Exploring IODP Data

Bremen Core Repository (BCR): Archiving IODP cores & data

Sampling process

Ulla Röhl
>50 years
300 expeditions
4,000 holes
450 km of core

in as shallow as 20 m water depth and deep as more than 8,000 m water depth

Extended the marine sedimentary record from the present day back to nearly 200 million years ago.
IODP Core Repositories

GCR: Gulf Coast Core Repository, College Station, Texas
KCC: Kochi Core Center, Kochi, Japan
BCR: Bremen Core Repository, Bremen, Germany
158 km of cores – 250,000 core sections – 1,73 million samples taken

Core Curation includes to document, preserve and protect the cores as well as to promote the responsible taking of samples from the cores for scientific purposes.
Onshore Science Parties (OSPs) and providing expertise, experience and mobile laboratories for IODP Mission Specific Platform Expeditions (MSPs)

Involved in data management by PANGAEA (IODP-MSP data portal), Outreach, and run the ECORD Summer Schools since 2007 and ECORD Training Courses since 2015.
Non-destructive core measurements

For example XRF core scanning

- on cores from the BCR
- on visiting cores from other repositories/institutes
How to obtain IODP samples?

New cores arrive at the BCR....

... and will make it into the racks in the reefer
IODP Core Repositories

IODP cores - physical samples drilled from the seafloor - are stored and curated at core repositories funded by the platform providers. Cores are assigned to specific repositories based on their ocean of origin as shown below. After the expedition moratorium period, core samples may be requested for scientific research. A Curatorial Advisory Board makes final decisions regarding distribution of IODP samples.

**BCR - Bremen Core Repository**, University of Bremen, Germany

**GCR - Gulf Coast Repository**, Texas A&M University, College Station, Texas

**Rutgers/NJGS Repository**, satellite repository of the GCR for New Jersey/Delaware land cores

**KCC - Kochi Core Center**, Kochi University, Japan

IODP sample requests are still being accepted but completion and shipment of requests may be delayed due to COVID-19. For the current status of each IODP core repository, contact the repository curator.

- Bremen Core Repository – bcr@marum.de
- Gulf Coast Repository – curator@iodp.tamu.edu
- Rutgers/NJGS Repository – io@njgs.edu
- Kochi Core Center – curator@amseis.go.jp

### Geographic Assignment of Core Samples to Repositories

<table>
<thead>
<tr>
<th>Repository</th>
<th>Institution</th>
<th>Amount of Core</th>
<th>Programs Generating Core</th>
<th>Geographic Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCR</td>
<td>Texas A&amp;M University</td>
<td>140 km</td>
<td>DSDP, ODP, and IODP</td>
<td>Pacific (Pacific plate east of western boundary), Caribbean Sea and Gulf of Mexico, Southern Oceans (S of 60° except Kerguelen Plateau)</td>
</tr>
<tr>
<td>BCR</td>
<td>University of Bremen</td>
<td>158 km</td>
<td>DSDP, ODP, and IODP</td>
<td>Atlantic and Arctic Oceans (north of Bering Strait), Mediterranean, Black, and Baltic Seas</td>
</tr>
<tr>
<td>KCC</td>
<td>Kochi University</td>
<td>134 km</td>
<td>DSDP, ODP, and IODP</td>
<td>Pacific (west of western boundary of Pacific plate), Indian Ocean (N of 90°S), all of Kerguelen Plateau, and the Bering Sea</td>
</tr>
<tr>
<td>Rutgers/NJGS</td>
<td>Rutgers/NJGS</td>
<td>4.1 km</td>
<td>ODP Leg 150X &amp; 174AX</td>
<td>Land-based New Jersey and Delaware cores</td>
</tr>
</tbody>
</table>


http://iodp.org/resources/core-repositories
IODP at MARUM  •  IODP Bremen Core Repository

IODP Bremen Core Repository

MARUM - University of Bremen
Leobener Strasse 8
28359 Bremen

phone +49 (0) 421 218 65566 o. 65567
> bcr@marum.de

› International core repository at the University of Bremen
› Requesting samples from deep-sea cores
› Microbiology Sample Material Availability
› Upcoming events at BCR
› Contacts for the Bremen Core Repository
› How to find us

> Online tour BCR Reefer (in German)

BCR – curation and sampling procedures

Core storage
- refrigerated
- organized in racks
- wrapped in foil (sediments)

Typical sampling process
- incl. database & shipping
- sample request approval

MBIO procedures
- freezing, shipping procedures

Thin section loans
U-channel loans

Definitions:
- Archive and Working Halves
- Composite splice
- Critical Intervals
- Typical Sample Volumes

Request samples

IODP Sample and Data Request

- Login as Requester
- Login as Curator
- Request an Account
- Application Administration

IODP sample requests are still being accepted but completion and shipment of requests may be delayed due to COVID-19. For the current status of each IODP core repository, contact the repository curator.

- Bremen Core Repository - Bremen Curator
- Gulf Coast Repository - GCR Curator
- Rutgers/NJGS Repository - NJGS Curator
- Kochi Core Center - Kochi Curator

http://web.iodp.tamu.edu/sdrm/
http://web.iofp.tamu.edu/sdrm/
XDIS: check what has already been sampled

http://dis.iodp.pangaea.de/BCRDIS/
**XDIS: check what has already been sampled, ctd**

### DIS View: SAMPLES BY EXPEDITION

Displays only data of expeditions not under moratorium! Select expedition 0 to search over all samples!

<table>
<thead>
<tr>
<th>Exp.</th>
<th>Site</th>
<th>Hole</th>
<th>Core</th>
<th>C-Type</th>
<th>Sec.</th>
<th>CC</th>
<th>Top Depth (cm)</th>
<th>Bot. Depth (cm)</th>
<th>Vol.</th>
<th>MBSF Top (m)</th>
<th>MCD Top (m)</th>
<th>Half</th>
<th>Curator</th>
<th>Repes.</th>
<th>Request</th>
<th>Req.Part</th>
<th>Code</th>
<th>Date</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>42</td>
<td>44</td>
<td>10</td>
<td>0.92</td>
<td>10.57</td>
<td>W</td>
<td>air</td>
<td>SHI</td>
<td>2043</td>
<td>A</td>
<td>10-19-2004</td>
<td>4203293</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>58</td>
<td>120</td>
<td>10</td>
<td>1.28</td>
<td>14.33</td>
<td>W</td>
<td>air</td>
<td>SHI</td>
<td>2043</td>
<td>A</td>
<td>10-19-2004</td>
<td>4203294</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>129</td>
<td>130</td>
<td>2</td>
<td>1.39</td>
<td>14.44</td>
<td>W</td>
<td>samuel</td>
<td>hen</td>
<td>MSP9999</td>
<td>A</td>
<td>10-03-2004</td>
<td>4203133</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>139</td>
<td>132</td>
<td>10</td>
<td>1.40</td>
<td>14.45</td>
<td>W</td>
<td>samuel</td>
<td>hen</td>
<td>MSP9999</td>
<td>A</td>
<td>10-03-2004</td>
<td>4203132</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>145</td>
<td>150</td>
<td>56</td>
<td>1.55</td>
<td>14.60</td>
<td>WR</td>
<td>cur</td>
<td>SHI</td>
<td>20548</td>
<td>A</td>
<td>10-07-2004</td>
<td>4203205</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>145</td>
<td>150</td>
<td>10</td>
<td>1.55</td>
<td>14.60</td>
<td>WR</td>
<td>chem</td>
<td>MSP9999</td>
<td>IWG</td>
<td>A</td>
<td>10-02-2004</td>
<td>4203106</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>145</td>
<td>150</td>
<td>10</td>
<td>1.55</td>
<td>14.60</td>
<td>WR</td>
<td>chem</td>
<td>MSP9999</td>
<td>IWG</td>
<td>A</td>
<td>10-02-2004</td>
<td>4203107</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>145</td>
<td>150</td>
<td>3</td>
<td>1.55</td>
<td>14.00</td>
<td>WR</td>
<td>a mascioli</td>
<td>hen</td>
<td>MSP9999</td>
<td>A</td>
<td>10-02-2004</td>
<td>4203108</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>145</td>
<td>150</td>
<td>10</td>
<td>1.55</td>
<td>14.60</td>
<td>WR</td>
<td>a mascioli</td>
<td>hen</td>
<td>MSP9999</td>
<td>A</td>
<td>10-02-2004</td>
<td>4203109</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>145</td>
<td>150</td>
<td>10</td>
<td>1.55</td>
<td>14.60</td>
<td>WR</td>
<td>a mascioli</td>
<td>hen</td>
<td>MSP9999</td>
<td>A</td>
<td>10-02-2004</td>
<td>4203110</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>145</td>
<td>150</td>
<td>10</td>
<td>1.55</td>
<td>14.60</td>
<td>WR</td>
<td>a mascioli</td>
<td>hen</td>
<td>MSP9999</td>
<td>A</td>
<td>10-02-2004</td>
<td>4203111</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>145</td>
<td>150</td>
<td>3</td>
<td>1.55</td>
<td>14.60</td>
<td>WR</td>
<td>chem</td>
<td>MSP9999</td>
<td>IWPA</td>
<td>A</td>
<td>10-02-2004</td>
<td>4203110</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>145</td>
<td>150</td>
<td>10</td>
<td>1.55</td>
<td>14.00</td>
<td>WR</td>
<td>chem</td>
<td>MSP9999</td>
<td>IWG</td>
<td>A</td>
<td>10-02-2004</td>
<td>4203109</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>145</td>
<td>150</td>
<td>10</td>
<td>1.55</td>
<td>14.60</td>
<td>WR</td>
<td>chem</td>
<td>MSP9999</td>
<td>IWG</td>
<td>A</td>
<td>10-02-2004</td>
<td>4203111</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>145</td>
<td>150</td>
<td>3</td>
<td>1.55</td>
<td>14.60</td>
<td>WR</td>
<td>chem</td>
<td>MSP9999</td>
<td>IWG</td>
<td>A</td>
<td>10-02-2004</td>
<td>4203112</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>145</td>
<td>150</td>
<td>3</td>
<td>1.55</td>
<td>14.60</td>
<td>WR</td>
<td>chem</td>
<td>MSP9999</td>
<td>IWG</td>
<td>A</td>
<td>10-02-2004</td>
<td>4203113</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>145</td>
<td>150</td>
<td>3</td>
<td>1.55</td>
<td>14.60</td>
<td>WR</td>
<td>chem</td>
<td>MSP9999</td>
<td>IWG</td>
<td>A</td>
<td>10-02-2004</td>
<td>4203114</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>145</td>
<td>150</td>
<td>3</td>
<td>1.55</td>
<td>14.60</td>
<td>WR</td>
<td>chem</td>
<td>MSP9999</td>
<td>IWG</td>
<td>A</td>
<td>10-02-2004</td>
<td>4203115</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>145</td>
<td>150</td>
<td>3</td>
<td>1.55</td>
<td>14.60</td>
<td>WR</td>
<td>chem</td>
<td>MSP9999</td>
<td>IWG</td>
<td>A</td>
<td>10-02-2004</td>
<td>4203116</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>145</td>
<td>150</td>
<td>3</td>
<td>1.55</td>
<td>14.60</td>
<td>WR</td>
<td>chem</td>
<td>MSP9999</td>
<td>IWG</td>
<td>A</td>
<td>10-02-2004</td>
<td>4203117</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>1302</td>
<td>A</td>
<td>2</td>
<td>M</td>
<td>1</td>
<td>no</td>
<td>145</td>
<td>150</td>
<td>3</td>
<td>1.55</td>
<td>14.60</td>
<td>WR</td>
<td>chem</td>
<td>MSP9999</td>
<td>IWG</td>
<td>A</td>
<td>10-02-2004</td>
<td>4203118</td>
<td></td>
</tr>
</tbody>
</table>

Additional columns include the Expedition (Exp.), Site, Hole, Core, C-Type, Sec., CC, Top Depth (cm), Bot. Depth (cm), Vol., MBSF Top (m), MCD Top (m), Half, Curator, Repes., Request, Req.Part, Code, Date, and Sample.
Sample Planning Tool - Login

Welcome to the JRSO Sample Planning Tool!

- User login
- Administrator login

Please enter your SaDR credentials to log in to the system.

SaDR Username
enter your SaDR username

Password
enter your password

User login

Don't have a SaDR account? [Get one here]

Forgot your password? [Request a password reset here]

Download the SPLAT user guide [here]

https://web.iodp.tamu.edu/SPLAT/#/userlogin

SPLAT is maintained by the JRSO (IODP Resolution Science Operations) Information Technology staff. Send questions or concerns to splat@iodp.tamu.edu
Sample list planning

Sample Planning Tool - Project: 378 - Site: U1553

<table>
<thead>
<tr>
<th>Core</th>
<th>Section</th>
<th>Section length (m)</th>
<th>Top offset (cm)</th>
<th>Bottom offset (cm)</th>
<th>Top depth CSF-A (m)</th>
<th>Bot depth CSF-A (m)</th>
<th>Sample Type</th>
<th>Tool</th>
<th>Volume (cc)</th>
<th>SaDR number</th>
<th>Comments</th>
</tr>
</thead>
</table>

Total samples in list: 0 | Samples in hole A: 0 | Showing: 0

Show section images

Create discrete sample | Create series | Import from CSV

Export | Submit this sample list
IODP – Policy and Guidelines

International Ocean Discovery Program Sample, Data, and Obligations Policy & Implementation Guidelines

http://www.iodp.org/program-documents

General Outline:

A. Policy – ensure access to IODP, ODP and DSDP samples and data for scientists, educators and museums.
   1) Make available to Science Party
   2) Publish/disseminate scientific findings.
   3) Make available to global science community
   4) Preserve core material for future workers
   5) Loan to educators, museums, public relations.

B. Implementation Guidelines
   1) Types of requests/requesters
      - Science Party
      - Post-moratorium
      - Education/outreach
   2) Obligations
      - Science Party – 20 months post-moratorium.
      - Post-mort. requests – data/publish 36 months

APPENDIX A: Definition of terms
Moratorium
Curators (repository + vessel)
Sample Allocation Committee (SAC)
Curatorial Advisory Board (CAB)

APPENDIX B: Repository information

Interpret policy
Sampling lab & sampling table
Sampling tools

Photo C. Cotterill, ECORD
Photos U. Röhl, ECORD
Sampling lab, work station, sample labels
Sampling tables in the lab
Shipping samples
Sampling Parties

- 2 - 5 km of core
- 20,000 – 40,000 samples
- ~ 10-14 days
- 24 - 45 participants
- Working in shifts incl. weekends
- Database adaptations
- Sample shipping

Credit: V. Diekamp, MARUM
Bremen Core Repository (BCR)