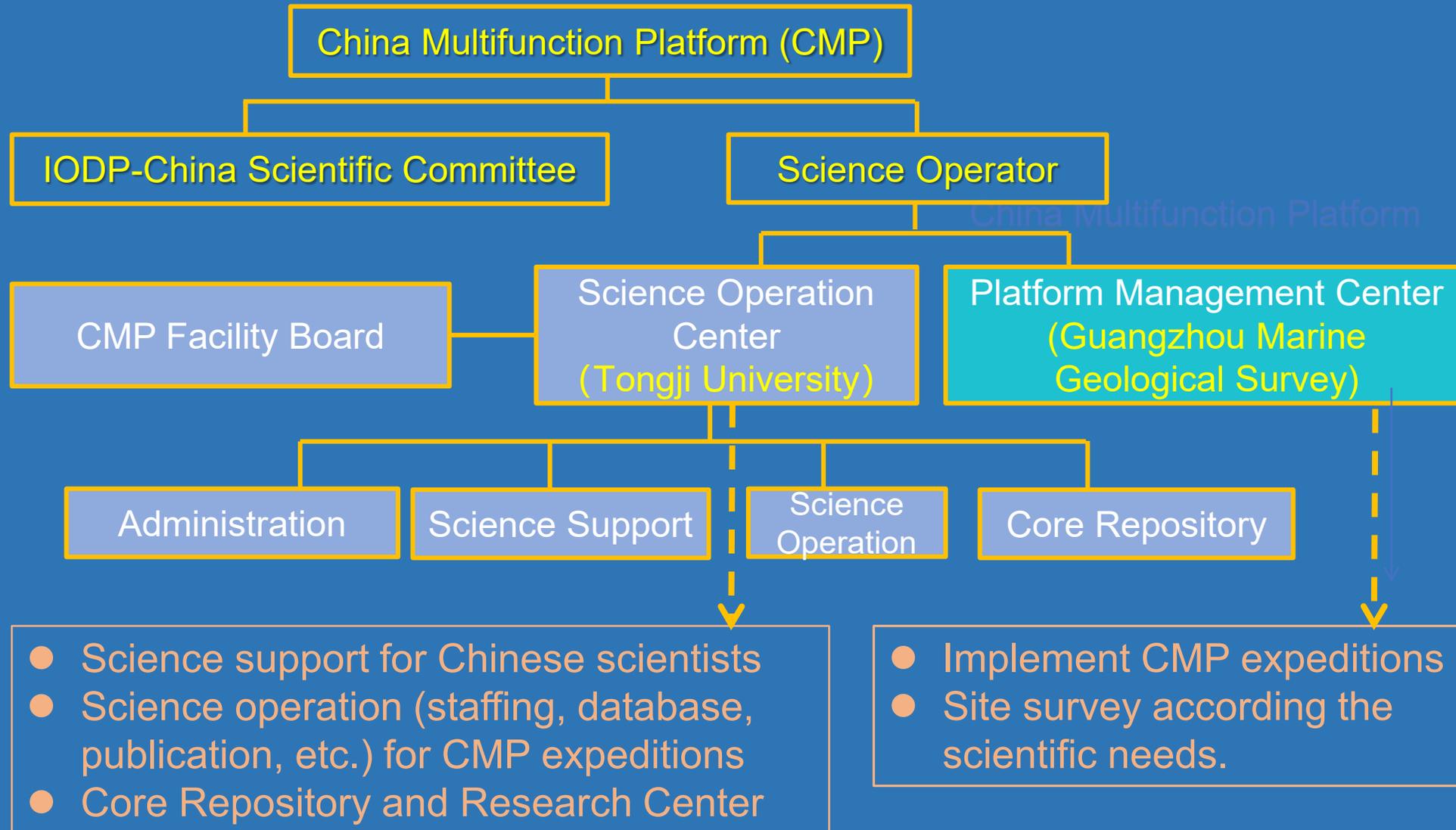


Low-latitude forcing of climate changes

Plate tectonics in the oceanic subduction zone

Deep carbon cycle under the sea floor

CMP Structure: the CMP will be jointly operated by Tongji University and Guangzhou Marine Geological Survey



Riser drilling vessel

- Length: 180 m
- Breadth: 32 m
- Max Load Line Displacement: 41000 st
- Riser drilling: <2500 m

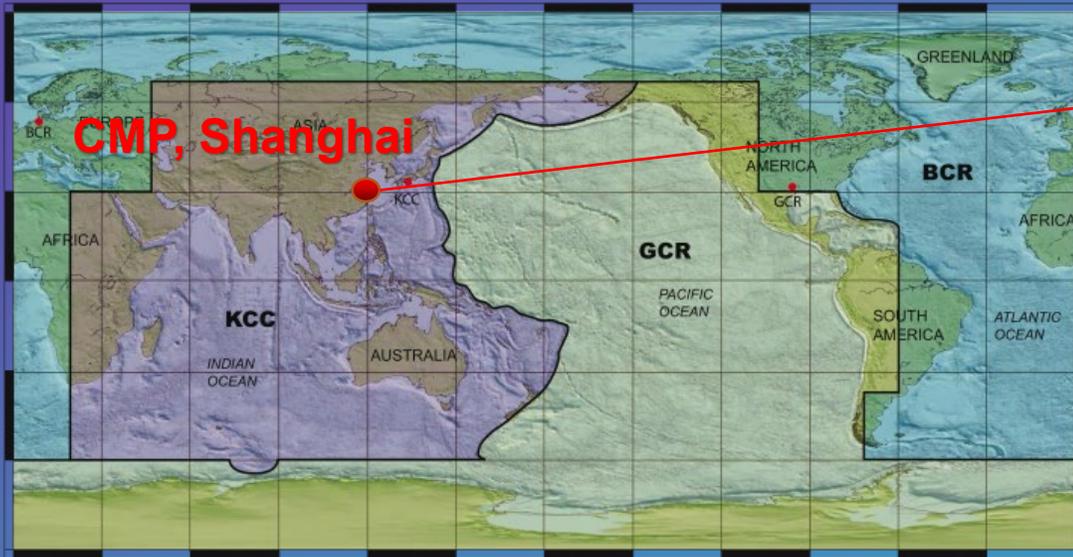


A deep water port in Guangzhou



- Currently under construction, to be launched at the end of this year, then begin equipment installation and sea trial.
- To be delivered to Guangzhou Marine Geological Survey around 2025 for operation.
- A deep water port for riser drilling vessel has been built this year, and will be ready for use in October, 2022.

CMP Core Repository & Research Center



- State of the art laboratory for scientific analyses and reefers for storing cores
- Providing core and sample curation services and measurements for CMP
- IODP-China has made a submission to Shanghai municipal government to seek funding for the core repository



Next step works

- ✓ Establish task force under the leader of MOST to carry out detail design of CMP operation, including members of Tongji University and GMGS.
- ✓ Establish China Ocean Drilling Alliance (CODA) , encourage more universities and institutes deeply involved.
- ✓ Start negotiate with ECORD-Japan SOD and other partners to discuss the details of cooperation such as scientific management structure, international review of proposals, sample and data access, as well as beths exchange, etc.

China Ocean Drilling Alliance (CODA)

Tongji University



Deep-sea science
and technology alliance



Guangzhou Marine
Geological Survey

Institute of Deep-sea
Science and Engineering, CAS



南海及邻域关键基础地质问题研讨会 1号通知

为交流南海及邻域关键基础地质问题最新研究进展，共同推进“十四五”南海及邻域重大科学问题研究突破和技术创新，推进实施南海深部科学钻探工程，牢固树立我国对南海科学的国际主导权，经广州海洋地质调查局与同济大学、中国科学院深海科学与工程研究所共同协商，定于9月25-27日在广州共同举办南海及邻域关键基础地质问题研讨会。

有关会议相关事宜通知如下：

一、会议名称

南海及邻域关键基础地质问题研讨会

二、会议学术委员会（按姓氏拼音首字母排序）

主任：汪品先

委员：丁抗 翁知灏 李家彪 林间 石学法
徐义刚 杨经绥 杨胜雄

三、会议主办单位

广州海洋地质调查局

同济大学

中国科学院深海科学与工程研究所

- Tongji University, GMGS, and Institute of Deep-sea Science and Engineering (CAS), have signed an agreement to jointly build a deep-sea science and technology alliance.
- A new China Ocean Drilling Alliance will be established, invite more universities and research institutes join, and a workshop will be held in Guangzhou, Sept., 25-27 to discuss 10 year science plan and CODA.

The first effort of CMP expedition: Sunda Shelf

Work closely with ECORD

Proposal 1007-Full: the Plio-Pleistocene Sunda Shelf Evolution

IODP Proposal Cover Sheet

1007 - Full

Sunda Shelf Carbon Cycling

Received for: 2022-04-01

Title Evolution of the Pliocene-Pleistocene Tropical Sunda Shelf (SE Asia): Reconstructing Sea Level Change, Drainage System Development, and Carbon Cycling

Proponents Zhifei Liu, Till J.J. Hanebuth, Christophe Colin, Thanawat Jarupongsakul, Nugroho D. Hananto, Edlic Sathiamurthy, Pengfei Ma, Wahyoe S. Hantoro, Yoshiki Saito, Thomas Wagner, Shengxiong Yang, Jianhua Geng, Susilohadi Susilohadi, Van Long Hoang, Guangfa Zhong, Stephan Steinke, Shinji Tsukawaki, Thomas M. Blattmann, Karl Stattegger, Pinxian Wang

Keywords Sea level, paleo-river, carbon cycling

Area South China Sea

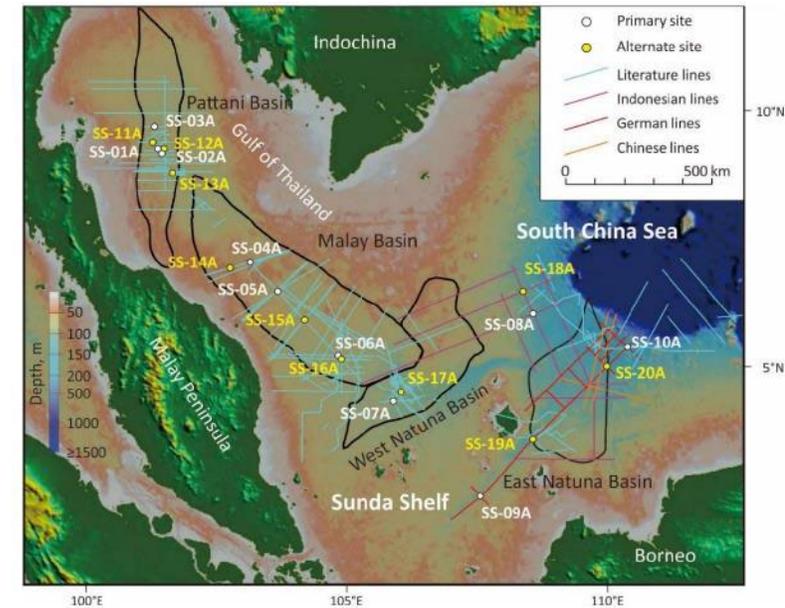
Proponent Information

Proponent Zhifei Liu

Affiliation Tongji University

Country China

Apr., 1, 2022



- Reconstruction of sea level change, drainage system development and carbon cycling of the Plio-Pleistocene tropical Sunda Shelf
- The proposal has been reviewed by SEP in June, and a revision one will be resubmitted soon
- Sunda Shelf will be potentially the first CMP expedition

Thank you!



国际大洋发现计划
INTERNATIONAL OCEAN
DISCOVERY PROGRAM, CHINA



IODP-India: Looking beyond 2024



- **Research Advisory Council Recommendations (July 2022)**
- **The National IODP review committee meetings- Feb & Sept 2022**
- **Had discussions with ECORD, NSF and JAMSTEC in recent past**
- **High Level Delegation led by Director, NSF visited India in August 2022**
- **Scientific collaborations towards Geosciences (IODP) and Climate Change studies were highly appreciated by both sides.**
- **To continue with IODP association (level?)**
- **Proposal Development workshops Sept and Nov 2022**



History and Recent Activities of K-IODP (2209 IODP Forum Meeting)

Gil Young Kim
(KIGAM, S. Korea)



September 14-15, 2022

K-IODP Project in Korea

History of K-IODP

- KIGAM is a representative of Korea IODP on the behalf of other institutes and universities in Korea.
- K-IODP project was started from 1997 (in ODP stage).
- First phase of K-IODP: From 2004 to 2010 (funded by Ministry of Oceans and Fisheries, Korea)
- Second phase of K-IODP: From 2011 to 2020 (funded by Ministry of Oceans and Fisheries, Korea)

In K-ODP stage

- Preparation for joining ODP prior to 1997
- Participation: From 1997 to 2003
- Contribution: 0.3 M US\$/year
- 6 shipboard scientists
- PacRim consortium (Australia, Canada, Taiwan, Korea)



First phase of K-IODP

- From 2004 to 2010
- 1 M US\$/year
- 19 shipboard scientists
- K-IODP office (KIGAM)

Second phase of K-IODP

- From 2011 to 2022
- 1 M US\$/year (JR partner)
- 40 shipboard scientists
- IODP Drilling in Korean EEZ (2013)

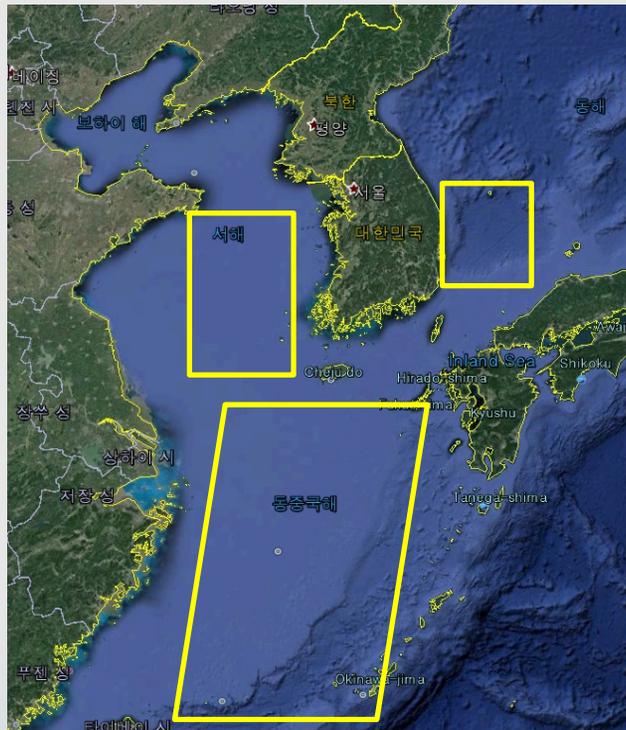


K-IODP activities in Korea

1. IODP Scientific Drilling Proposal

- So far, K-IODP has been submitted six scientific drilling proposals to IODP.
- K-IODP is now preparing to submit new scientific drilling proposal around the Korean waters area.
- For IODP proposal, K-IODP expects international collaboration from other countries.

Potential IODP proposal area



IODP proposals submitted by K-IODP

Received 1 October 2010

IODP Proposal Cover Sheet

New Revised Addendum

777-APL

Please fill out information in all gray boxes *Above For Official Use Only*

Please check if this is Mission proposal

Title: Ancillary Project Letter: Quaternary evolution of the western boundary current in the North Pacific subtropical gyre and its linkage to equatorial Pacific temperature

Proponent(s): Kyung Eun Lee, Takuya Itaki, Se Won Chang, Sangmin Hyun, Ken Ikehara, Yasufumi Iryu, Boo-Keun Khim, Katsunori Kimoto, Yoshimi Kubota, Hiroki Matsuda, Seung-Il Nam, Ryuji Tada, Yurika Ujiie

Keywords: (5 or less) Kuroshio, North Pacific subtropical gyre, ocean heat transport Area: East China Sea, Okinawa Trough

Contact Information:

Contact Person: Kyung Eun Lee

Submission: October 2010 (in JRFB)

Received for: 2019-04-01

IODP Proposal Cover Sheet

948 - Pre

East China Sea Rifting and Volcanism

Title: East China Sea Rifting and Volcanism

Proponents: Deniz Cukur, Gil-Young Kim, Chun-Feng Li, Senay Horozal, Hyun-Chul Han, Yuan-Pin Chang, Craig Magee, Rebecca Bell, Gee-Soo Kong, Clemens Glombitza, David Buchs, David Peate, Hans-Ulrich Schmincke, Mari Sumita, Fengping Wang, Yoon-Soo Lee, Jang-Jun Bahk, Gang Hu, Shang Luning, Jung-Woo Park

Submission: April 2019 (deactivated)

Received for: 2020-10-01

IODP Proposal Cover Sheet

885 - Pre

Ulleung Basin Gas Hydrates

Title: Ulleung Basin gas hydrates and submarine landslides: climate-driven hazards?

Proponents: J. Bahk, R. Ugeles, S. Lee, S. Horozal, S. Jeong, N. Sultan, K. Lee, G. Moore, G. Kim, K. Talalay, S. Kim, B. Dugan, M. Strasser, D. Mosher, M. Torres

Keywords: Submarine-landslides, Gas-hydrates, Climate-driven-hazards, Ulleung-Basin Area: Ulleung Basin

Contact Information:

Submission: March 2015
Waiting for Full proposal

Received for: 2020-10-01

IODP Proposal Cover Sheet

885 - Add 2

Ulleung Basin Landslides

Title: Ulleung Basin gas hydrates and submarine landslides: climate-driven hazards?

Proponents: Jangjun Bahk, Roger Ugeles, Sang-Hoon Lee, Sueng-Won Jeong, Greg Moore, Kate Talalay, Brandon Dugan, Michael Strasser, David Mosher, Maria Torres, Gil-Young Kim, Seong-Pil Kim, Deniz Cukur, Michael Riedel, Woohyun Son, Senay Horozal, Kyung-Eun Lee, Nyeonkeon Kang, Boyeon Yi, Kju Park

Keywords: Submarine-landslides, Gas-hydrates, Climate-driven-hazards, Ulleung Basin Area: Ulleung Basin

Proponent: Jangjun Bahk

Affiliation: Chungnam National University

Country: Korea, Republic of

Permission is granted to post the coversheet/site table on www.iodp.org

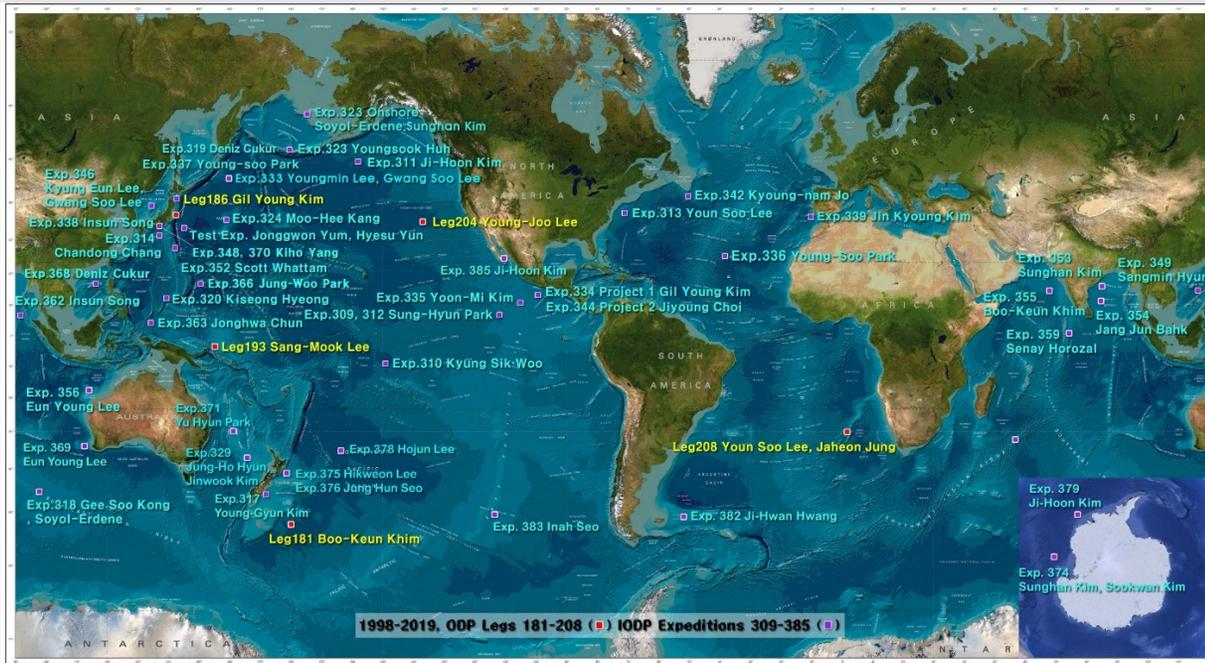
**SEP: January 2022
Forwarded to JRFB**

K-IODP activities in Korea

2. Shipboard scientists

- Every year, two or three Korean scientists are participating in IODP drilling expedition for international research.
- Totally 57 Korean scientists have been participated in ODP/IODP expeditions since 1997.
- From Dec. 2021 to Sept. 2022, three Korean scientists participated in IODP sailing (Exp. 391, 390, 393).
- K-IODP supports travel fee and research fund (at least 2 times, US\$ 30,000/person) for post cruise research after sailing.

Locations participated for IODP expedition



K-IODP activities in Korea

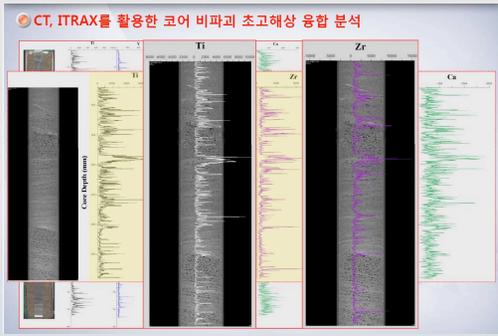
3. Education: K-IODP Summer School

- K-IODP holds K-IODP Summer School for graduate students of ocean science and geoscience fields every year.
- The education programs are selected annually based on four themes of IODP.
- Twenty graduate students from 15 Korean universities are participating in this program.
- After 2020, K-IODP didn't open Summer School because of COVID-19.

Lecture program (by international and domestic expert)



Field work/Laboratory



K-IODP activities in Korea

4. Workshop, special session and promotional booth in the conference

- K-IODP holds domestic and international workshop for IODP drilling proposal every year.
- Also, IODP special sessions were held in domestic conference several time.
- Promotional booth of IODP was installed in domestic conferences every year.
- After 2020, the conference was limitedly held due to COVID-19.

AME and WEPAD



Conference/Workshop



Promotional booth



K-IODP activities in Korea

5. Outreaches

- K-IODP promotes IODP activity to the public (press etc).
- K-IODP is providing the activities of IODP for Korean television broadcasting.
- Recently, Korean TV introduced for future drilling in the Ulleung Basin (885-Full2)
- K-IODP translates IODP books to Korean version and distributes to the public people.

Korean Press

News 13:00 전 내외뉴스
동해 밑, 깊은 곳까지 연구한다... 울릉분지 과학시추 확정
24일 한국지질자원연구원(원장 최준) 국제공동해양시추프로그램(KIGAM) 사무국을 통해 동해 울릉분지 IODP 과학시추(이하 'IODP 과학시추') 최종 승인을 받았다고 밝혔다.

12:00 전 내외뉴스
동해 표기 논란... 26개국 동해 울릉분지 과학시추 확정
우리나라를 포함한 국제 공동 연구진이 2024년경 동해 울릉분지 과학시추 활동에 나선다. 과학시추에 참여하는 연구자들은 연구지들은 연구보고서에 울릉분지 지명을 공식적으로

11:00 전 내외뉴스
동해 밑, 깊은 곳까지 연구한다... 울릉분지 과학시추 확정
한국지질자원연구원(KIGAM)은 최근 국제공동해양시추프로그램(KIGAM International Ocean Discovery Program) 사무국을 통해 동해 울릉분지 IODP 과학시추를 최종

10:00 전 내외뉴스
울릉분지 해저서 "국제 시추연구" 한다... 동해 표기 확산도 기대
한국지질자원연구원은 지난 8일 국제 공동 해양 시추프로그램(KIGAM) 사무국을 통해 동해 울릉분지 IODP 과학시추 최종 승인을 받았다고 24일 밝혔다. IODP는 미

09:00 전 내외뉴스
26개국 공동으로 동해 울릉분지 과학시추 나선다
한국지질자원연구원(원장 최준)은 지난 8일 서울, 국제공동해양시추프로그램(KIGAM) 사무국을 통해 동해 울릉분지 IODP 과학시추 최종 승인을 받았다고 밝혔다. 시

08:00 전 내외뉴스
단 "쓰디먼저" 때부터... 동해 울릉분지" 연구 국제승인
한국지질자원연구원은 26개 국가가 참여하는 국제공동해양시추프로그램(KIGAM) 사무국을 통해 동해 울릉분지 과학 시추 연구를 최종 승인 받았다고 24일 밝혔다.

07:00 전 내외뉴스
지질연구, 동해 울릉분지 과학시추 결정
지질연구원(KIGAM)은 국제공동해양시추프로그램(KIGAM) 사무국을 통해 동해 울릉분지 IODP 과학시추 최종 승인을 받았다고 24일 밝혔다. 이번 시추 당시 상층은 지질연구

06:00 전 내외뉴스
지질자원연구원, 동해 울릉분지 과학시추... 자연재해 기호변화 대응
한국지질자원연구원(원장 최준)은 지난 8일, 국제공동해양시추프로그램(KIGAM) 사무국을 통해 동해 울릉분지 IODP 과학시추(이하 'IODP 과학시추') 최종 승인을 받았다고 24일 밝혔다.

05:00 전 내외뉴스
지질연구, 2024년 이후 울릉분지 과학시추... 자연재해 기호변화...
한국지질자원연구원은 지난 2월 8일, 국제공동해양시추프로그램(KIGAM) 사무국을 통해 동해 울릉분지 IODP 과학시추를 최종 승인을 받았고 울릉분지는 북위 3

04:00 전 내외뉴스
동해 밑, 깊은 곳까지 연구한다... 울릉분지 과학시추 확정
한국지질자원연구원(원장 최준)은 지난 8일, 국제공동해양시추프로그램(KIGAM) 사무국을 통해 동해 울릉분지 IODP 과학시추(이하 'IODP

Broadcasting (YTN)

00:04 01:52
9 동해 해저 흔들... 국제 공동시추 추진

March, 2022

01:52
김길영 한국지질자원연구원 석유해저연구본부 책임연구원
1968년도에 시작해서 50년 이상 지속되고 있는 지구과학분야에서 가장 선구적인 프로그램 중 하나입니다.

Translation of IODP books/New brochure

과거, 현재, 미래의 지구 조명(照明)
김길영, 최준, 김민석

국제공동해양시추사업
International Ocean Discovery Program

Unraveling the Earth's History and Dynamics
IODP
국제공동해양시추사업

WHERE WILD MICROBES GROW
마생물은 어디서 자랄까?
(해양미생물 연구의 중요성)

UNCOVERING EARTH'S SECRETS
지구의 비밀을 밝히다
KEVIN KURTZ ALICE FEMAN
KIGAM 국제공동해양시추사업

For the renewal of K-IODP: Post-2024

- For the renewal of K-IODP, K-IODP recently requested the budget of 2023 to the government, unfortunately it was not approved in the final evaluation.
- For the budget of 2024, K-IODP will submit new proposal to the government next year.
 - To revise planning report including future collaboration with IODP member countries
 - To explain and promote about future IODP drilling plan in Korean waters area (885-Full2 at JRFB)
 - If the proposal of 885-Full2 is potentially scheduled, the renewal of K-IODP could be definitely possible.
- Deep consideration of IODP member countries when determine expedition schedule in the Pacific area

I hope, K-IODP gets a new budget for post-2024.

ANZIC

Post-2024 Strategic Vision



IODP Forum

14-15 September 2022

Ron Hackney, ANZIC Director

ANZIC's funding status

Australia



- 2023-2024 IODP funding request through the usual Australian Research Council (ARC) scheme. Decision anticipated late 2022.
- ARC is *not* a sustainable long-term funding option beyond 2024
 - Aiming for a funding bid under the Australian Government **National Collaborative Research Infrastructure Scheme (NCRIS)** through **AuScope**.
 - NCRIS generally funded on a five-year rolling basis

New Zealand

- Funded through to 2024 as **GeoDiscoveryNZ**
 - IODP + ICDP + Antarctica
- Funding expected to rollover beyond 2024



AuScope

ANZIC and GeoDiscoveryNZ

Post-2024: ensure our lands and seas are safe and sustainable

- Fill critical gaps in our understanding of natural hazard
- Increase our ability to measure and monitor processes and perils
- Improved understanding of the Earth's climate system
- International partnerships are essential for growing capability and bringing significant new knowledge and critical thinking down-under, as well as attracting additional scientific infrastructure and equipment

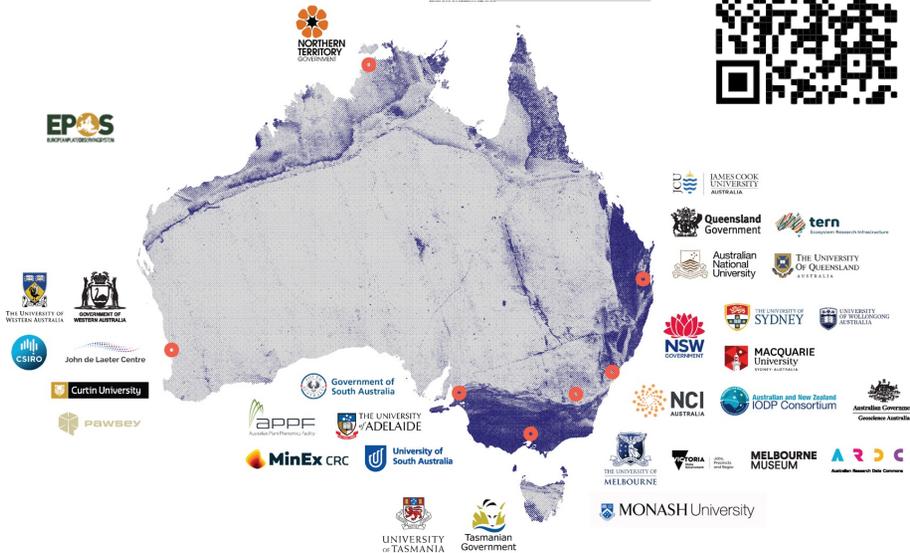


ANZIC's new Australian partnership



AuScope

NCRIS
National Research
Infrastructure for Australia
An Australian Government Initiative



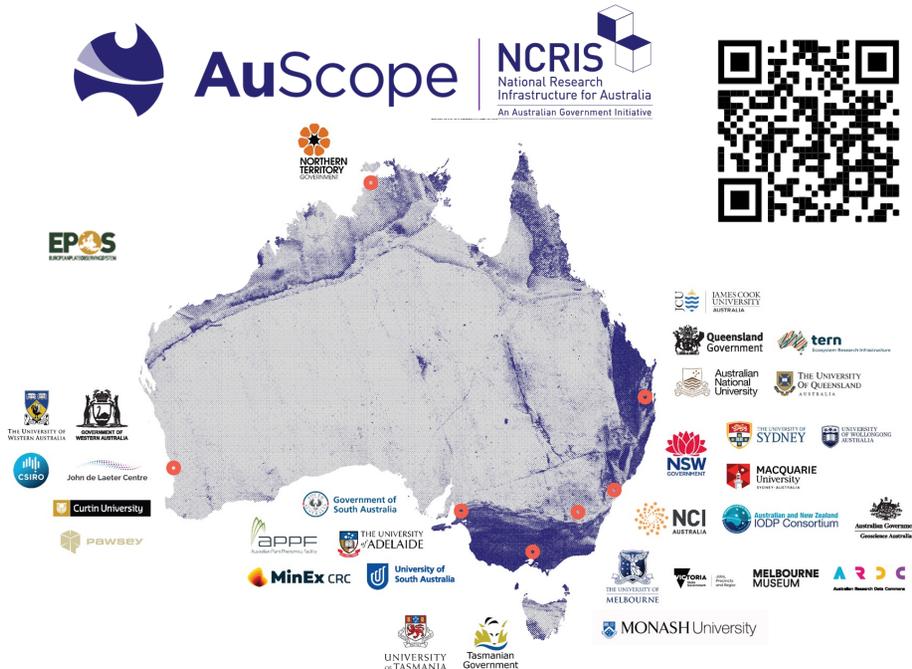
AuScope provides an **integrated infrastructure** system for industry, research, policy & education communities working on fundamental geoscience questions and grand challenges

AuScope is a unique '**connector**' within the Australian geoscience community

AuScope background

- Established 2006 to invest in research infrastructure for the Earth and geospatial science communities
- Largely funded through the NCRIS program and via partner contributions
- AuScope works closely with aligned NCRIS partners including:
 - Integrated Marine Observing System
 - Terrestrial Ecosystem Research Network
 - Bioplatforms Australia
 - National Computational Infrastructure (supercomputer)
 - Australian Research Data Commons

ANZIC's new Australian partnership



Establishing this partnership has strong support from

- AuScope Board
- ANZIC Governing Council
- NCRIS/Department of Education for a combined submission via the next NCRIS *Research Infrastructure Investment Plan* (expected late 2022)

Current AuScope infrastructure

- Earth Imaging & Sounding
- Geodesy & Geodynamics
- Earth Composition & Evolution
- Subsurface Observatory
- AuScope Virtual Research Environment
- Australian Seismometers in Schools
- National Virtual Core Library
- Simulation, Analysis & Modelling

Expanding AuScope infrastructure to provide enhanced access to the subsurface

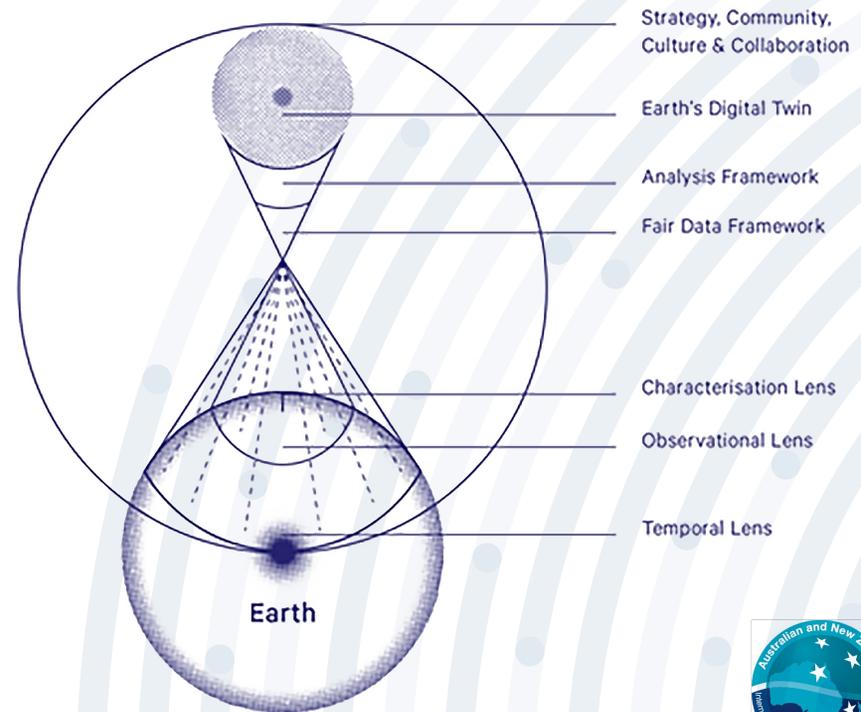
- Sampling & instrumenting the crust
- Expanded geoscience observation capacity
- Sample & data storage/curation
- World class analytical & characterisation facilities
- Integrated data & digital geoscience platforms - towards exoscale

The ANZIC Office (IODP & ICDP) will become an integral part of this increased capability

Australia's Downward Looking Telescope

- The eight AuScope programs culminate in ***Australia's Downward Looking Telescope***
 - a framework to explain AuScope's vision for integrated infrastructure that looks into – rather than out from – the Earth
 - helps researchers address the national geoscience challenges of the decade ahead

Downward-Looking Telescope



ANZIC in AuScope

- AuScope's integrated infrastructure will be enhanced by:
 - access to international drilling infrastructure
 - ICDP and IODP memberships managed by ANZIC
 - support for site surveys; e.g. funds to get seismic equipment onto vessels
 - new national drilling capabilities
 - integration with AuScope to raise ANZIC's profile and increase efficiency, capacity and return on investment
 - Harnessing considerable AuScope interest in Virtual Expeditions and integrated digital infrastructures
- AuScope will provide the ANZIC community with access to:
 - AuScope's HPC compute and storage allocation on NCI
 - sample and data repositories
 - access to digital platforms for FAIR data delivery and analytics
 - access to a variety of geochemical and geochronology analytical facilities



ANZIC challenges for a NCRIS funding bid

- Alignment of NCRIS timelines with the evolving post-2024 Scientific Ocean Drilling program or alliance
- **ANZIC needs clarity** on what we will be asking for:
 - Membership/contributions for >1 streams of a future program/alliance?
 - How much do we need to cover membership(s)?
 - How many expeditions per year in each stream?
 - Will we have to pick and choose a stream to join?
- Past success for ANZIC rests on a half-century plus of international collaboration with global impact

