VCD/Lithology IODP Meeting

TAMU

College Station, Texas, USA

September 27-28, 2006

Draft Agenda

(comments welcome)

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Background

With IODP we will have a great opportunity to start collecting the VCD information digitally and provide a consistent search, viewing and extraction capability to the scientists both within and external to IODP.

CDEX has developed a VCD software within J-CORES suite of operational tools. ESO is using the DIS system to collect digital VCD information and the USIO are planning to develop the DESCINFO system within the upcoming year after completing a community survey of their proposal.

Closely related to the VCD process is the lithology classification. The USIO is planning to identify existing key lithologic classifications and use them within DESCINFO. CDEX, however, in collaboration with J-DESC are developing a new unique combined lithologic classification using several sources and to be used with J-CORES onboard the Chikyu.

All in all, there is an urgent need to agree on a common IODP VCD process and common IODP lithologic classification to be used program wide.

Goals

The VCD/Lithology IODP meeting has been organized by IODP-MI to assure that within IODP there is a consistent method of describing core using well defined lithologic names and characteristics and that all VCD data can be searched in a consistent way and exchanged using a common format.

During this meeting we want to come up with an IODP solution to ensure that:

- All expeditions have access to one or a set of well defined lithologic classifications
- IODP set of lithologic classifications can be maintained and accessed centrally
- We all agree on the level of granularity a scientist can search for VCD data
- We all agree on a minimum set of basic descriptive or quantitative elements we want to measure and save in the data databases

Documents

All documents related to the meeting will be available from this location:

http://campanian.iodp-mi-sapporo.org/Meetings/VCD_Lithology/

Please, take the time to read the documents

Main Agenda Items

I- Lithologic Classification

- One single or a set of approved IODP lithologic classification(s)

II- Common VCD Process

- common base elements (granularity) we want a user to be capable of searching on
- common base elements (granularity) we want to collect and save
- connecting lithology classification with data collection
- common graphic representations for showing VCD (both for software and publication)

III. Common data exchange

- common data exchange format

Pre-meeting action items

IODP-MI request that each IO:

- share with IODP-MI and the DMCG their own research and recommendations on lithological classification, at least 4 weeks before the meeting.
- present at the meeting their suggestion for a common VCD process.
- share at least 4 weeks before the meeting with IODP-MI and the DMCG the recommended list of basic elements that a user should be capable of searching on.

Deliverables of the meeting

- **A document** describing one common lithologic classification (defining terms and values for basic elements) to be used by all IOs in future expedition (or a set of classifications). This should include the graphical representations to be used by all IOs for both software and publication. This will be done in collaboration with all the participants.
- **A document** describing the IODP VCD process, listing and defining all the basic element that needs to be collected and stored in all IO databases and be searchable. This will be done in collaboration with all the participants.
- At the end of the meeting, a **summary document** with a list of action items will be distributed to each participant by IODP-MI.
- Two weeks after the meeting an **executive summary** will be distributed to the participants by IODP-MI.
- Six weeks after the meeting a **summary draft report** will be distributed to the participants by IODP-MI.

Agenda Schedule

Day 1: September 27, 2006

Time	Topic	Presenter
9h00	Introduction – Logistics	Jeff Fox Bernard Miville Clive Neal
9h30	Presentation: VCD in ODP	Jay Miller Cedric John
10h00	Presentation : CDEX VCD vision	Tatsuhiko Sakamoto
10h30	**Break**	
11h00	Presentation: ESO VCD vision	Colin Graham
11h30	Presentation: USIO VCD vision	Peter Blum
12h00	**Lunch**	
12h45	Presentation/Demo PsiCAT - CHRONOS	Joss Reed
13h10	Andrill Lithological Classification	Larry Krissek
13h30	Lithologic Classifications* presentations	Presenters listed in Table 1 below
15h10	**Break**	
15h30	Discussion: Consensus about classifications, one or more classifications for IODP, who maintains the classifications, format for classifications (SEDIS)	All
17h30	**End of meeting**	
17h45	Bus leaves	

*** Lithologic Classifications**

- IODP-MI asked the following experts (see table below) to come up with a list of lithologic classifications they would want to use if they were asked to do visual core description
- Each will do a short presentation about the classifications they would use and present:
  - what are the problems are with the classification you identified
  - how it can be improved
  - what are the basic elements it contains (texture, content, structure, etc.) in the descriptions of the lithologic names
  - if more than one classifications exists, can mapping to each other is an option or should we just have one definition per lithologic name
  - how they compare to ODP and current IODP classifications
  - list of problems in using them and any possible solution for a future IODP classification for a particular group

Table 1

1: Metamorphic	2: Carbonate	3: Structural	4: Clastics	5: Igneous
Coggon, Rosalind	Matsuda, Hiroki	Ujiie, Kohtaro	Krissek, Larry	Miller, Jay
	Sakamoto, Tatsuhiko		Naruse, Hajime	Sato, Hiroshi

Following the presentations we will have a group discussion about the best approach for IODP.

Day 2: September 28, 2006

Time	Topic	Presenter
9h00	Introduction – Logistics - Summary	Bernard Miville
9h15	Breakout session*: VCD data types capture and work flow	All
10h30	**Break**	
10h45	Quick summary update from reporters about break out session	Reporters Table 2 below
11h05	Continue breakout session as needed	All
12h00	**Lunch**	
13h00	Group summary presentations (10 minutes each)	Reporters Table 2 below
13h40	Discussion - Consensus	All
15h00	**Break**	
15h20	Presentation about data exchange format	Hassan Babaie
15h50	Data exchange format discussion	All
16h30	Report – Conclusion – Action Items	All
17h30	**End of meeting**	
17h45	Bus leaves	

*** Breakout session:** VCD data types capture (granularity) and work flow

The participants will be divided in 3 groups of about 8 to 10 participants. Each group will have a specific geological field to discuss:

- Group 1: Igneous and high grade metamorphic petrology
- Group 2: Sediments
- Group 3: Deformation structures and alteration/low grade metamorphic petrology

Each group will discuss the following:

VCD data capture types (granularity)

Granularity is the level of details we want to describe, capture and save the data representing a description of a core and cuttings.

- List of IODP essential data type that needs to be consistently collected by all scientists while doing VCD. An initial list will be provided. Typically it includes and is not limited to:
    - Composition, Texture, Color, etc.
- For each of the data type a list of sources for possible valid values or range of values (published sources, past expeditions, etc.)
- How does the granularity relate to the lithologic classifications? Will all classifications have the same details? Do we want to map between different classifications with same lithologic names?

Work flow

- The preferred method of doing VCD. For examples:
    - Complete freedom

  - Control list for every data type
  - Scientist enters basic data type values and the lithology name is automatically determined based on the accepted lithology classification
  - Scientist only enters the lithology name and the basic data type are determined automatically based on the accepted classifications
  - Core description verified at a later stage against accepted classification before being stored in database.
  - Do we want to have to enter all the basic elements describing a core all the time?
  - Other topics?
- On what fields would a scientist likely be searching on when trying to find data from VCD, for example:
  - list all VCD data that has a certain type of grain between a certain size value
  - plot all VCD that has certain fossils in abundance more than 10 percent below a certain depth (what depth scale?)

Each group has been assigned a reporter or two who will present the results in a 10 to 15 minutes presentation after the breakout sessions. If there is no consensus that can be reached within a group, the reporter will identify these areas in the presentations. Following the presentations we will identify the similarities and differences and come up with one IODP solution that we can document.

Table 2

Group 1 **Igneous and high grade metamorphic Petrology**	**Group 2** **Sediments**	**Group 3** **Deformation structures and alteration** **/low grade metamorphic petrology**
Neal, Clive	Hiroki, Matsuda	Coggon, Rosalind Ujiie, Kohtaro

VCD/Lithology IODP Meeting

Hosted at
TAMU-USIO
College Station, Texas, USA
September 27-28, 2006

Meeting Report

IODP-MI Sapporo
April 13, 2007

Final Version

Table of Content

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Executive Summary

The meeting mainly concentrated in identifying lithologic classifications used within ODP and IODP and common terminology for the observable parameters needed to describe core. Previous efforts from the CDEX and the USIO were used as a starting point and by the end of the meeting the following were agreed upon:

- Observable parameters are needed to describe core and all IOs need to agree to use the same names, definition and units
    - As a result of the meeting discussion, the IOs are currently comparing the parameters used in the past or proposed to be used in the future
- Lithology name and the associated lithologic classification always have to be recorded as minimum data by the scientists.
- The scientists need to be allowed to select the lithologic classification used for a specific expedition. The choice cannot be IO specific but needs to be driven by science.
- All VCD data needs to be recorded electronically
- We need a VCD data exchange format
    - The IOs have been presented with an initial proposal by IODP-MI.
- We need to agree on the graphic representations
    - CDEX presented at the meeting a new selections of graphic representations and the USIO presented the one used in ODP that will be used as a starting point for the discussion between the IOs.

All those were defined as action items and most of them have been initiated by IODP-MI and are currently in progress. The results of the meeting will be presented at the upcoming STP meeting (December 7-9, 2006, San Francisco).

Background

With IODP we will have a great opportunity to start collecting the VCD information digitally in order to provide a consistent search, viewing and extraction capability to the scientists both within and external to IODP.

CDEX has developed a VCD software within the J-CORES suite of operational tools. ESO is using the Drilling Information System (DIS) to collect digital VCD information. The USIO is developing the Descriptive and Interpretative Information (DESCINFO) system within the upcoming year based on experience on the riserless vessel and recent community surveys.

Closely related to the VCD process is the issue of lithologic classification. The USIO is building an information system that allows scientists to use their classification of choice. Users can optionally use an application that extracts the basic descriptive information from lithology names based on classification rules, thus providing a “normaized” database searchable by descriptive parameters. CDEX, however, in collaboration with J-DESC has developed a new unique combined lithologic classification using several sources and to be used with J-CORES onboard the Chikyu.

All in all, there is an urgent need to agree on a common IODP VCD process and common list of IODP lithologic classifications and terminology to be used program wide.

The participants at the meeting were selected to make sure that all the different types of core description specialities were represented with scientists from both the IODP organizations and the general geosciences community.

Meeting Summary

Visual Core Description Presentations

The first part of the meeting was spent discussing how VCD was handled in the past and how each IO is planning to describe core in IODP including presentations describing new technology.

The meeting started with a presentation from Cedric John and Jay Miller from the USIO about how visual core description (VCD) was done during ODP and the first phase of IODP. VCDs were usually done first by hand using standard "barrel sheet" forms and subsequently transferred to an electronic version (AppleCore). For most sediment materials the program AppleCore was used to draw a digital representation of a core summary. In the case of igneous and metamorphic rock descriptions, a drafting program such as Adobe Illustrator was used to draw a publication-ready picture. All hand-drawn barrel sheets are available as scanned images in the Janus database. All digital VCDs are also available electronically in the publications (Initial Reports, not all are in electronic version yet). One of the major problems is that it is impossible to search all the VCDs in a consistent method using a typical text search engine via a web interface and common control vocabulary. So the information is available but not easily searchable. The presentation also clearly pointed out that the choice of lithologic classification is science driven and maybe often modified or differ entirely from expedition to expedition.

Tatsuhiko Sakamoto and Kyoma Takahashi presented the CDEX J-CORES VCD application and the proposed J-DESC lithologic classification. The VCD software is flexible and allows the scientist to enter any lithologic name and any basic parameter (texture, color, grain size, etc.). The software does not verify if a name matches with the description of a specific lithologic classification. The software offers the scientist to select predefined graphic patterns of lithology from a control list associated with the lithology name entered by the scientist. If a name or pattern is not available in the control list, the scientist can add a new one in the system.

http://sio7.jamstec.go.jp/j-cores/manual/VisualCoreDescription/vcd/

The control list is based on a newly constructed lithologic classification created specifically for J-CORES by J-DESC. It includes most published classifications used during the ODP/IODP Phase I. However the lithologic classification used by J-CORES does prevent the user from describing the core using any other classification as only the list of names and observables parameters have been used as control list in J-CORES. The value entered for the observables parameters are not limited by any classification. One part missing in J-CORES is a clear method to identify what classification a scientist is using since it is assumed that the scientists are using the J-DESC one. It is possible when the lithology name is entered to append the name of the classification the observation is base on (e.g. basalticandesite@J-DESC2007). That raised some concerns by the participants, but IODP-MI is

working with CDEX to fully understand the implications. J-CORES does however allow scientists to enter themselves new names, not part of J-CORES basic control list as local expedition specific entries.

David McInroy from ESO presented how core descriptions are captured on Mission Specific Platforms (MSP) expeditions. The information is entered into the DIS via spreadsheet forms. Once the information is entered it is possible to visualize and create any type of VCD graphical output using an off-the-shelf software called Strater:

http://www.bossintl.com/html/strater-overview.html

ESO is flexible in their approach. From their experience with the ACEX and Tahiti Expeditions, scientists do want to use specific published lithologic classifications and they do want the capability of modifying them within an expedition if needed hence becoming a new published classification once it appears in the proceeding report.

Peter Blum presented the USIO project called DESCINFO. It will allow the user to assign any lithologic names to any sample interval where the lithology name is always associated with a published or to be published classification reference (e.g., author, year. The system will also allow the user to enter values for a set of descriptive parameters at any level of detail, or generate those value ranges for appropriate observable parameters based on the lithology name and associated classification rules. A source field will flag those values as computed instead of observed. Similarly the system will allow the user to enter basic observable parameters and the lithologic names will be deduced from the chosen lithologic classification and flagged as computed. This raised some concerns from the participants at the meeting that could potentially provide answers that would not really be what the users wanted or expected to provide. The system will then allow VCD to always have all the possible information (lithologic names and observable parameters) all the time, making it more consistent for searching purposes.

http://millstone.iodp.tamu.edu/wiki/index.php/DESCINFO_project

Not all IOs agreed to this method. ESO does not plan to deduce any information from a classification, but will be capable of manually verifying the VCD against the chosen classification as part of the QA/QC process.

Joss Reed from the Iowa State University demonstrated the Paleontological-Stratigraphic Interval Construction and Analysis Tool (PSICat) VCD software:

http://portal.chronos.org/psicat-site/index.html

At the moment it is tailored for the specific needs of ANDRILL. It allows core description in a flexible way and quite different from J-CORES VCD, DIS and DESCINFO. It can accept any lithologic classification. The VCD data is stored in a software specific XML format. The approach is consistent with IODP-MI

goal of creating a common XML exchange format for core description and we look forward to collaborate on developing a VCD XML data format.

IODP-MI also invited a representative, John Bobbit, from the Petrotechnical Open Standards Consortium (POSC) to present their plans for developing standards for core description exchange format. The presentation explained the process POSC went through in developing their industry standards and provided the participants with some useful advices:

- Solve problems in the order of difficulty: first people, then process, finally technology.
- People problems are the hardest – need to give them a good reason to input data in a given format.
- Always consider process:
  - How is this to be used? By whom? Context?
  - Keep it generic enough so it can be used in multiple situations.
- Build in a hierarchy (level of granularity).
  - e.g., limestone…..calcite…foram
- Recognize there are multiple classification systems.
- Easiest problems to solve are technology

Chris Jenkins from the University of Colorado presented an approach of data mining and linguistic processes underpinned by special formatted core description text into their individual fields. This approach would allow a scientist to simply enter a few keywords to describe core and the system would properly process the information into useful individual components. The only drawback is that the scientists would need to learn a specific method of formatting core description. A user friendly interface is under development. This method was used to extract information from ODP core descriptions and is part of the dbSEABED project:

http://instaar.colorado.edu/~jenkinsc/

The final invited presentation was from Hassan Babaie from Georgia State University. He gave us an introduction to new technology for creating knowledge based searches using ontology (controlled vocabulary that describes objects and their relations). He strongly suggested that IODP need to start developing ontologies to take advantage of new methods of searching for information. This new technology would allow scientist to find more than just keyword entered into a search engine, but also find related information based on knowledge attached to a keyword search. Most participants had very limited knowledge in this fairly new field and the conclusion was that we all need to educate ourselves in order to take advantage of the possible benefits.

http://www2.gsu.edu/~geohab/pages/currentResearch.htm

Lithologic Classifications

The second part of the meeting was specifically about known lithologic classifications. Invited specialists presented lithologic classifications they would use on an expedition related to their field of expertise. The presentations highlighted the variability of classification scheme. Many of the classifications typically used during an expedition had been modified by scientific parties and then became new classifications sometimes referred to by future expedition.

1: Metamorphic	2: Carbonate	3: Structural	4: Clastics	5: Igneous
Coggon, Rosalind	Matsuda, Hiroki	Ujiie, Kohtaro	Krissek, Larry	Miller, Jay
	Sakamoto, Tatsuhiko		Naruse, Hajime	Sato, Hiroshi

Larry Krissek presented a new classification to be used for Andrill. All other participants presented classifications used in ODP/IODP Phase 1 with their shortcomings and possible needs for modification. Tatsuhiko Sakamoto presented the J-DESC classification which is a collection of known classifications where one name has one definition. If the same lithologic name was found in different classifications with different range of values for the descriptive parameters, J-DESC made an average and best estimate of new range of values based on their experience. This is a new classification as it contains modified known published classifications. CDEX plans to use this new classification onboard the Chikyu:

http://campanian.iodp-mi-sapporo.org/Meetings/VCD_Lithology/CDEX_J_DESC_VCD_scheme_V1_5.pdf
http://campanian.iodp-mi-sapporo.org/Meetings/VCD_Lithology/CDEX_VCD_Appendix04_J_CORES_selectee.pdf

This was followed by a discussion about multiple or unique classification for IODP. From past experience with ODP/IODP Phase 1, it is quite clear that scientists will want to be allowed to define an expedition specific classification and not be limited to one single program wide classification used for all expeditions.

CDEX suggested that for IODP all IOs should start with a basic common lithologic classification and use an expedition specific method of entering new names that are not part of the basic classification. CDEX J-CORES VCD uses control lists containing all the lithology names and corresponding observable parameters found in the J-DESC classification. The software, however, does not include the definition and the allowed range of values for each lithology name and observable parameter and will therefore be capable of addressing most type of core description regardless of the classification used by the scientists. Any new name needed to be added to the control list would then be passed on to a VCD Advisory Committee (VAC) for approval of inclusion into the long term basic classification. Hence CDEX's approach assumes a single classification used by all scientists, but their software does not prevent the scientist to define an expedition specific classification, it just currently lacks a method of recording what classification was used.

Both USIO and ESO are more comfortable with the approach of letting the scientists decide what published classification is more appropriate for a specific expedition. As long as the name of the lithologic classification is recorded with the lithology name used, then this should create no problems in collecting consistent and comparable VCD data.

This raised the issue of having an IODP lithologic classifications catalog.

Lithologic Classifications catalog

The concept would list all published classifications that have been used in the past and associate with them a list of expeditions where they have been used. Scientists would use this catalog to decide which classification to use for an upcoming expedition and if modified during the expedition, it would be re-catalogued as a new classification and the original would remain unchanged in the catalog.

The USIO demonstrated how classifications can be expressed as rule sets that can compute lithology names from sets of descriptive parameters and vice versa. This innovative application will enable users to evaluate quickly what lithology names can be associated with the actual observations based on different classifications. This tool will for the first time offer a level of objective QA/QC for lithology name assignments. The application of course depends on well-defined observable parameters and value lists that meet the requirements of all commonly used classification, which is part of the DESCINFO design.

The catalog could also be used to store formatted classification that could be uploaded into VCD software. This implies that a lithologic classification exchange format would need to be developed and agreed by all IOs. IODP-MI created a list of known lithologic classifications and it could be used as the starting point for the future catalog:

http://sedis.iodp.org/lithology/classifications.xls

Other Issues

Digital Core Images

The use of core images was also briefly mentioned during the meeting. The question was raised whether the core images need to be part of the minimum measurements to be collected. Core images are already part of the IODP minimum measurement set. Hence all IOs are expected to take digital images of the cores and standards have already been established during the first Data Management Coordination Meeting:

http://www.iodp.org/index.php?option=com_docman&task=doc_download&gid=717

Action Items

These are the action items defined during the meeting:

1. IOs to discuss and clarify the list of observable parameters and agree on names, definition and units. IOs to identify key people to be part of this. Will initially be done via e-mail with IODP-MI coordination.
    a. Each IO to define clearly each parameter associated with core description and provide a complete list to all IOs
    b. IOs to create a parameter map based on the definitions
    c. IOs to agree to use common parameters (same names and definitions) as far as possible and practical.
    d. **Timeline:** This is currently under progress via e-mail. It should be completed by February 1, 2007.
2. QA/QC – investigate if it is possible to check for consistency between parameters and entered lithology name.
    a. This is part of the QA/QC process initiated by IODP-MI
    b. This is an implementation issue related to each IO software.
    c. **Timeline:** Should be completed before NanTroSEIZE operation starts
3. Representatives from each IO to examine schema development for all data exchange. NanTroSEIZE PMT will participate and will be asked about the data that needs to be exchanged between the IOs. IODP-MI will coordinate the effort via e-mail.
    a. This action item is currently under progress. IODP-MI submitted to the IOs an initial suggestion for an XML format
    b. **Timeline:** Need to have an initial format by April 1, 2007 so it can be implemented in software development in time for NanTroSEIZE
4. IODP-MI will look into the creation of a catalog of classifications
    a. IODP-MI compiled and submitted to the IOs an initial list of published lithology classifications. The next step is to create a list of expedition the classification used
    b. The catalog could also include computerized version of the classifications (exchange format, the USIO is currently working on digital sets for commonly used classifications)
    c. **Timeline:** Catalog should be available before NanTroSEIZE operation starts in September 2007. We hope to see a simple basic catalog before summer 2007. Requirements, development, implementation and hosting still need to be discussed.

Recommendations

Based on the discussions at the meeting, it is recommended that for IODP the following guidelines are followed by the IOs:

1- ***Observable Parameters terminology:*** Each IO needs to clarify and agree on what to call the observable parameters they plan to use, including their units of measurement and their possible range of values. The goal is to ensure that all the parameters are mappable and comparable across IOs. IODP-MI has started an e-mail discussion group with representatives from each IO. An initial list of observable parameters has been distributed and is currently being discussed internally by each IO. An sample list of observable parameters is available at this site:

http://millstone.iodp.tamu.edu/wiki/index.php/Descinfo_observables

2- ***Minimum data collected:*** Each IO needs to collect as a minimum both the lithological name and the classification it came from. This means that the scientists need to enter the lithology name themselves and it should not be deduced automatically by using the observables parameters. The software could warn the scientists that the name entered does not match with any name in the classification, but the scientist has the full responsibility of entering the lithology name.
   a. ***Standard method of naming lithology:*** All IOs need to agree on how to name lithology (e.g. the order of the major and minor components etc.) During DSDP there was apparently a consistent method of naming litholgies, however it is not as clear in ODP publications.

3- ***Other data collected:*** If possible, the scientists should attempt to collect data for the following observable parameters:
   a. Components
   b. % (range) abundance for each component
   c. Texture
   d. Consolidation (density changes + cementation)
   e. Structure: bedding, lithologic, fabric, unit boundaries, etc
   f. color

4- ***Observation vs. Deduction:*** Each IO needs to identify whether the observable parameter data has been directly observed or deduced by a computer program based on a lithology name and associated classification. IODP-MI is not requesting IOs to deduce non observed parameters, but requests to make sure that if the data has been deduced (not observed), it needs to be properly flagged. Lithology name is a minimum datum requirement.

5- ***Lithologic Classification:*** Each IO needs to allow the scientist to select or define an expedition specific classification. The choice of a classification should be science driven and not IO specific. Eventually a list of IODP recognized lithologic classification will be available via a web catalog.

6- ***Digital data collection:*** All data needs to be collected electronically in such a way that it can be stored in a database and be searched in a consistent way independent of the source. Each IO is expected to use the common agreed names, units and definition for the observable parameters (point 1).

7- ***Quality control:*** Each IO is responsible to ensure that the data observed undergoes quality control either automatically or manually. For example a certain level of verification of lithology names and observable parameters entered while undertaking VCD needs to be verified against the lithological classification(s) chosen for the expedition. The level of verification needs to be discussed and will involve the IOs and the newly formed QA/QC task force.

8- ***Graphic Representation:*** All IOs need to agree on how to graphically represent each basic lithological name both within the graphical software and within publications. IODP-MI will initiate this discussion with the IOs at a later date (once we have completed the terminology).

9- ***Data Exchange Format:*** Data collected during IODP will need to be formatted in such a way that it can be easily exchanged between IOs. That goes for VCD too. VCD data are complex as they contain variable sets of observable parameters that depend on the type of core being described and includes free text. The exchange format for VCD needs to be flexible and extensible. XML will satisfy most need in formatting structured data and is expected to be the basis format for the VCD data. A group of contact persons from each IO has been formed and a common format will be discussed using this group. The group will also discuss all data that needs to be formatted in XML. IODP-MI produced (post-meeting) an initial discussion document including suggestion of XML format and has been distributed to the IOs.