

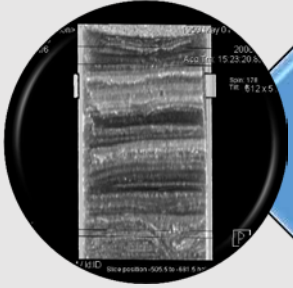
The Future of Repositories and Collections

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Presented by

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Chair IODP JOIDES Resolution Facility Board**



The Future of Repositories and Collections

The Premise

- The need for curation of core and rock collections was clear in the 1960-70's when most repositories were established
 - Over the last five decades repositories have become part of the “science furniture” (bad translation from a Dutch saying)
 - However, science being carried out on cores/rocks stored in the early days is blooming with increased sample requests
- We need to keep making our case (!)
 - To help funding agencies, universities and state organizations to keep affording investments in maintaining our facilities and new buildings



The Future of Repositories and Collections

Discussion Topics

- **Deaccessioning (typically when space runs out)**
- **Space (reefers, rock storage, analytical facilities)**
- **Small Orphaned Collections (when no stewardship is available)**
 - Teaching collections
 - Sample collections belonging to single PI or student thesis project
- **Big Collection Rescues (when universities abandon facilities)**
 - Federal, state and university funding drying up
 - Discarding of unique industry collections



The Future of Repositories and Collections

Two Different Perspectives

OSU-MGR

- Co-director for Rock Storage and Data Management since 2010
- Current collection since 1971 (NSF Marine Geology and Geophysics)
- Added NOAA R/V Okeanos Explorer ROV rock collection in 2015
- Adding Antarctic Core Collection in 2018 taking over from Florida State University (NSF Polar Programs)

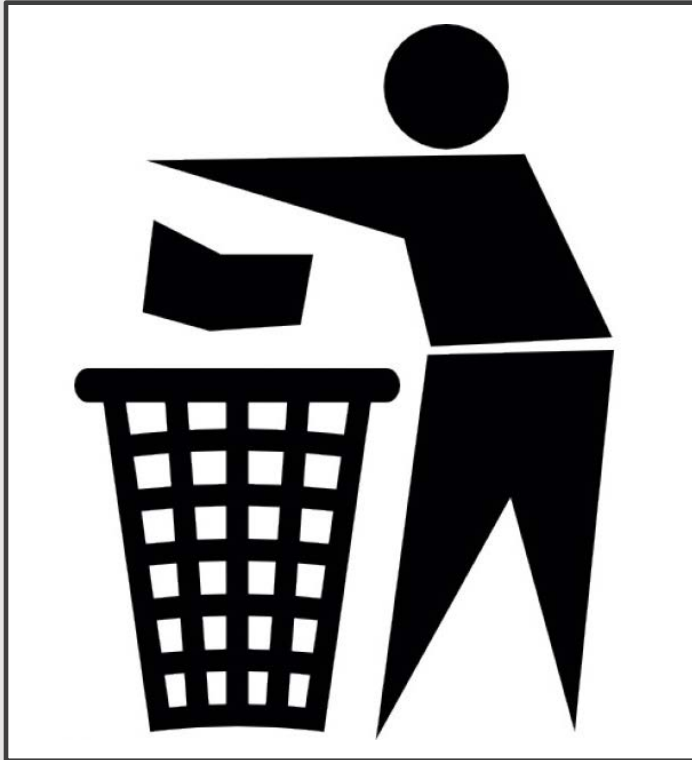
IODP-JRFB

- Chair of the JOIDES Resolution Facility Board (JRFB) since 2015
- Providing operational and management oversight of the JOIDES Resolution as part of IODP, including the Gulf Coast Repository
- Determining operations schedule for the JOIDES Resolution, and its standard sampling and data policies



The Future of Repositories and Collections

Deaccessioning



Throwing Cores and Rocks Out?

Reasons for Deaccessioning:

- Running out of space
- Running out of funding
- Dealing with cores in bad condition or having lost stratigraphic continuity
- Dealing with too much rock sample
- Reducing amount of material during a big move from repository to repository



The Future of Repositories and Collections

Deaccessioning



Throwing Cores and Rocks Out?

Potential Issues:

- What are good criteria for deaccessioning
- Removing material that could be useful and be requested in the future
- Deaccessioning often driven by funding issues and lack of space
 - This is the most realistic driver, but involves deaccessioning for all the wrong reasons
 - High likelihood of removing valuable assets



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Deaccessioning



Throwing Cores and Rocks Out?

Example from FSU-ARF to OSU-MGR move:

- Moving 20 km of core sections
- NSF asked FSU-ARF to deaccession to potentially save on moving costs
- FSU Curator + User Advisory Committee:
 - Deaccessioning ~10% of Antarctic Cores
 - Main criterium was “signs” of flow in
 - Curator pulled cores and looked through shrink wrap; committee worked remotely



The Future of Repositories and Collections

Deaccessioning



Throwing Cores and Rocks Out?

Example from FSU-ARF to OSU-MGR move:

- OSU-MGR requested to ship all cores and flag all “suspect” cores in the database
- OSU-MGR will work with User Advisory Committee to provide better criteria:
 - >90% flow in (?)
 - >90% sampling of working/archive half (?)
 - Missing minimally required metadata
 - Hard rock can be moved to A/C storage



The Future of Repositories and Collections

Do We Have Enough Space?



Long-term Cold Space ain't Cheap,
but replacement costs are huge!

Most Repositories are Short on Space:

- Buildings typically are university funded
 - Expansion of campus building difficult
 - Moving to new, larger buildings outside of campus area (e.g. OSU, Bremen IODP)
 - Requires strong buy-in from university in the need for geological repositories
- Others are state/federal funded
 - Often with strong budgetary limitations



The Future of Repositories and Collections

Do We Have Enough Space?

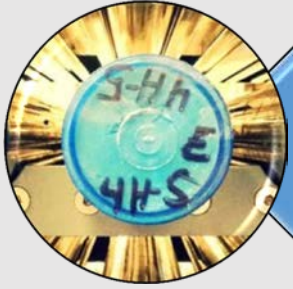
OSU-MGR

- Up to 2016, we only had 5-10 years expansion for MG&G collection
- However, in 2018 we are doubling our collection by adding the FSU Antarctic Core Collection
- OSU and CEOAS have provided us a new \$9M building and \$5M to retrofit it for our purposes
- Now 50 years expansion space

IODP-GCR

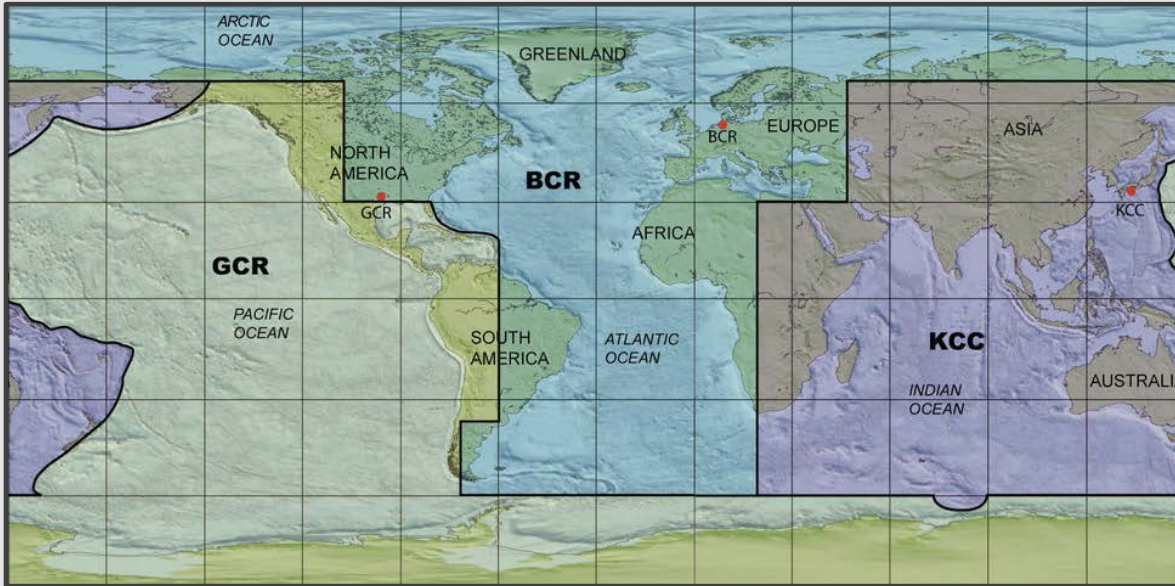
- IODP has three repositories (GCR, Bremen and Kochi)
- GCR however is low on space due to university building rules/restrictions
- In recent NSF Review (Feb 2017) this issue has been recognized and a solution is being pursued

| Repository | Institution | Amount of Core |
|------------|----------------------|----------------|
| GCR | Texas A&M University | 132 km |
| BCR | University of Bremen | 154 km |
| KCC | Kochi University | 111.2 km |



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Do We Have Enough Space?



Regional Storage Approach since beginning of IODP

JOIDES Resolution follows a regional track which currently has the vessel operating in the Pacific Ocean and Southern Ocean until it moves through the Gulf of Mexico in 2019 and into Atlantic Ocean for 2020-2022

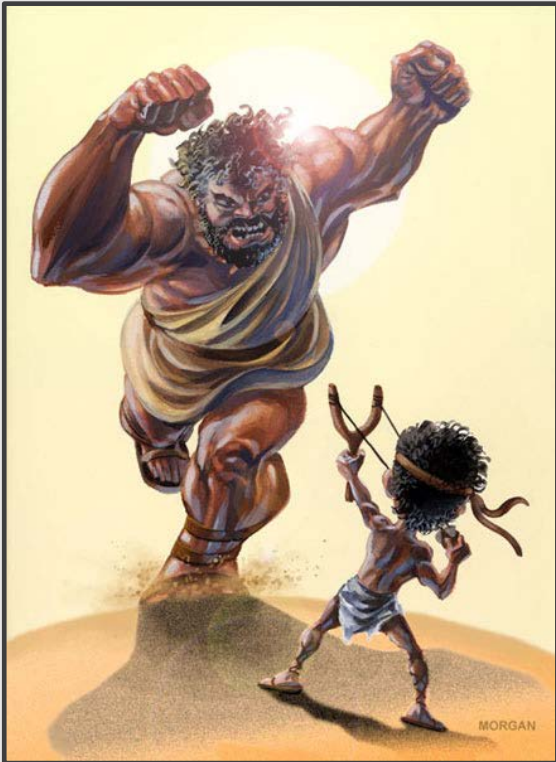
Some GCR Considerations :

- Likely just have enough storage for the upcoming Pacific and Southern Ocean expeditions
- Deaccessioning cores from cold storage to A/C storage
- Moveable shelving
- Going higher



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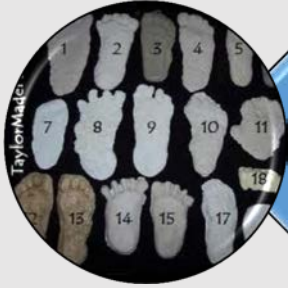
The Faith of Small Orphaned Collections



What to do with a valuable small collection?

Examples of small orphaned collections:

- Teaching collections (minerals, rocks)
- One-off research projects not federally funded but generating cores and rock samples
- MS and PhD research collections
- Collections now defunded and thus lacking base level support



The Future of Repositories and Collections

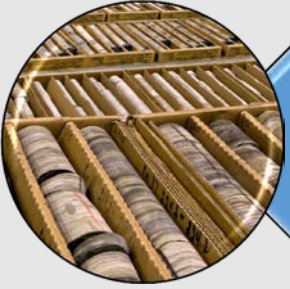
Rescue of Big Collections



What to do with a valuable
“big foot” collection?

Examples of such big collections:

- Defunded large facilities
- International (small nation) collections
- Industry collections
 - At OSU-MGR we now host abandoned industry rock/core collections from the Pacific NW
 - DOGAMI Cascade Cores (from the Oregon Department of Geology and Mineral Industries)



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